



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-1H
47-041-05702-00-00

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-1H
Farm Name: HG ENERGY II APPALACHIA
U.S. WELL NUMBER: 47-041-05702-00-00
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: _____

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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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:

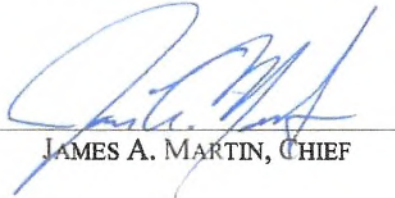
- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment 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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Environmental Protection

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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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/USA_TOPO_MAPS](http://gto.arcgis.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

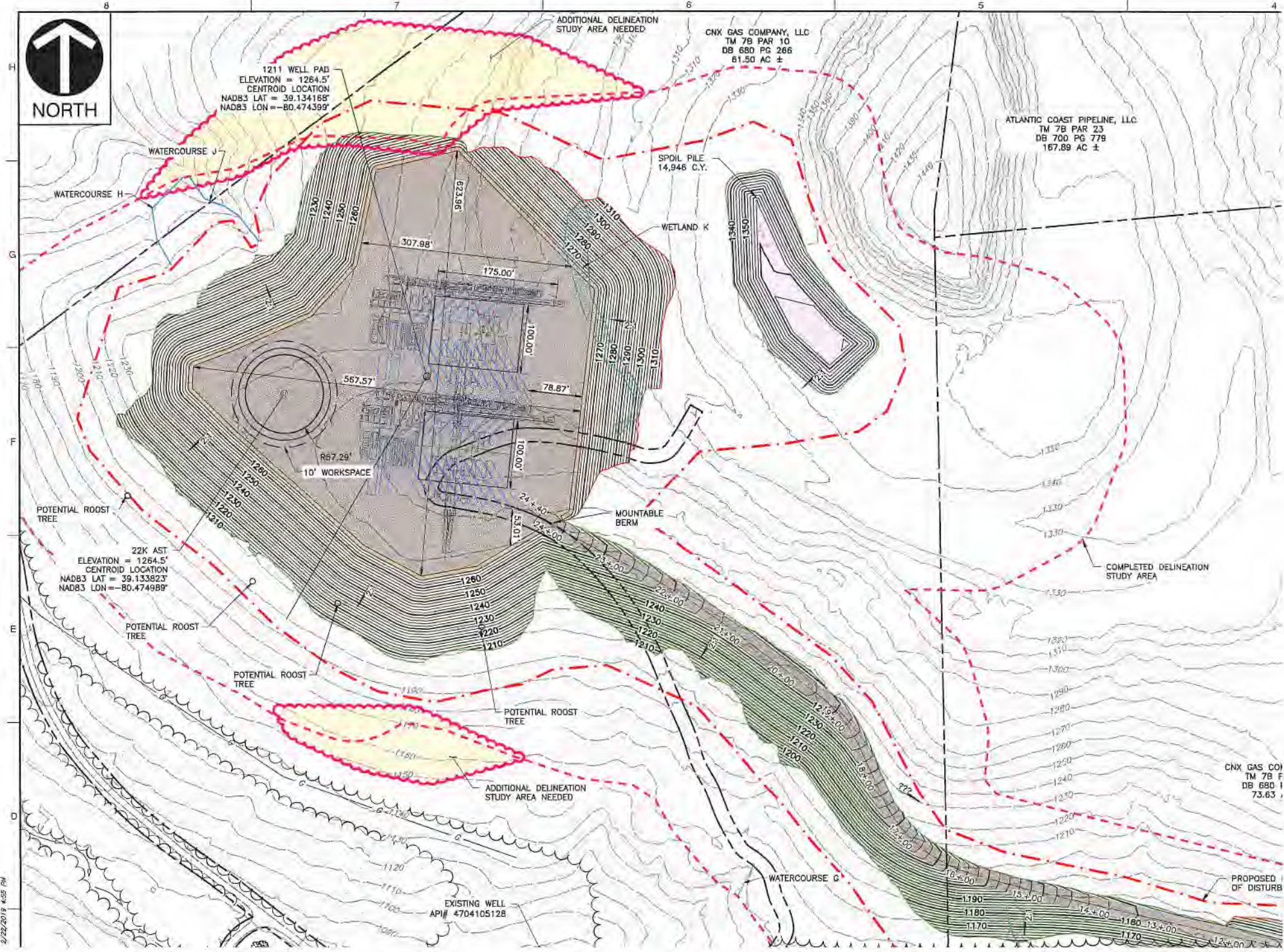
DRAWN BY:	MWT	CHECKED BY:	AJL	APPROVED BY: *Hand signature on file	JDK*	FIGURE NO:	1
DATE:	08/08/2019	SCALE:	1" = 2,000'	PROJECT NO:	190-016.AW00		

ATTACHMENT C
CONCEPTUAL PLANS

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1211 WELL PAD
ELEVATION = 1264.5'
CENTROID LOCATION
NAD83 LAT = 39.134168'
NAD83 LON = -80.474399'

CNX GAS COMPANY, LLC
TM 7B PAR 10
DB 680 PG 266
61.50 AC ±

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

SPOIL PILE
14,946 C.Y.

WATERCOURSE J

WATERCOURSE H

WETLAND K

10' WORKSPACE

MOUNTABLE BERM

POTENTIAL ROOST TREE

22K AST
ELEVATION = 1264.5'
CENTROID LOCATION
NAD83 LAT = 39.133923'
NAD83 LON = -80.474989'

POTENTIAL ROOST TREE

POTENTIAL ROOST TREE

POTENTIAL ROOST TREE

ADDITIONAL DELINEATION STUDY AREA NEEDED

COMPLETED DELINEATION STUDY AREA

EXISTING WELL
API# 4704105128

WATERCOURSE G

CNX GAS CO
TM 7B F
DB 680 I
73.63 ±

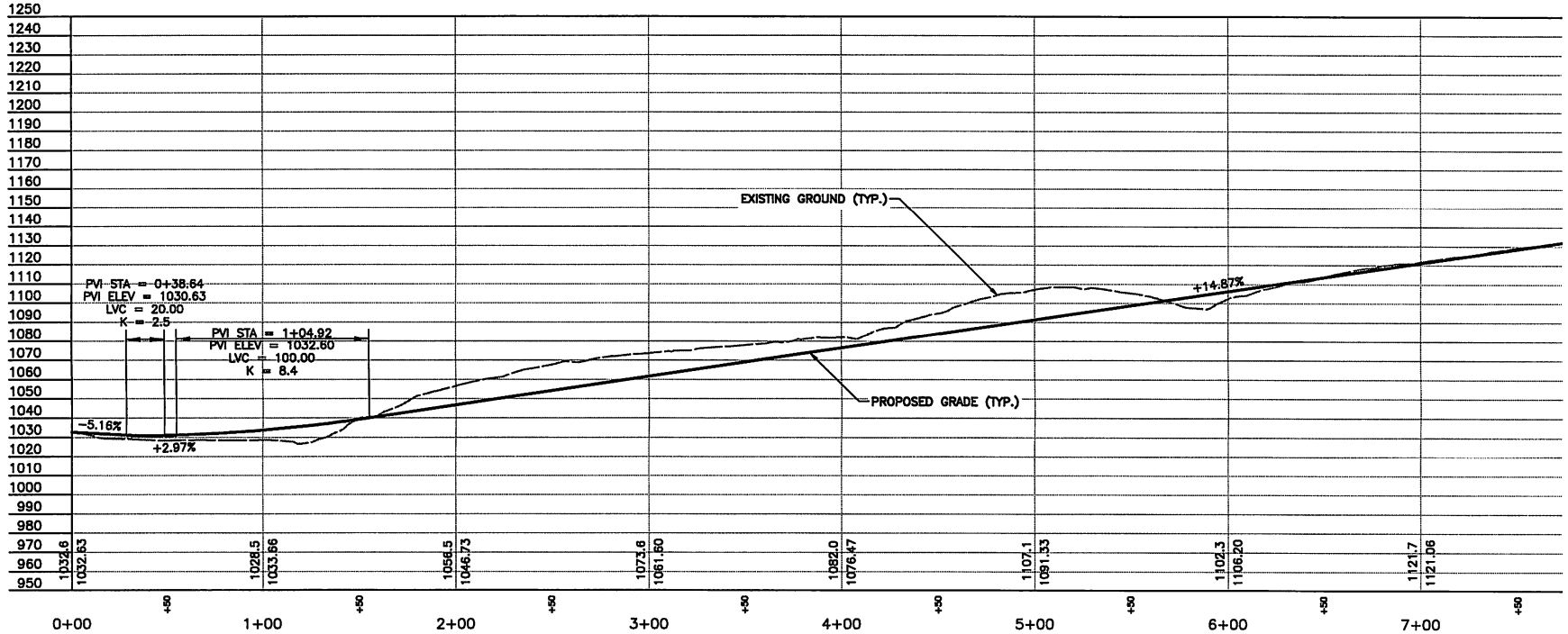
PROPOSED
OF DISTURB

2/22/2019 4:55 PM

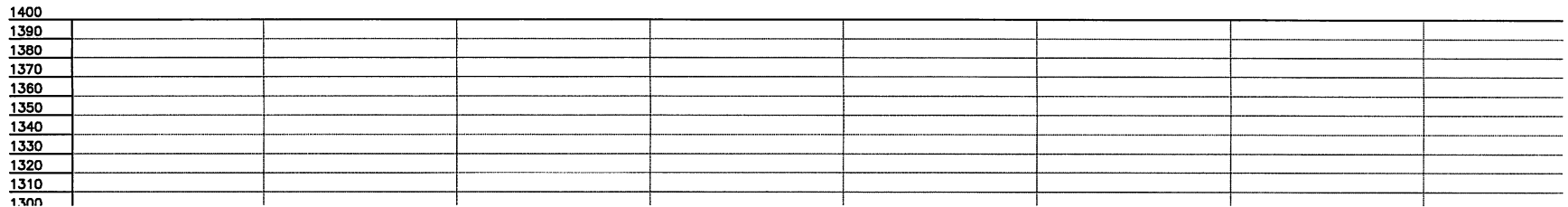
Office of Oil and Gas

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 STEMPLER

CIVIL ENGINEER

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

WVDOH

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

SPILL HOTLINE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP)
PH: (800) 642-3074
NATIONAL RESPONSE CENTER
PH: (800) 424-8802

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1211 WELL PAD HG ENERGY II APPALACHIA PERMIT PLANS

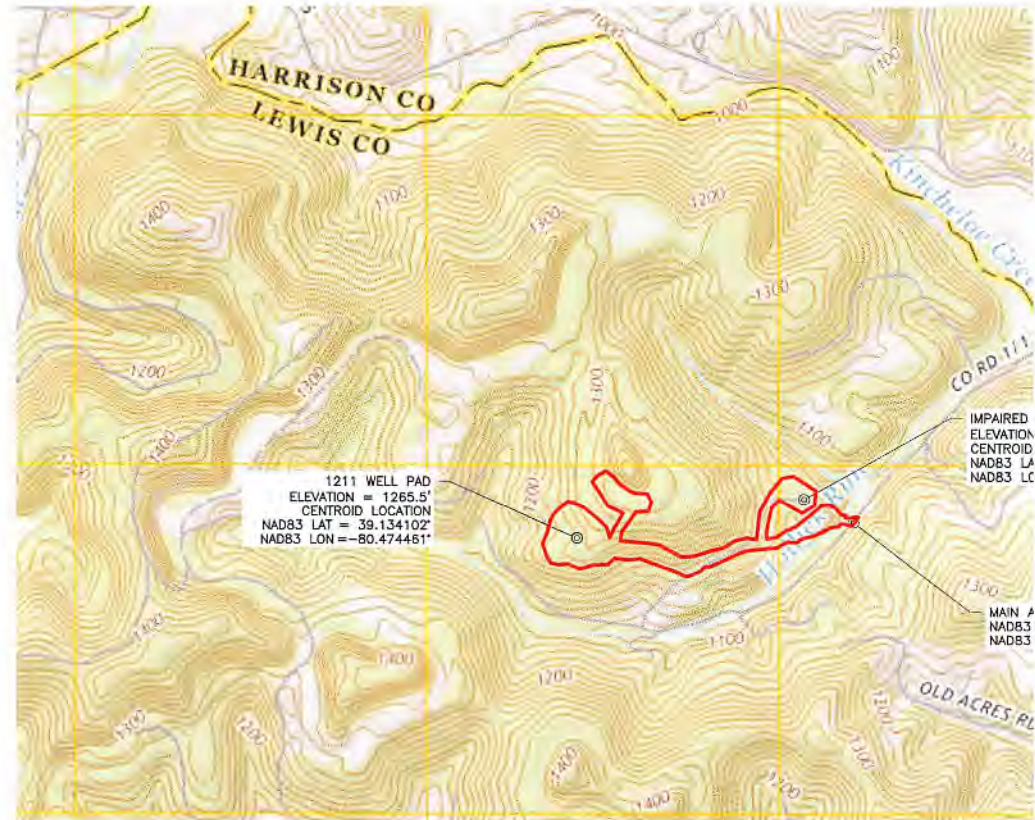
FREEMANS CREEK DISTRICT, LEWIS COUNTY, WEST VIRGINIA

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



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 1D
DB 730 PG 677
81.50 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 = 38.134102°
NAD83 LON = -80.474461°

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

SPOIL PILE
5,220 C.Y.

- N-3H
- N-2H
- N-4H
- N-1H
- N-5H
- S-6H
- S-7H
- S-8H
- S-10H
- S-9H

MOUNTABLE
BERM

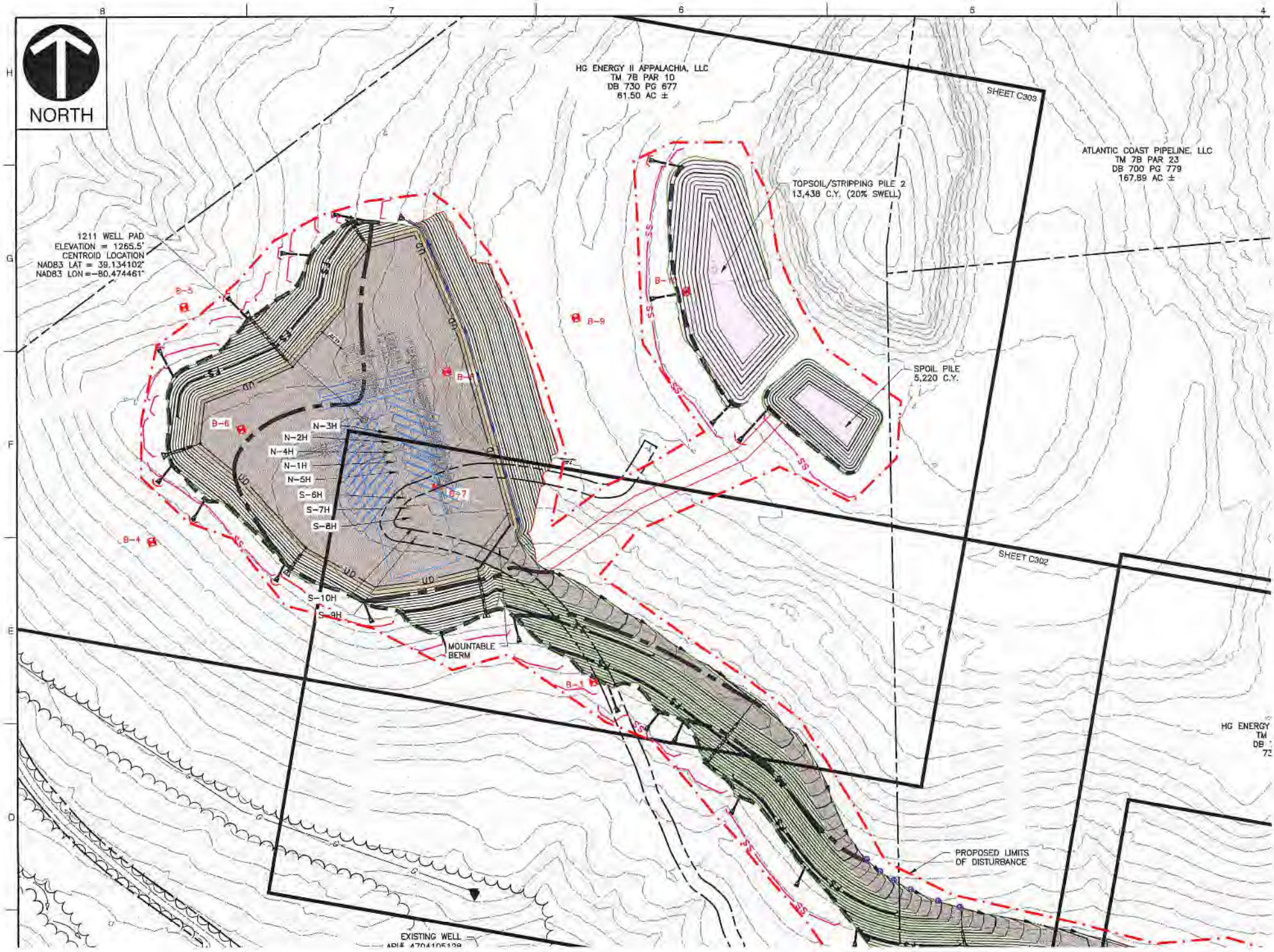
PROPOSED LIMITS
OF DISTURBANCE

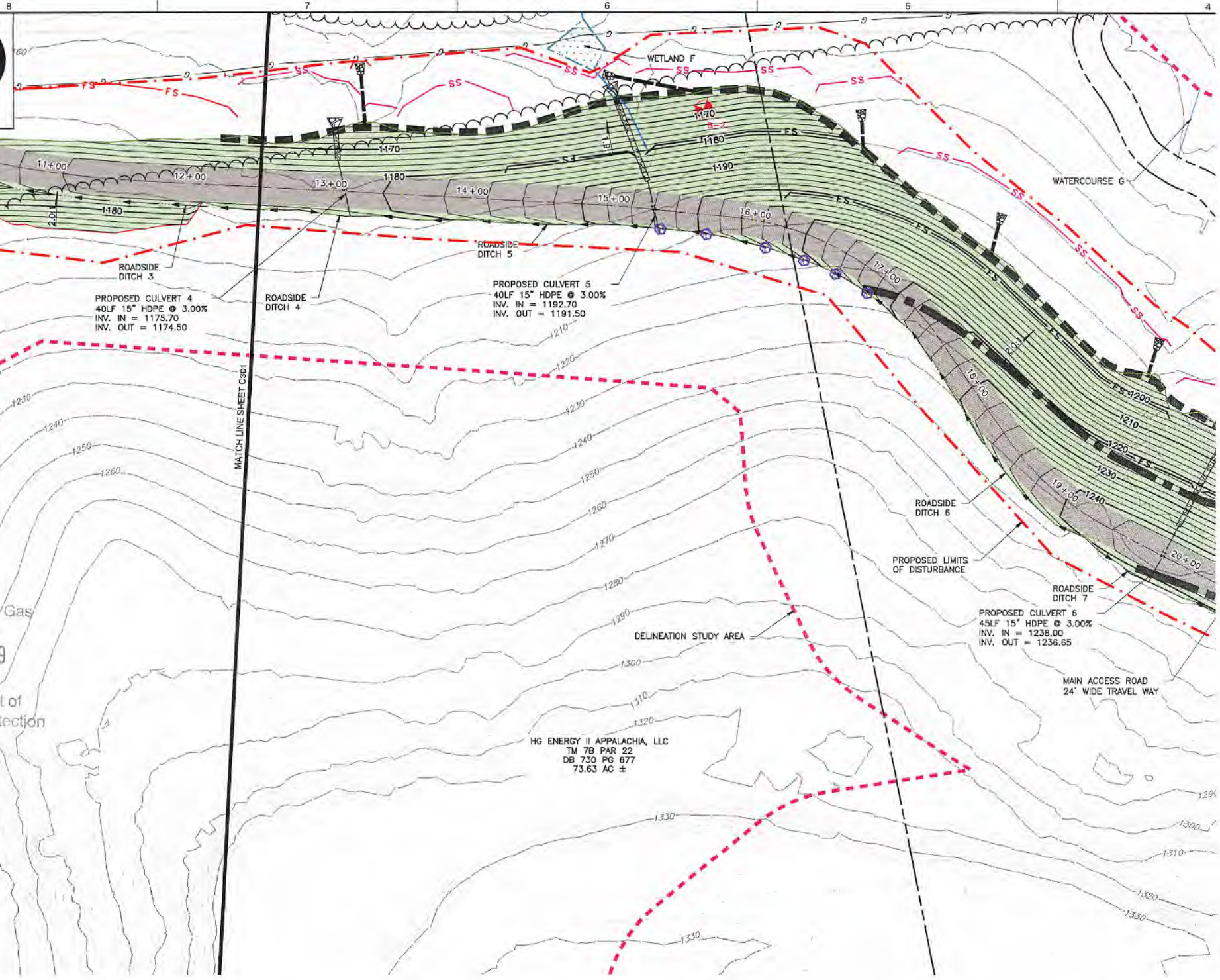
EXISTING WELL
AD# 4704106109

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 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 76 PAR 22
DB 730 PG 677
73.63 AC ±

IMPAIRED WATER 22K AST
ELEVATION = 1134.25'
CENTROID LOCATION
NAD83 LAT = 39.135081°
NAD83 LON = -80.466693°

AST ACCESS ROAD
14' WIDE TRAVEL WAY

20' TRAVELWAY

R=57.50

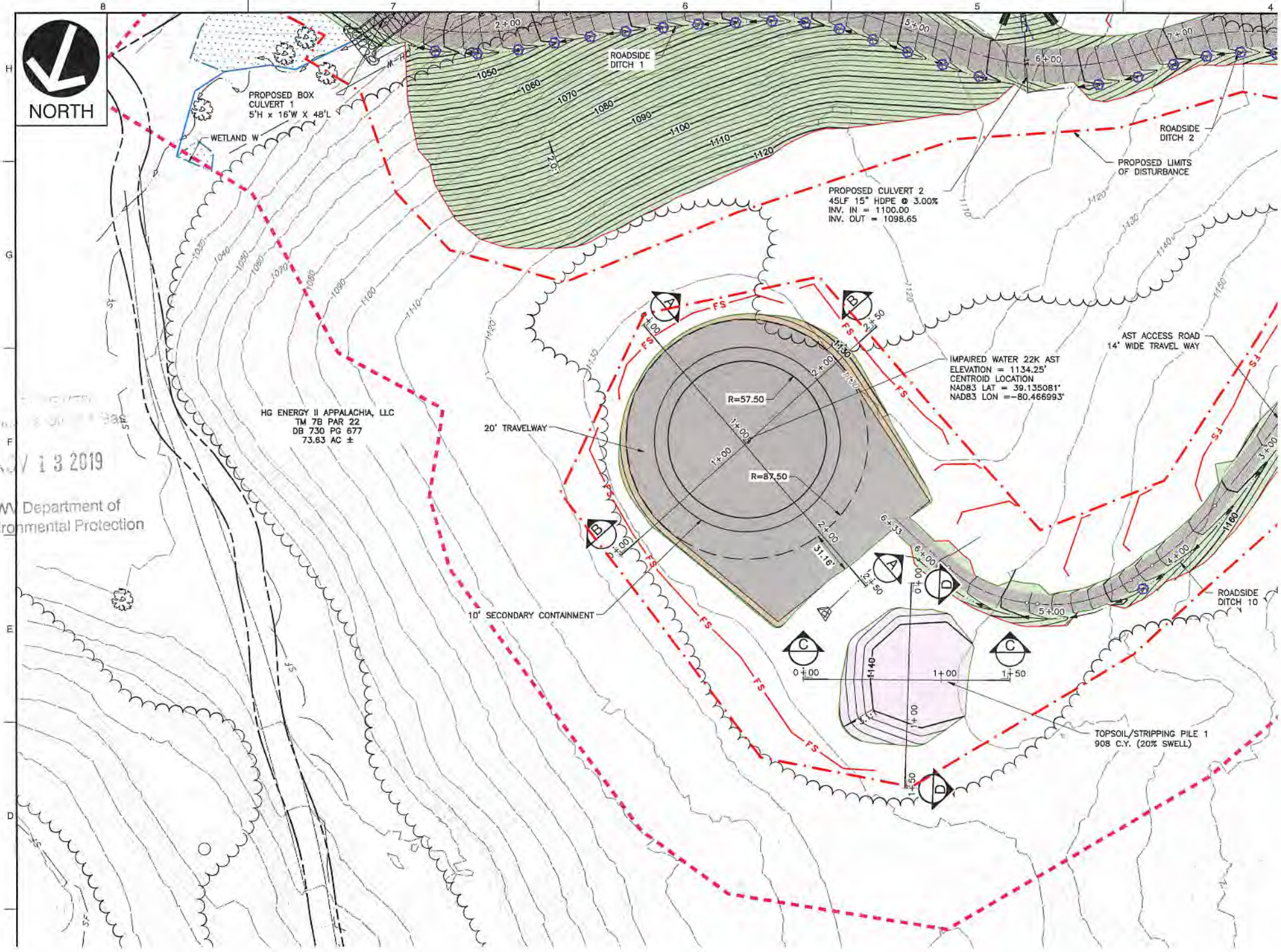
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10' SECONDARY CONTAINMENT

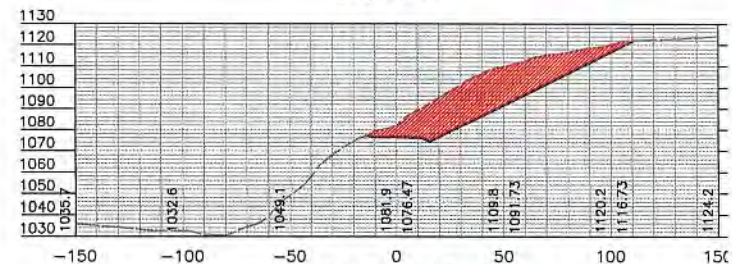
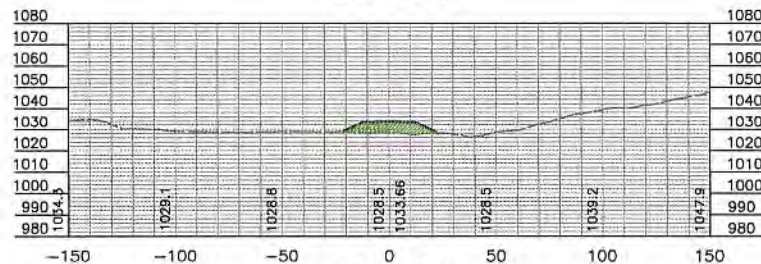
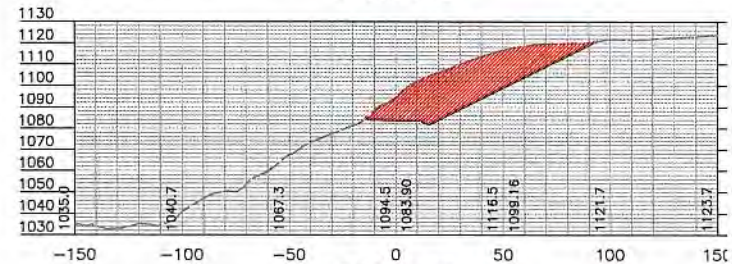
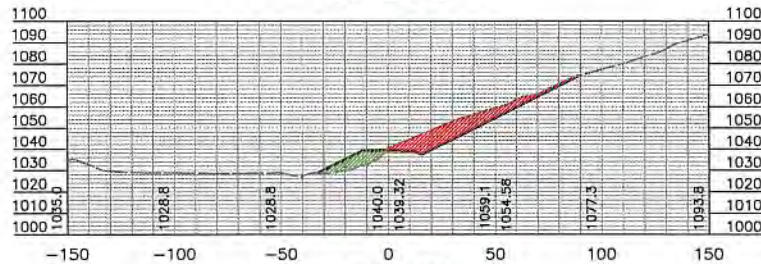
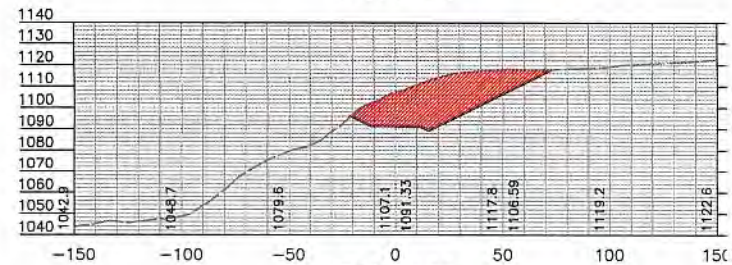
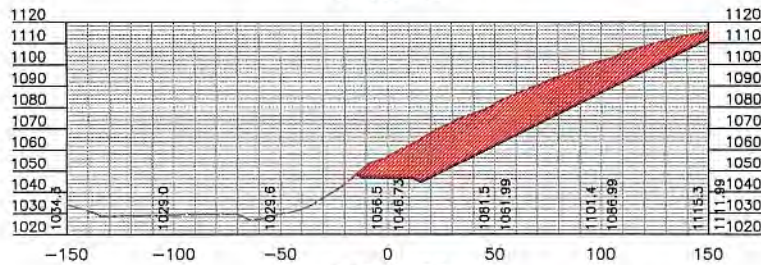
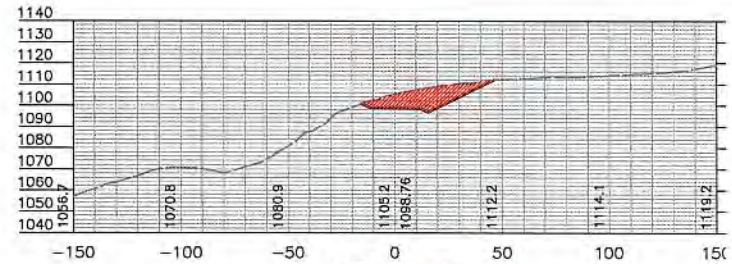
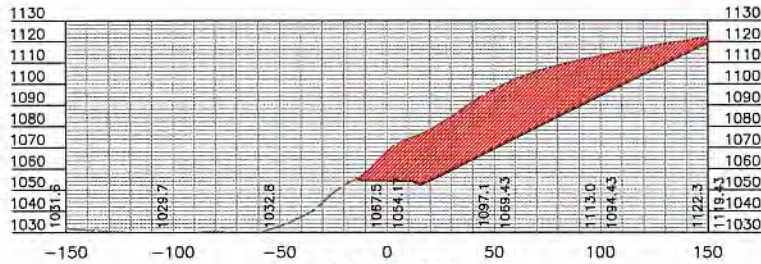
ROADSIDE
DITCH 10

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

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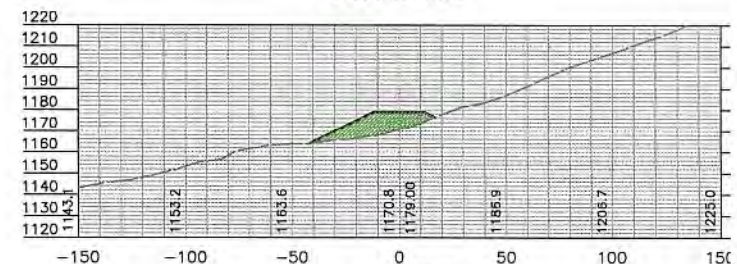
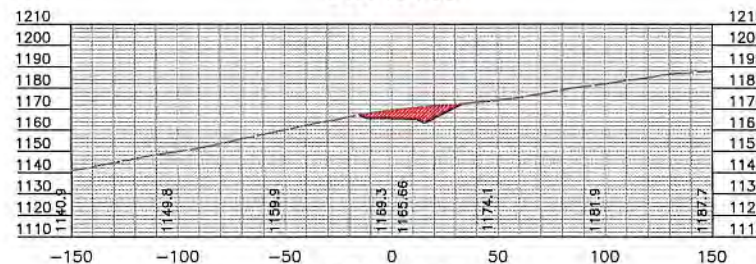
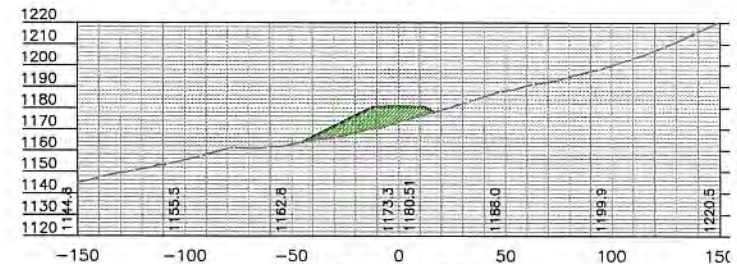
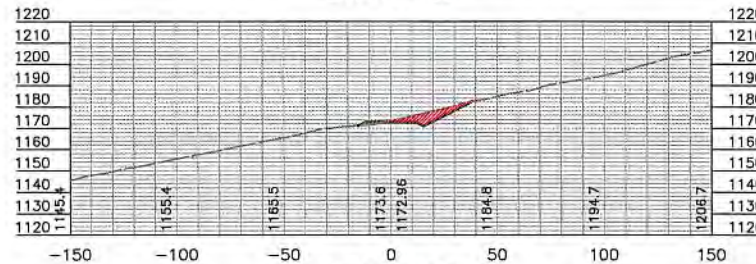
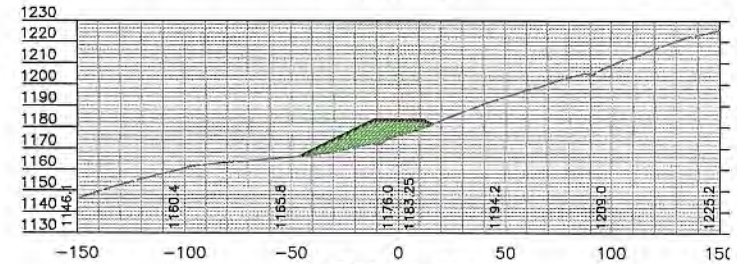
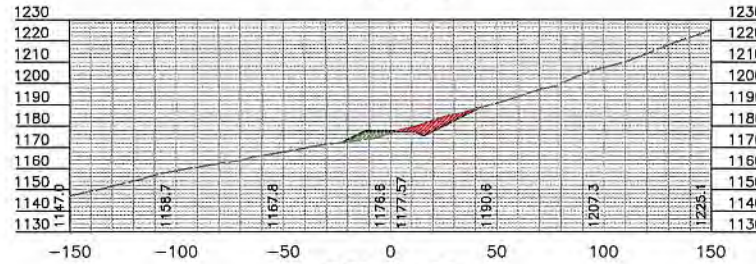
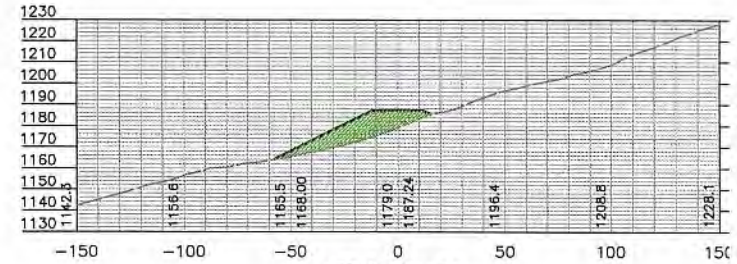
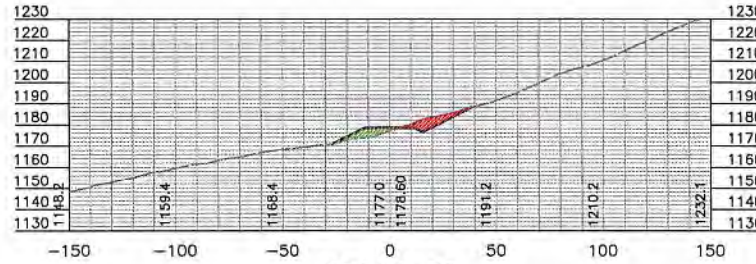


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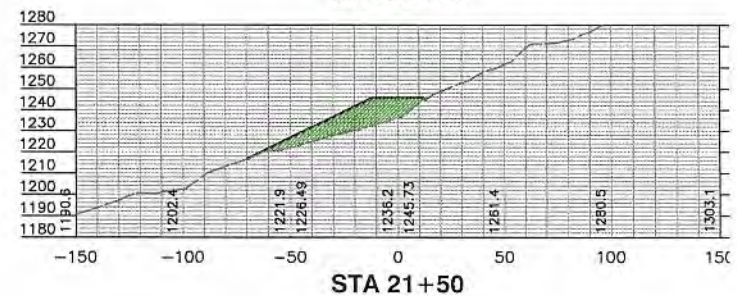
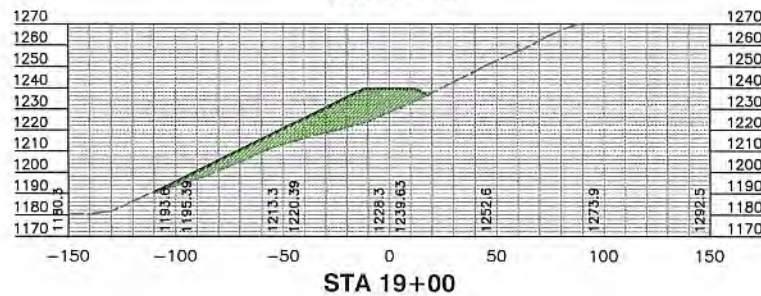
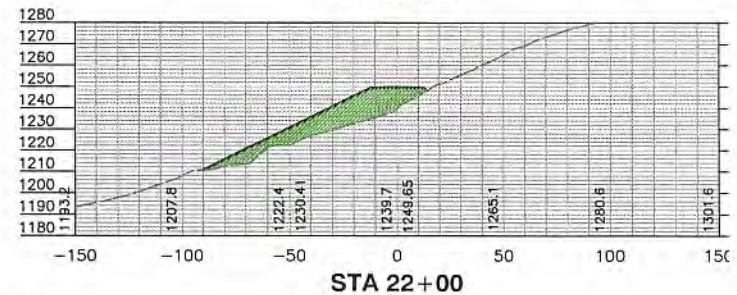
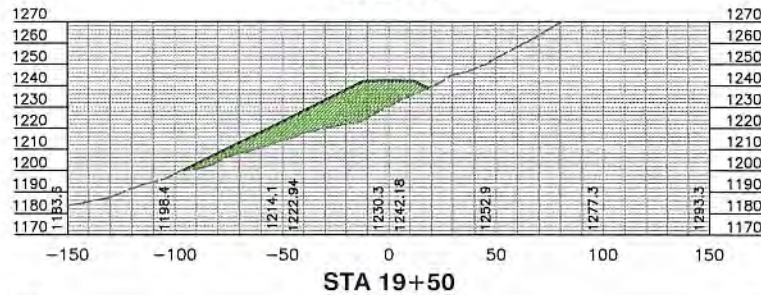
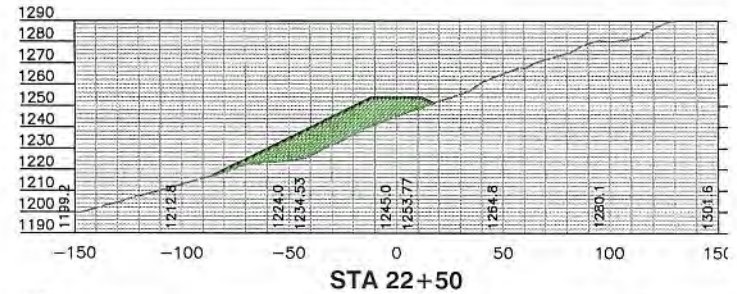
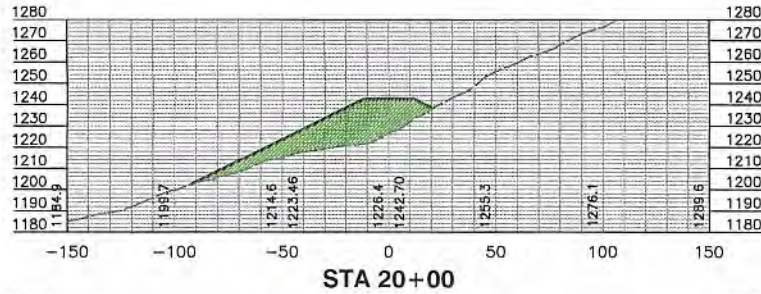
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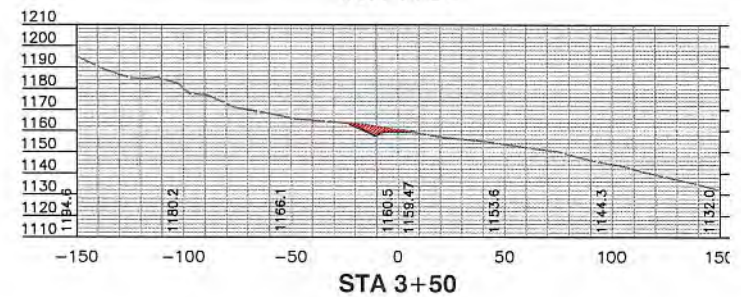
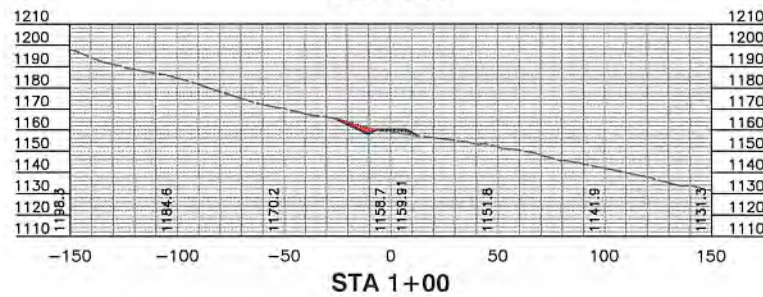
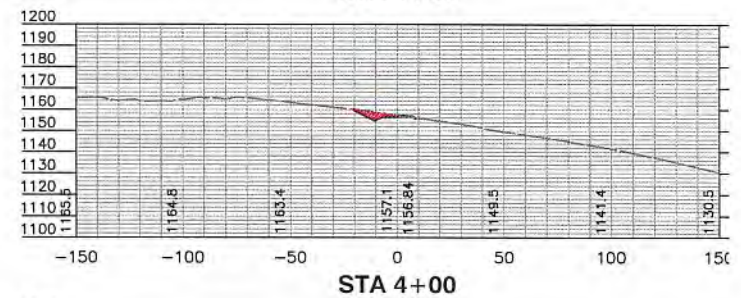
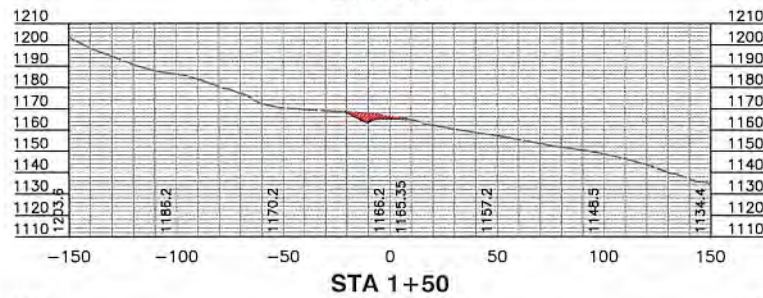
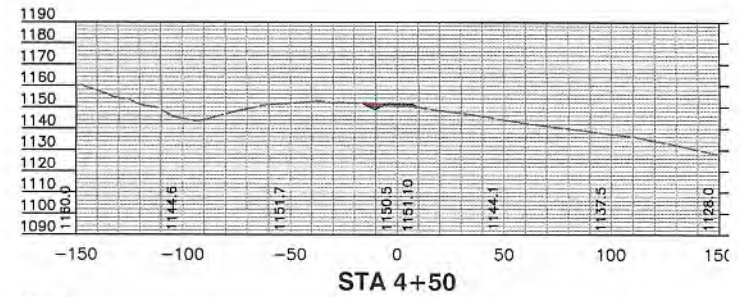
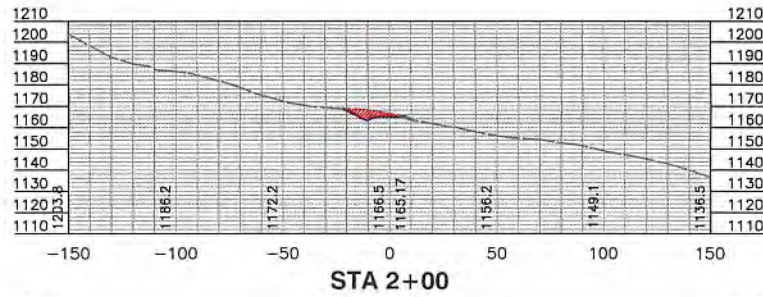
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GENERAL NOTES

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, RESEDED 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-LADEN 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 D6938 (NUCLEUS 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 5 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 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 D6 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 KEYED 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 TO 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. T 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 COMPA 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 REQUIRE 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 WVDEP 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.

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

ACCEPTABLE FERTILIZATION RECOMMENDATION IN ABSENCE OF A SOIL TEST				
SPECIES	N (LBS/AC)	P2O5 (LBS/AC)	K2O (LBS/AC)	EXAMPLE REC. (PER ACRE)
COOL SEASON GRASS	40	80	80	400 LBS. 10-20-20
CS GRASS & LEGUME	30	60	60	300 LBS. 10-20-20
TEMPORARY COVER	40	40	40	200 LBS. 19-19-19

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	28	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

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

NOTE: MIXTURES LISTED IN BOLD ARE SUITABLE FOR WOODLAND SETTINGS; THOSE IN ITALICS ARE SUITABLE FOR FILTER STRIPS.

NOTE: FOR UNPREPARED SEEDBEDS OR SEEDING IN UNDESIRABLE OPTIMUM TIMEFRAMES, ADD 50% MORE SEED TO THE RECOMMENDED RATES.

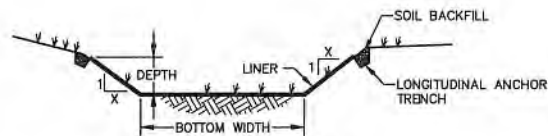
* LATHCO FLATPEA IS POTENTIALLY POISONOUS TO LIVESTOCK ALL LEGUMES SHOULD BE PLANTED WITH INOCULANTS PRIOR TO SEEDING.

** SWISHER MEADOW MIX

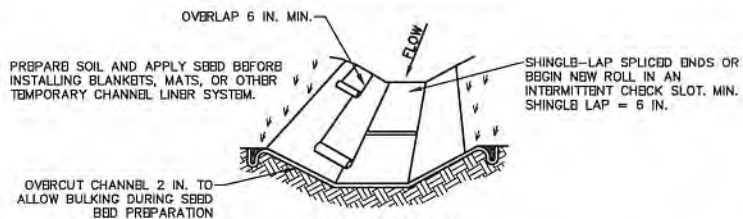
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CHANNEL CROSS SECTION



ISOMETRIC VIEW



INTERMITTENT CHECK SLOT



LONGITUDINAL ANCHOR TRENCH

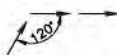
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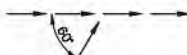
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NOTES:

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

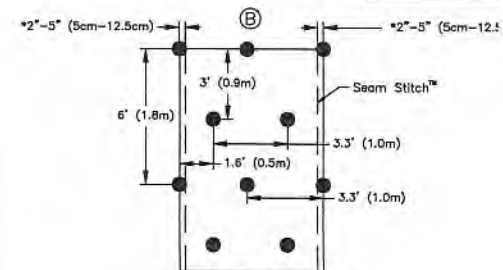
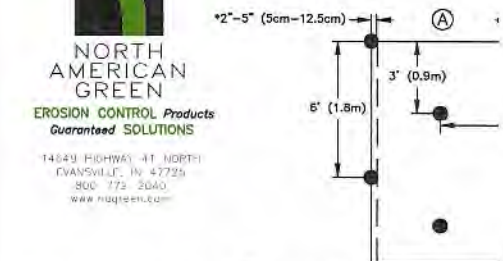


10.2 PLAN VIEW

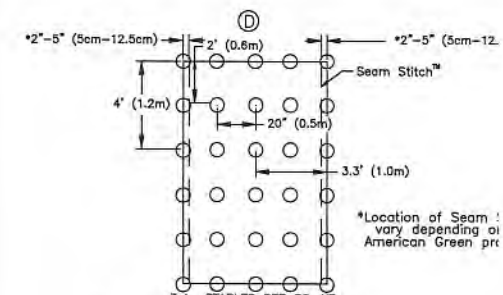


NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS
14849 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
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www.nagreen.com

**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.

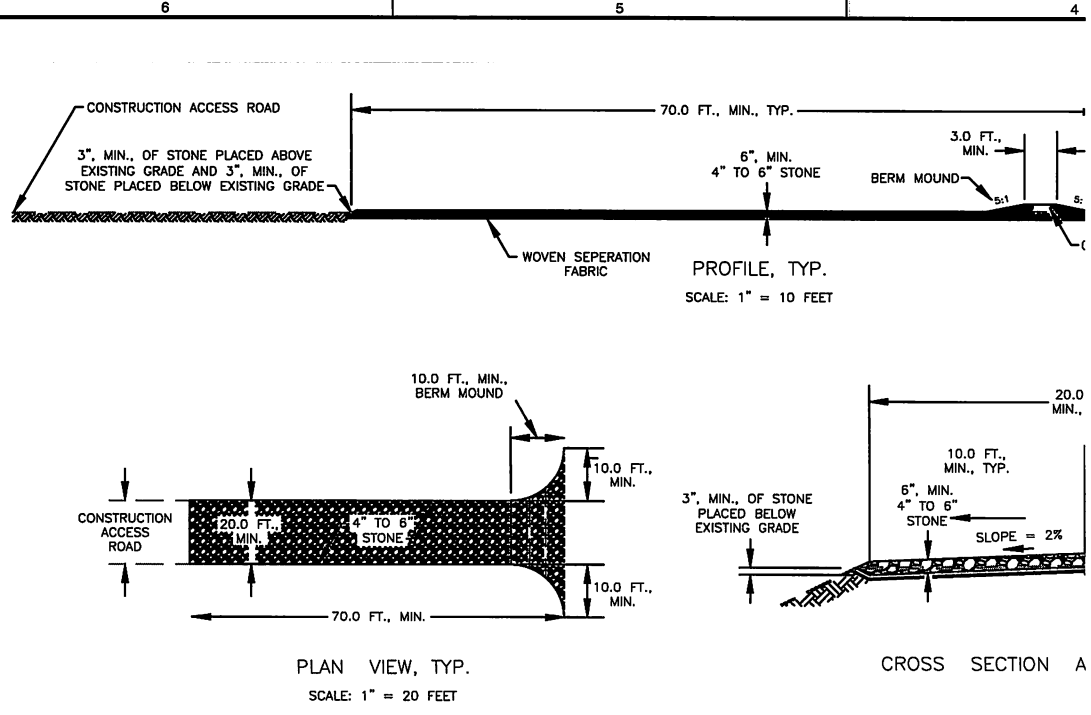
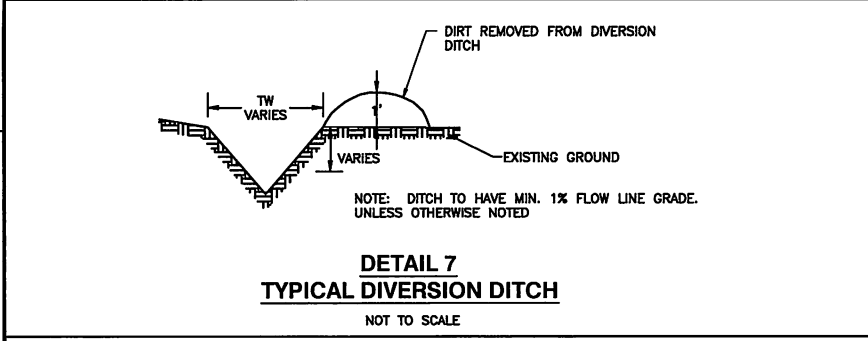
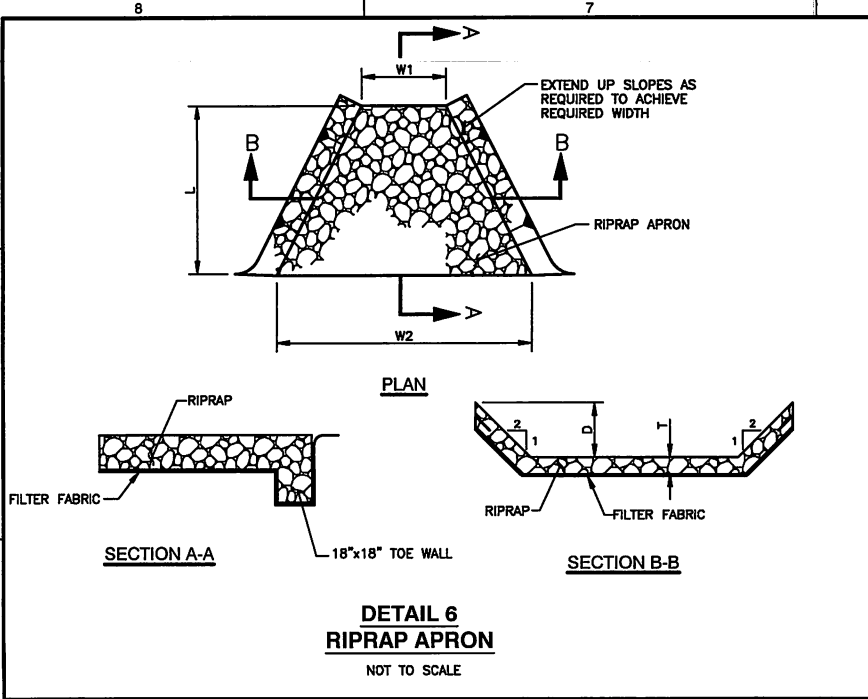


3.4 STAPLES PER SQ. YD.
(4.1 STAPLES PER SQ. M)
For blankets with the North American Green
DOT System[®] place staples/stakes
through each of the WHITE colored dots.

*Location of Seam :
vary depending on
American Green pr

**DETAIL 3
EROSION CONTROL BLANKET**

NOT TO SCALE

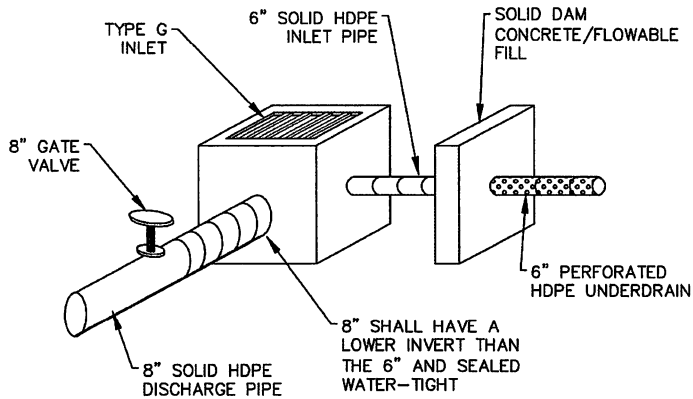
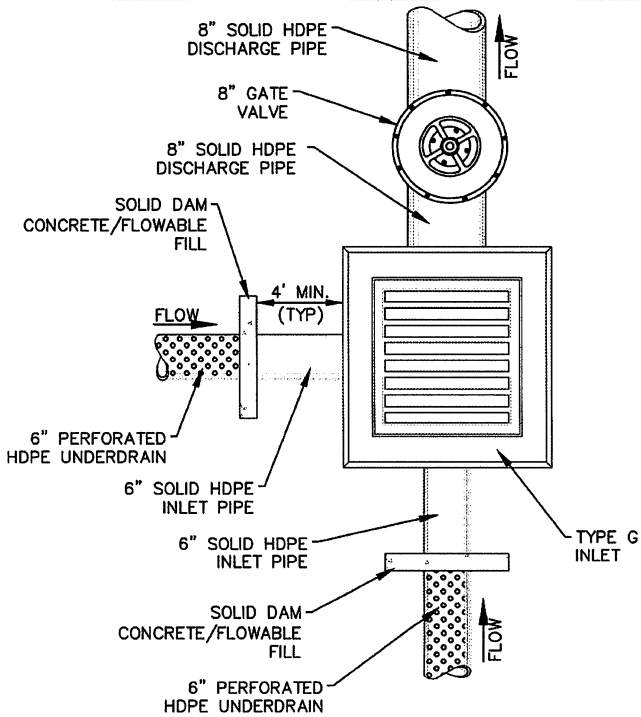


- NOTES:
1. 4" to 6" STONE SHALL EXTEND THE FULL WIDTH OF THE ACCESS ROAD.
 2. 4" to 6" STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 7 AGGREGATE IN TABLE 704.6.2A OF THE WVDOT STANDARD SPECIFICATIONS.
 3. A MOUNDED BERM MUST BE USED AT ALL STONE CONSTRUCTION ENTRANCES.
 4. TURNOUTS ONTO PAVED 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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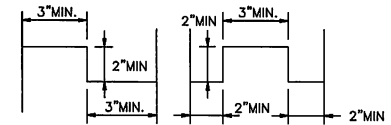
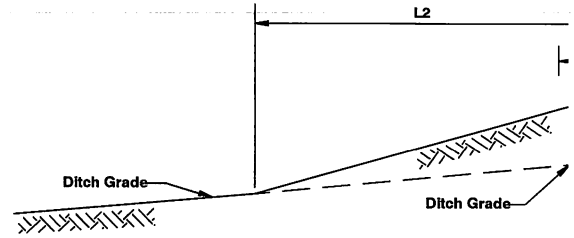
CONTROLLED DISCHARGE DETAIL

- 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, KEYS OR DOWELS 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		WT.
	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"	223
21"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-3"	3 3/8"	223
24"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-6"	3 3/8"	223
27"	3'-0"	3'-6"	2'-11 3/4"	3'-5 3/4"	2'-9"	3 3/8"	279
30"	3'-6"	4'-0"	3'-5 3/4"	3'-11 3/4"	3'-0"	3 3/8"	357
33"	3'-9"	4'-3"	3'-8 3/4"	4'-2 3/4"	3'-3"	3 7/8"	419
36"	4'-0"	4'-6"	3'-11 3/4"	4'-5 3/4"	3'-6"	3 3/8"	486
42"	4'-6"	5'-0"	4'-5 3/4"	4'-11 3/4"	4'-0"	3 3/8"	587
48"	5'-0"	5'-6"	4'-11 3/4"	5'-5 3/4"	4'-6"	3 3/8"	748

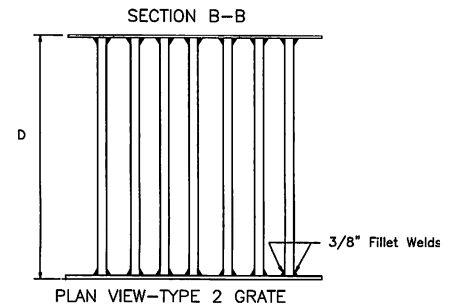
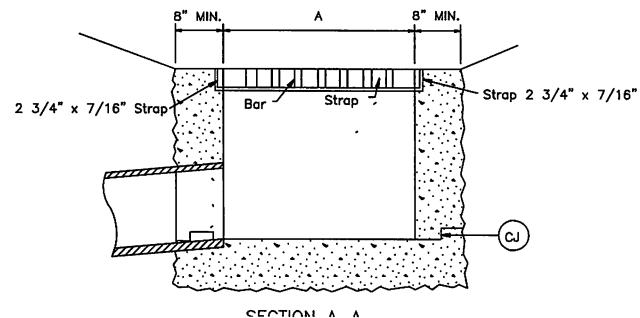
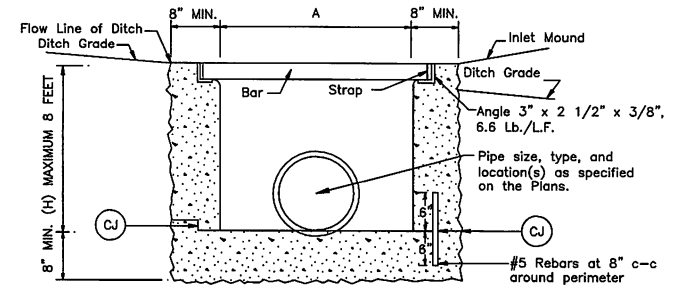
Table Note: Grate and frame weights are for information only and straps and bars are used. The following substitutions are acceptable for fabricating the grate and frame:

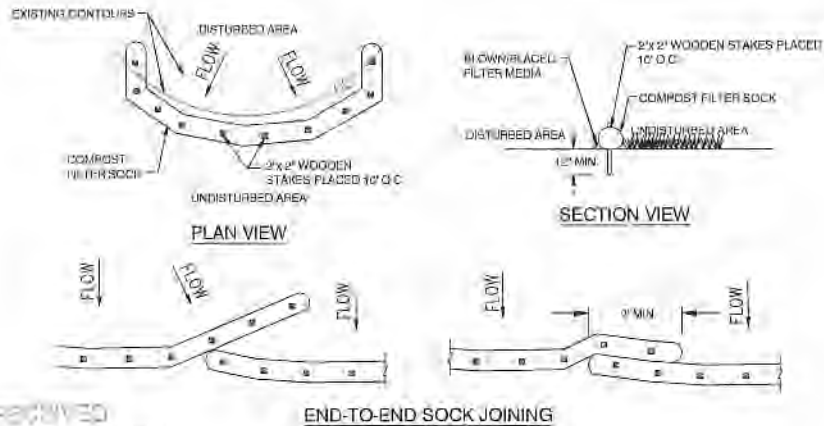
Strap Thickness: 1/2" Strap Depth: 3" Bar Depth: 3"

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END-TO-END SOCK JOINING

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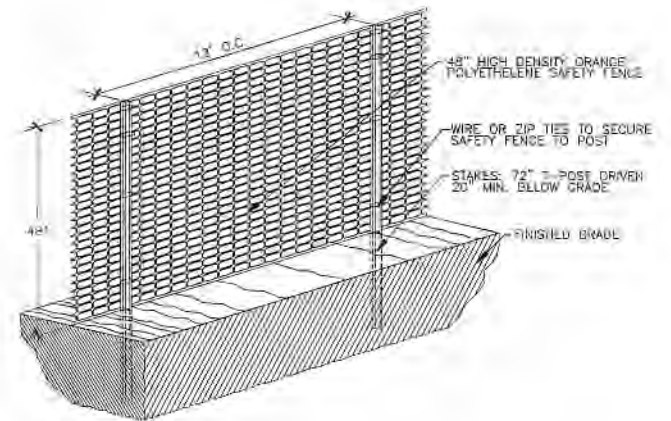
WWT
SECTION

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	90% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 5.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

NOTES:

- COMPOST FILTER SOCK TO BE INSTALLED IN ACCORDANCE WITH FILTREXX MANUFACTURER'S SPECIFICATIONS OR AN APPROVED EQUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 4' UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY DIAMETER SOCK SHALL NOT EXCEED THAT SHOWN ON BELOW TABLE.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- 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.
- BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS. PHOTO DEGRADABLE SOCKS (ARTEN 1111) POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- 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 BREAKING THE MESH FROM ALL POLYPROPYLENE FILTER SOCKS SHALL BE REMOVED. THE MULCH SHALL BE SPREAD AS A SOIL SUPPLEMENT PRIOR TO BREAKING.

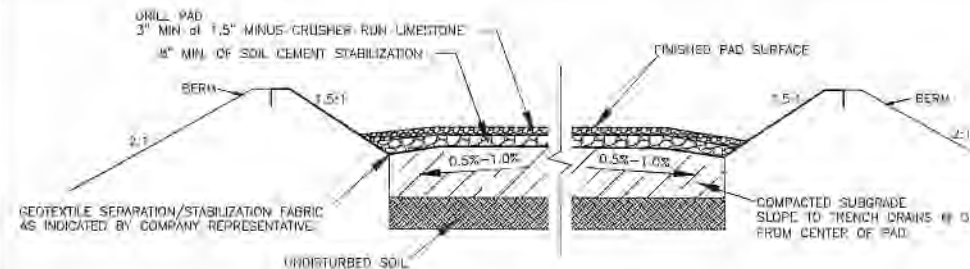


NOTES:

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

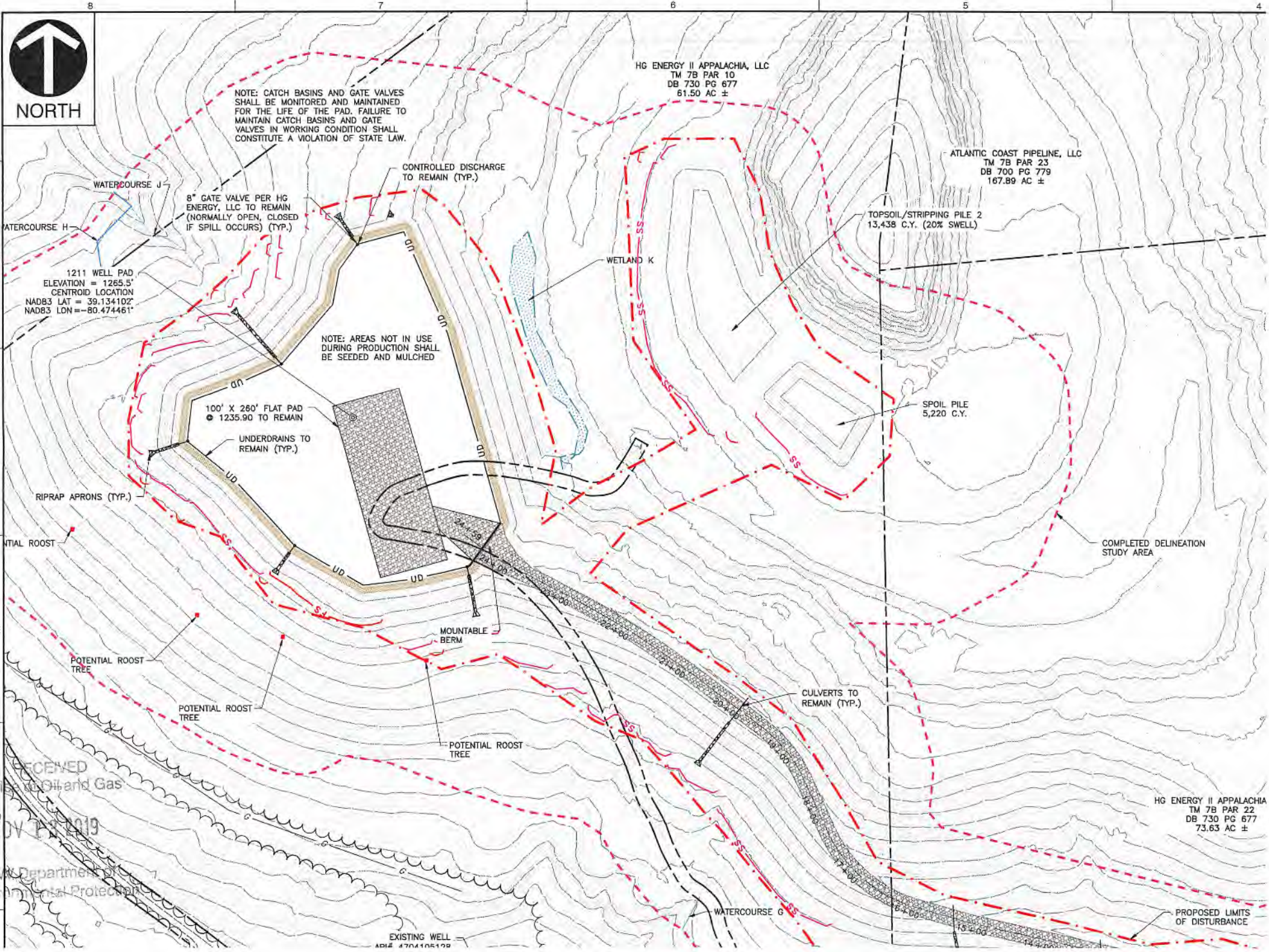
DETAIL 19
TYPICAL ORANGE CONSTRUCTION FENCE

NOT TO SCALE



DETAIL 21
TYPICAL PAD CROSS-SECTION

NOT TO SCALE



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.

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

CONTROLLED DISCHARGE TO REMAIN (TYP.)

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

100' X 260' FLAT PAD
ELEVATION = 1235.90 TO REMAIN

UNDERDRAINS TO REMAIN (TYP.)

RIPRAP APRONS (TYP.)

MOUNTABLE BERM

CULVERTS TO REMAIN (TYP.)

COMPLETED DELINEATION STUDY AREA

PROPOSED LIMITS OF DISTURBANCE

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 ±

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

SPOIL PILE
5,220 C.Y.

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

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West Virginia Department of Environmental Protection

EXISTING WELL
AD# 4704105109

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

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WV Department of
Environmental Protection



Civil & Environmental Consultants, Inc.

4704.05702

WW-6B
(04/15)

API NO. 47- _____
OPERATOR WELL NO. McDonald 1211 N-1H
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

<u>494519932</u>	<u>Lewis</u>	<u>Freeman</u>	<u>West Milford 7.5'</u>
------------------	--------------	----------------	--------------------------

Operator ID County District Quadrangle

2) Operator's Well Number: McDonald 1211 N-1H 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: 22,972' ✓

11) Proposed Horizontal Leg Length: 15,236'

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)

4704 05702
API NO. 47- _____
OPERATOR WELL NO. McDonald 1211 N-1H
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	22972'	22972' ✓	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 1.34
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6800 feet. Drill horizontal leg to estimated 15,236 lateral length, 22,972 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

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

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

23) Describe centralizer placement for each casing string:

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

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

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

25) Proposed borehole conditioning procedures:

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

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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Magnesium oxide	1 - 5	1309-48-4																			
Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7																			
Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7																			
Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
			Ingredient name	%	CAS number																
Calcium chloride	90 - 100	10043-52-4																			
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														
			Ingredient name	%	CAS number																
No hazardous ingredient																					
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												
			Ingredient name	%	CAS number																
Tributyl phosphate	90 - 100	126-73-8																			
Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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Sucrose	90 - 100	57-50-1																			
EC-1	Retarder	A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium magnesium oxide</td> <td>90 - 100</td> <td>37247-91-9</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium magnesium oxide	90 - 100	37247-91-9												
			Ingredient name	%	CAS number																
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MPA-170	Gas Migration	Multi-purpose polymer additive used to control free fluid, fluid loss, rheology, and gas migration.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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Poz (Fly Ash)	Base	A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7	Calcium oxide	1 - 5	1305-78-8									
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Calcium oxide	1 - 5	1305-78-8																			
R-3	Retarder	A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Organic acid salt</td> <td>40 - 50</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Organic acid salt	40 - 50	Trade secret.												
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S-5	Surfactant	Used to water wet casing and formation to facilitate cement bonding.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>2-Butoxyethanol</td> <td>20 - 30</td> <td>111-76-2</td> </tr> <tr> <td>Proprietary surfactant</td> <td>10 - 20</td> <td>Trade secret.</td> </tr> <tr> <td>D-Glucopyranose, oligomeric, C10-16-alkyl glycosides</td> <td>5 - 10</td> <td>110615-47-9</td> </tr> <tr> <td>Alkylarylsulfonate amine salt</td> <td>1 - 5</td> <td>Trade secret.</td> </tr> <tr> <td>Polyoxyalkylenes</td> <td>0.1 - 1</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	2-Butoxyethanol	20 - 30	111-76-2	Proprietary surfactant	10 - 20	Trade secret.	D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	5 - 10	110615-47-9	Alkylarylsulfonate amine salt	1 - 5	Trade secret.	Polyoxyalkylenes	0.1 - 1	Trade secret.
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1211 N-1H
Marcellus Shale Horizontal
Harrison County, WV

WV Department of Environmental Protection			1211 N-1H SHL				14211869.5N 1789484.34E			
Ground Elevation 1264.5'			1211 N-1H LP				14211802.83N 1787408.99E			
Azm 340.539°			1211 N-1H BHL				14226162.68N 1782334.76E			
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
			Kittanning 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' from surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
			Gordon Stray / Gordon	2060 / 2130	2130 / 2220					
			5th Sand	2320	2360					
			Bayard Sand	2405	2420					
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3025	3041	AIR / 9.0ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note:Actual centralizer schedules may be changed due to hole conditions
			Balltown	3250	3290					
			Benson	4340	4350					
	8.5" Curve		Rhinestreet	6107	6377	11.5ppg-12.5ppg SOBM				
Cashaqua			6377	6477						
Middlesex			6477	6509						
West River			6509	6580						
Burkett			6580	6590						
Tully Limestone			6590	6698						
Hamilton			6698	6753						
8.5" Lateral	Marcellus		6753	6835	11.5ppg-12.5ppg SOBM					
	TMD / TVD (Production)		22972	6800						
	Onondaga		6835							

LP @ 6800' TVD / 7736' MD

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

+/-15236' ft Lateral

TD @ +/-6800' TVD
+/-22972' 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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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

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and are expecting the content. -- WV Office of Technology

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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PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD

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

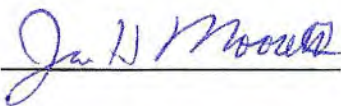
WELL NAME: McDonald 1211 N-1H

Well # 1211 N-1H

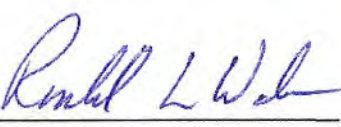
DISTRICT/COUNTY/STATE: Freemans Creek/Lewis/WV

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

<u>494519932</u>	<u>Lewis</u>	<u>Freeman</u>	<u>West Milford 7.5'</u>
------------------	--------------	----------------	--------------------------

Operator ID County District Quadrangle
- 2) Operator's Well Number: McDonald 1211 N-1H 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: 22,972'
- 11) Proposed Horizontal Leg Length: 15,236'
- 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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WW-6B
(04/15)

API NO. 47- _____
OPERATOR WELL NO. McDonald 1211 N-1H
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	22972'	22972'	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 9% excess
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 6% excess
Production	5 1/2"	8 1/2"	.415	16240	12000	Type 1/Class A	20% excess yield = 1.16, tail yield 1.20
Tubing							
Liners							

PACKERS

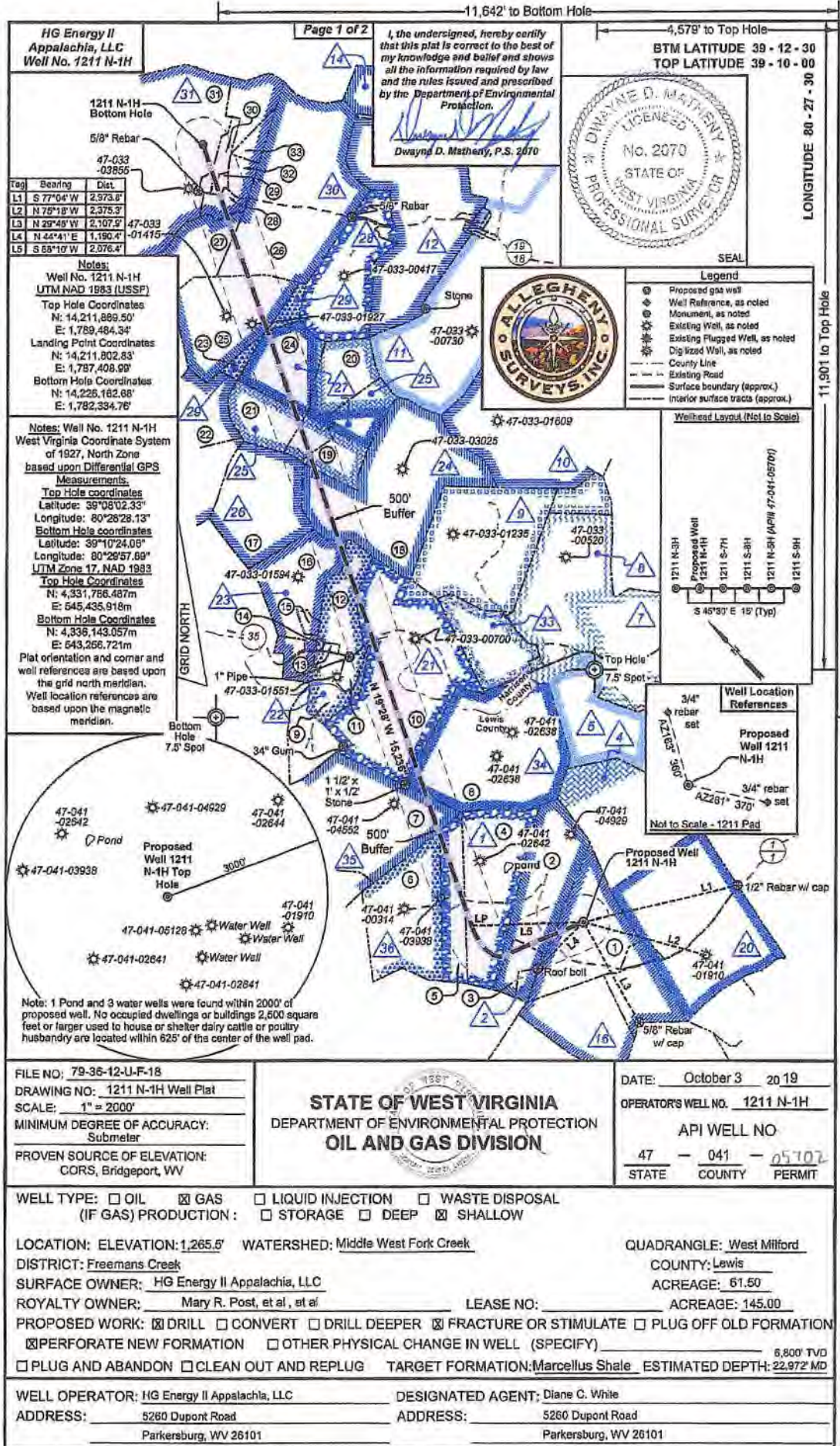
Kind:				
Sizes:				
Depths Set:				

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Environmental Protection

04 05702



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



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

LONGITUDE 80 - 27 - 30

11,901 to Top Hole
12,738 to Bottom Hole

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-1H 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-1H
API WELL NO
47 - 041 - 05702
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
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,972 MD 8,800' TVD

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

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ID	Lease
1	J.L. Post, et al
2	HG Energy II Appalachia, LLC
4	Cora B. Aliman, et al
5	Gunn Minter, et al
7	W.R. Neesley, et al
8	HG Energy II Appalachia, LLC
9	J.H. Neesley & et al
10	R.C. McDonald, et al
11	R.C. McDonald, et ux, et al
12	B.F. Thrash, et ux
14	George Paul Linn
16	Mary E. Post, et al
20	Gunn 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	Gunn 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	7B / 9.2	Brincefield Family Trust	588 / 740	10.51
4	6B / 41	Brincefield Family Trust	588 / 740	71.619
5	6B / 42	Brincefield Family Trust	588 / 740	28.00
6	6B / 43	Brincefield Family Trust	588 / 740	69.36
7	6B / 37	Robert E. Brincefield Jr. & Terrylyne Brincefield Trust	578 / 690	96.14
8	6B / 40	Robert G. & Leah V. Burnside	680 / 388	126.50
9	6B / 49	Vernon D. Hughes	680 / 313	19.45
10	443 / 28	Mary Lou Curry, et al	1639 / 769	139.97
11	443 / 27.1	Paul V. & Ina R. Hughes	1287 / 696	5.35
12	443 / 12.2	Donna L. Davis	1185 / 833	27.92
13	443 / 12	Joseph G. Davis III	1353 / 835	1.04
14	443 / 12.1	Donna L. Davis	1067 / 690	0.63
15	443 / 11.1	Jason S. & Christine L. Davis	1414 / 141	2.92
16	443 / 11	Donna L. Davis	1157 / 161	94.00
17	423 / 26	Terence L. Washburn	1117 / 649	65.00
18	423 / 27	James C. Garrett	1412 / 891	126.82
19	423 / 22	James C. Garrett	1412 / 891	36.58
20	423 / 21	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.77
21	423 / 16	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	26.86
22	423 / 15	Sherry Darlene Baldwin, et al	1531 / 944	28.00
23	423 / 19	Earnest Aubrey Rider	1136 / 136	9.36
24	423 / 17	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.11
25	423 / 18	Earnest Aubrey Rider	1136 / 136	65.00
26	423 / 5	Ernest Aubrey Rider	1136 / 136	137.48
27	423 / 3	Ernest Aubrey Rider	1136 / 136	32.51
28	423 / 4.1	Alice Marie Shortridge	1646 / 839	7.43
29	423 / 4	James E. Dills	1596 / 158	21.32
30	423 / 4.3	Helen & Earl M. Jenkins	1537 / 119	7.50
31	423 / 1	Paul H. Dickerson Jr., et al	W176 / 905	135.764
32	423 / 4.2	CNX Gas Co. LLC	1637 / 119	7.43
33	423 / 4.4	CNX Gas Co. LLC	1537 / 119	6.95

FILE NO: 79-36-12-U-F-18
 DRAWING NO: 1211 N-1H 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-1H
 API WELL NO
 47 - 041 - 05702
 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 Millford
 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
 SUPERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 22,972' 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

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1211 N-1H
Marcellus Shale Horizontal
Harrison County, WV

				1211 N-1H SHL			14211869.5N 1789484.34E			
Ground Elevation	1264.5'			1211 N-1H LP			14211802.83N 1787408.99E			
Azm	340.539°			1211 N-1H BHL			14226162.68N 1782334.76E			
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
			Kilnning 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 removing 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 / Geniz (Storage)	1545 / 1830	1690 / 1690					
			Intermediate 1	0	2040					
			Fifty / Thirty Foot	1940 / 2037	1965 / 2060					
	12.25"	9-5/8" 40# J-55 BTC	Gordon Srey / 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 = 0.355" 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 SOBIM	Lead: 14.5 ppg PO2-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=1.18 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
			Ballown	3250	3290					
			Benson	4340	4350					
8.5" Curve	Rhinestreet		6107	6377	11.5ppg-12.5ppg SOBIM					
	Cashaqua		6377	6477						
	Middlesex		6477	6509						
	West River		6509	6580						
	Burkett		6580	6580						
	Tully Limestone		6580	6698						
	Hamilton		6698	6753						
	Marcellus		6753	6835						
	TMD / TVD (Production)		22972	6800						
Onondaga	6835									
8.5" Lateral					11.5ppg-12.5ppg SOBIM					

LP @ 6800' TVD / 7736' MD

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

+/-15236' R Lateral

TD @ +/-6800' TVD
+/-22072' MD

X=centralizers

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Marcellus Shale Horizontal
Harrison County, WV

1211 N-1H SHL

14211869.5N 1789484.34E

1211 N-1H LP

14211802.83N 1787408.99E

1211 N-1H BHL

14226162.68N 1782334.76E

Ground Elevation

1264.5'

Azm

340.539°

WELLBORE DIAGRAM

HOLE

CASING

GEOLOGY

TOP

BASE

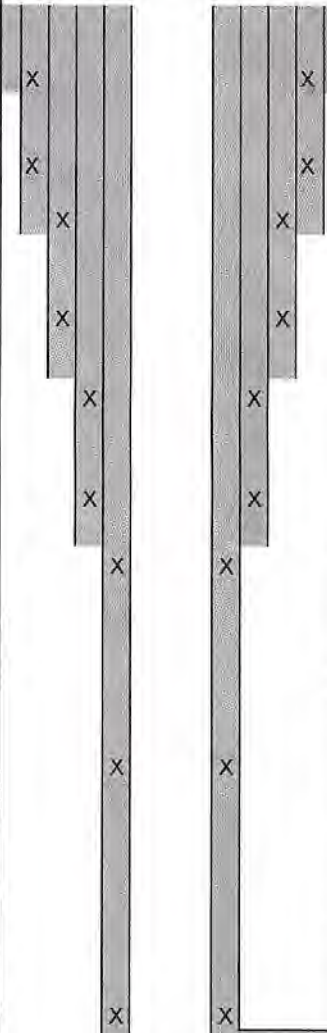
MUD

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

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
**will also be running
ACP for isolating
storage zone**

Once casing is at setting
depth, Circulate and
condition at TD. Circulate a
minimum of one hole
volume prior to pumping
cement.

Intermediate casing = 0.480"
wall thickness
Burst=3450 psi

12.25"

9-5/8" 40#
J-55 BTC

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

8.5" Vertical

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

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

8.5" Curve

Rhinstreet

6107

6377

11.5ppg-
12.5ppg
SOBM

Tail: 14.8 ppg PNE-1 +
0.35% bwoc R3 + 0.75
gal/sk FP13L + 50%
bwoc ASCA1 + 0.5%
bwoc MPA170
20% Excess
Lead Yield=1.19
Tail Yield=1.94
CTS

Run 1 spiral centralizer
every 3 joints from the
1st 5.5" long joint to the
top of the curve.

8.5" Lateral

Cashaqua

6377

6477

11.5ppg-
12.5ppg
SOBM

TMD / TVD
(Production)

22972

6800

LP @ 6800' TVD / 7736'
MD

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

+/-15236' ft Lateral

TD @ +/-6800' TVD
+/-22972' MD

X=centralizers

WW-9
(4/16)

API Number 47 - _____ - _____
Operator's Well No. McDonald 1211 N-1H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy II Appalachia, LLC OP Code 494501907

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

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: NA

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes, cuttings and fluids will be collected in a closed loop system, re-used or hauled to an approved disposal site or landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Vertical - Air, Air/KCL, Air/SOBM, Horizontal - SOB

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

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

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

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

-Landfill or offsite name/permit number? See Attached

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

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

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

Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

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

WV Department of
Environmental Protection

Notary Public

My commission expires _____

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
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Bang S. Ohp

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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Environmental Protection

Title: Oil & Gas Inspector

Date: 9-23-19

Field Reviewed? Yes

No

Cuttings Disposal/Site Water

Cuttings -Haul off Company:

Exp Industries, Inc. DOT # 0876278
1875 Smith Two State Rd. Atlasburg, PA 15004
1-888-284-5227

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

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

Disposal Locations:

Apex Environmental, LLC Permit # 06-08488
11 County Road 78
Amsterdam, OH 43903
740-548-4889

Westmoreland Waste, LLC Permit # 100277
111 Conner Lane
Belle Vernon, PA 15012
724-829-7694

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

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

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

Waste Management Kelly Run Permit # 100563
1901 Park Side Drive
Elizabeth, PA 15037
412-884-7569

Waste Management South Hills (Arnold) Permit # 100592
3100 Hill Road
Liberty, PA 15129
724-348-7013
412-884-7569

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 0109185
 Rt 1, Box 158A
 New Martinsville, WV 26035
 804-455-8800

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

Energy Solutions Services, Inc. Permit # R-73006-124
 1550 Bear Creek Road
 Oak Ridge, TN 37830

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

Water Haul off Companies:

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

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

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

Nuverra Environmental Solutions
 11942 Veterans Memorial Highway
 Masontown, WV 26542

Mustang Oilfield Services LLC
 PO Box 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
 724-225-1889

Solidification/Incineration
 Soil Remediation, Inc. Permit # 02-20753
 6065 Arrel-Smith Road
 Lowellville, OH 44486
 330-536-6825

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

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

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

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

Equipment Transport
 1 Tyler Court
 Carlisle, PA 17015

Myers Well Service,
 2001 Ballpark Court
 Export, PA 15682

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

Nichols 1-A (SWIW #18)
 Permit # 3862
 300 Cherrington Pkwy, Suite 200
 Coraopolis, PA 15108
 412-829-7275

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

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

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

Adams #8 (Buckeye Brine, LLC)
Permit #34-031-2-7241-00-00
2680 Exposition, Suite 117
Austin, TX 78703
512-478-6545

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

Goff SWD #1 (SWIW # 27)
Permit # 34-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-829-7275

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 # 34-121-2-2458-00-00
Select Energy Services, LLC
7994 S. Pleasant's Hwy
St. Marys, WV 26170
304-665-2652

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

US Steele 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15780
304-823-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4187-00-00
Elkhead Gas & Oil Company
12168 Marne Rd. NE
Newark, OH 43055
740-763-3966

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WV Department of
Environmental Protection

[Handwritten signatures and scribbles]

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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NOV 13 2019

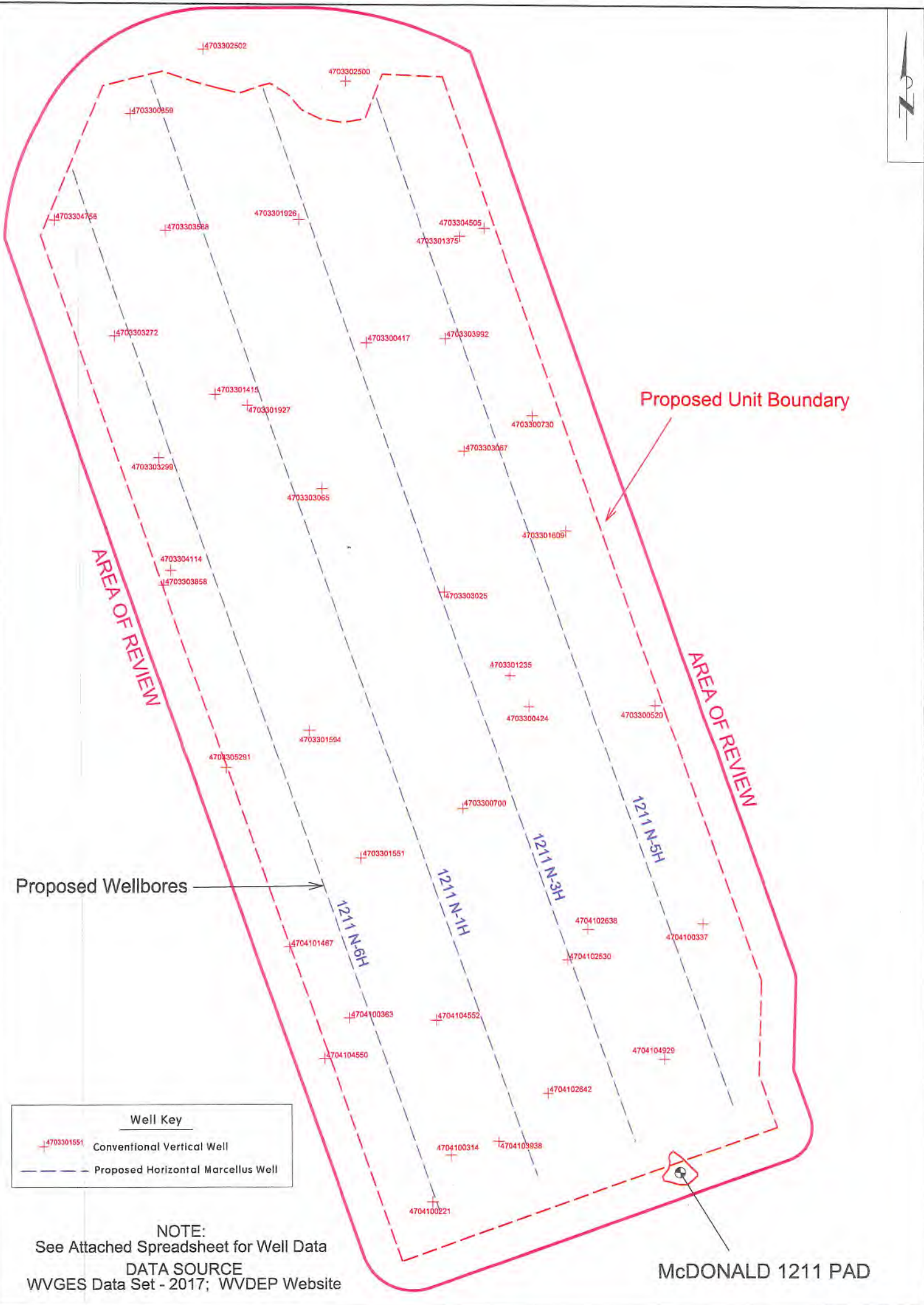
WV Department of
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AUG 16 2019

WV Department of
Environmental Protection

Darryl Shoop 8-12-19



AREA OF REVIEW

Proposed Unit Boundary

AREA OF REVIEW

Proposed Wellbores

Well Key

- 4703301551 Conventional Vertical Well
- Proposed Horizontal Marcellus Well

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

McDONALD 1211 PAD

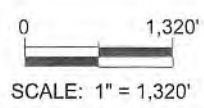
Area of Review for:

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





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

4704 *05702

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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NOV 13 2019

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Environmental Protection



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

4704-0570

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.

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.

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Sincerely,

Diane White

Diane White

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NOV 13 2019

WV Department of
Environmental Protection



4704 10570

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

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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Sincerely,

Diane White

Diane White

Enclosure



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

4704 05702

November 7, 2019

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

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

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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



4704 10576

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
Glenville, WV 26351

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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

4704-05705

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

Enclosure

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NOV 13 2019

WV Department of
Environmental Protection



47 04 + 057 n

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

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Sincerely,

Diane White

Diane White

Enclosure

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Environmental Protection

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 - 05702

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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WV Department of
Environmental Protection

4704-0570

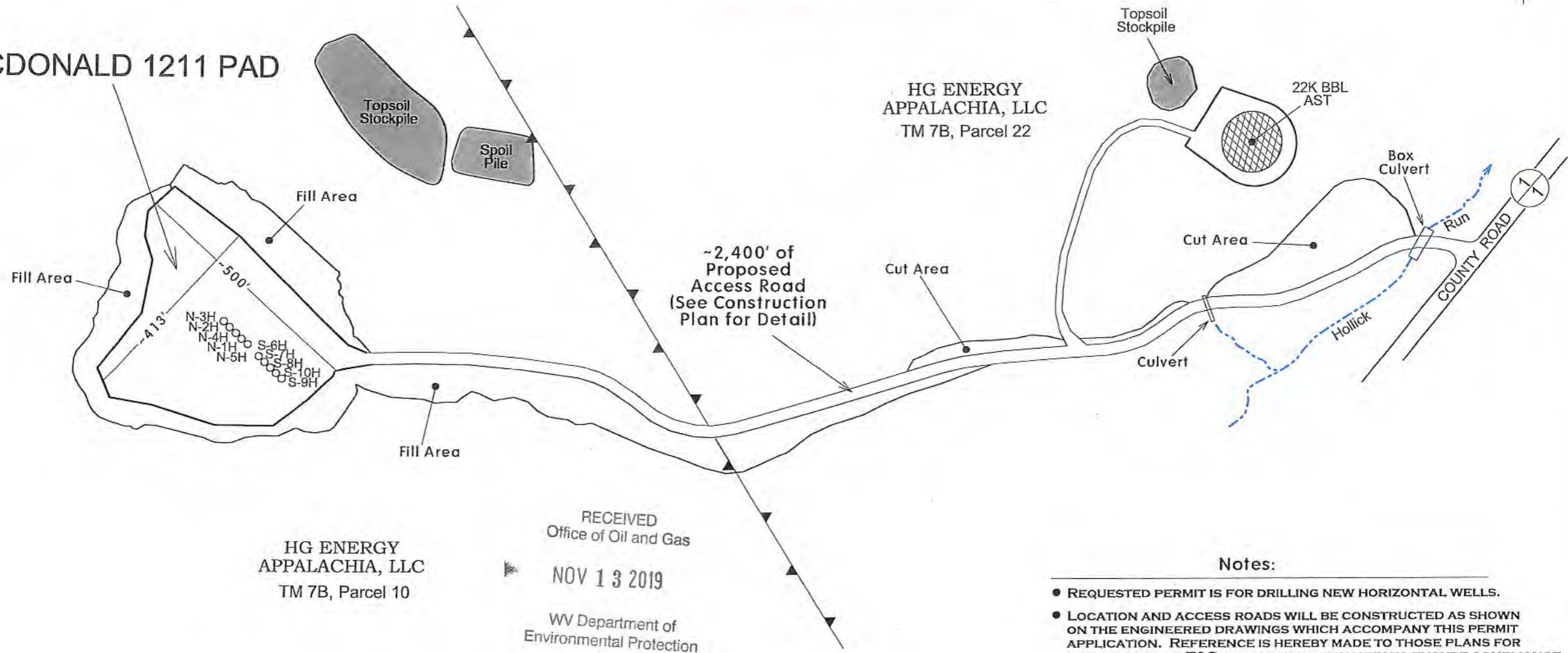
470640571

Reclamation Plan For: MCDONALD 1211 PAD

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



MCDONALD 1211 PAD



HG ENERGY
APPALACHIA, LLC
TM 7B, Parcel 10

HG ENERGY
APPALACHIA, LLC
TM 7B, Parcel 22

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

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.

SUBJECT WELL
McDonald 1211 N-1H



◆ Denotes Possible Water Supply Source to be Tested

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

4704 05702

11,642' to Bottom Hole

4,579' to Top Hole
BTM LATITUDE 39 - 12 - 30
TOP LATITUDE 39 - 10 - 00

LONGITUDE 80 - 27 - 30

11,901 to Top Hole

12,738 to Bottom Hole

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



HG Energy II
Appalachia, LLC
Well No. 1211 N-1H

1211 N-1H
Bottom Hole

5/8" Rebar

47-033
-03855

Tag	Bearing	Dist.
L1	S 77°04' W	2,973.8'
L2	N 75°18' W	2,375.3'
L3	N 29°48' W	2,107.9'
L4	N 44°41' E	1,190.4'
L5	S 88°10' W	2,076.4'

Notes:

Well No. 1211 N-1H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,211,869.50'
E: 1,789,484.34'
Landing Point Coordinates
N: 14,211,802.83'
E: 1,787,408.99'
Bottom Hole Coordinates
N: 14,226,162.68'
E: 1,782,334.76'

Notes: Well No. 1211 N-1H
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS
Measurements.

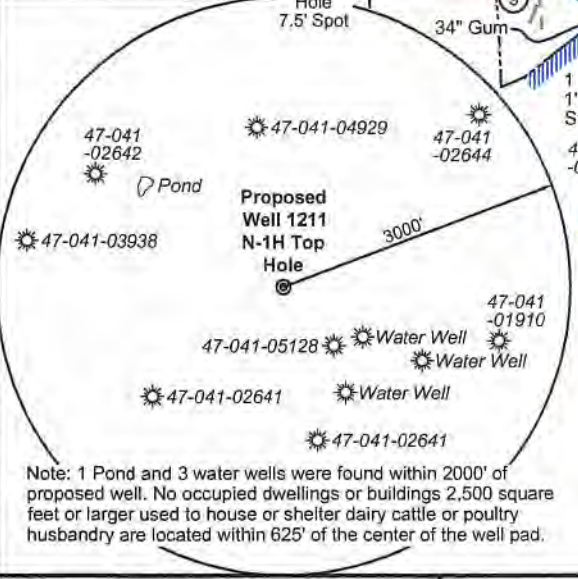
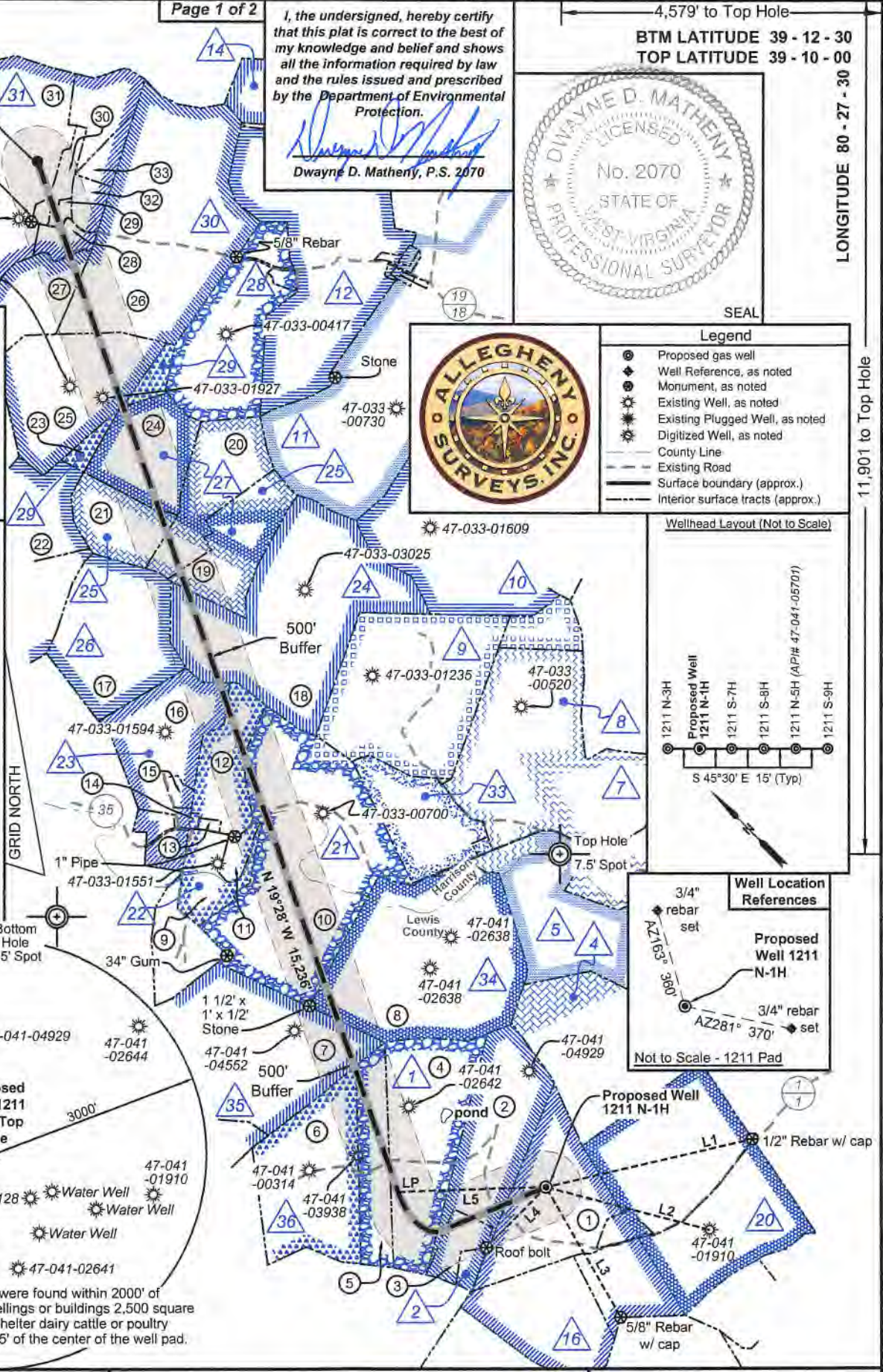
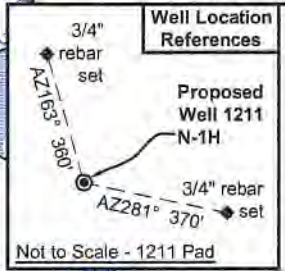
Top Hole coordinates
Latitude: 39°08'02.33"
Longitude: 80°28'28.13"
Bottom Hole coordinates
Latitude: 39°10'24.06"
Longitude: 80°29'57.89"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,331,786.487m
E: 545,435.918m
Bottom Hole Coordinates
N: 4,336,143.057m
E: 543,256.721m
Plat orientation and corner 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-1H 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-1H
API WELL NO. 47-041-05702
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
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: 22,972' MD

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



ID	Lease
1	J.L. Post, et al
2	HG Energy II Appalachia, LLC
4	Cora B. Allman, et al
5	Guinn Minter, et al
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
14	George Paul Linn
16	Mary E. Post, 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
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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

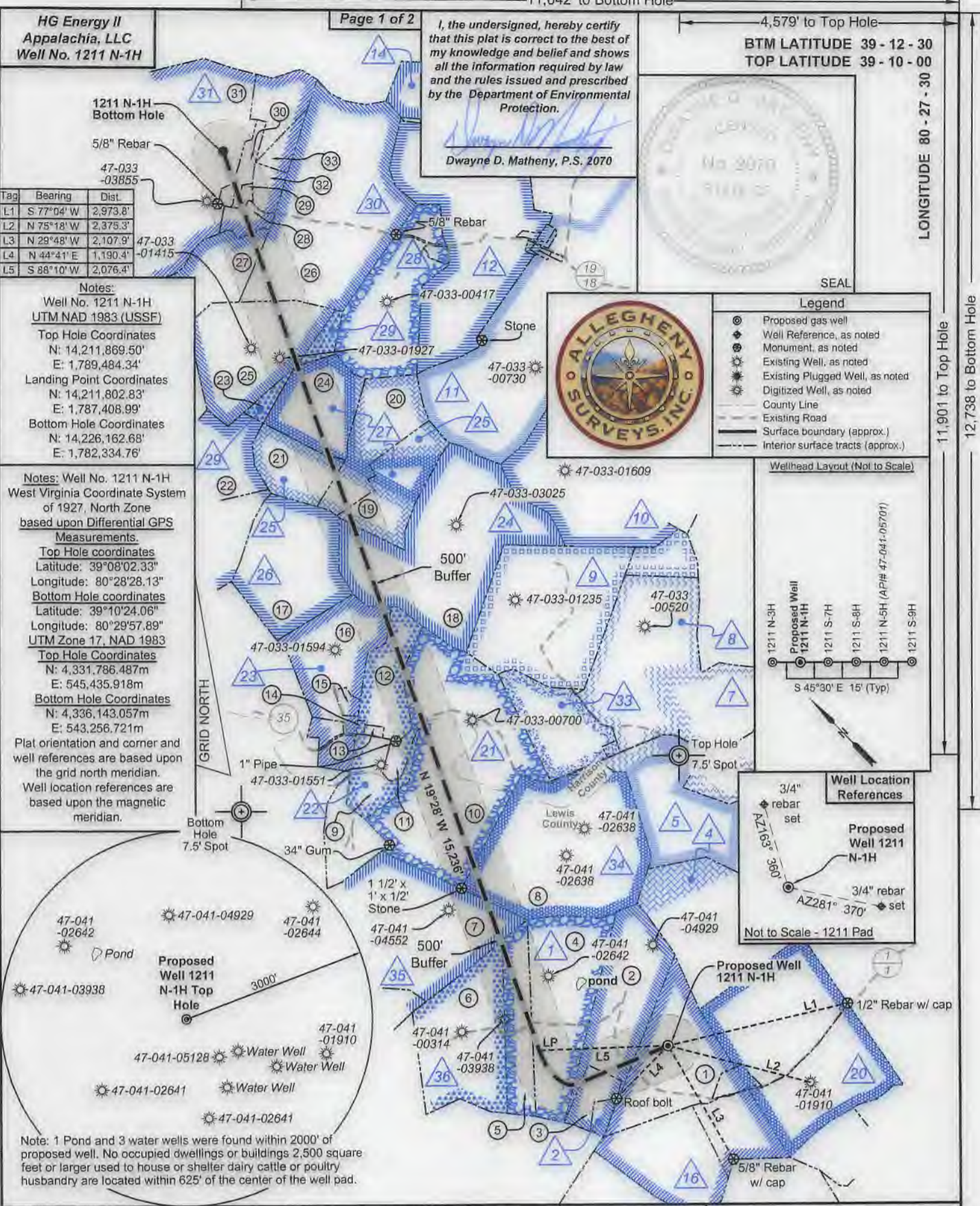
No.	TM / Par	Owner	Bk / Pg	Ac.
1	7B / 10	CNX Gas Company, LLC	680 / 266	61.50
2	7B / 9	Brincefield Family Trust	588 / 740	56.76
3	7B / 9.2	Brincefield Family Trust	588 / 740	10.51
4	6B / 41	Brincefield Family Trust	588 / 740	71.619
5	6B / 42	Brincefield Family Trust	588 / 740	28.00
6	6B / 43	Brincefield Family Trust	588 / 740	69.36
7	6B / 37	Robert E. Brincefield Jr. & Terrilyne Brincefield Trust	578 / 630	96.14
8	6B / 40	Robert G. & Leah V. Burnside	660 / 388	126.50
9	6B / 49	Vernon D. Hughes	680 / 313	19.45
10	443 / 28	Mary Lou Curry, et al	1539 / 769	139.97
11	443 / 27.1	Paul V. & Ina R. Hughes	1287 / 666	5.35
12	443 / 12.2	Donna L. Davis	1185 / 833	27.92
13	443 / 12	Joseph G. Davis III	1353 / 935	1.04
14	443 / 12.1	Donna L. Davis	1067 / 590	0.63
15	443 / 11.1	Jason S. & Christine L. Davis	1414 / 141	2.92
16	443 / 11	Donna L. Davis	1157 / 151	94.00
17	423 / 26	Terence L. Washburn	1117 / 549	65.00
18	423 / 27	James C. Garrett	1412 / 891	128.82
19	423 / 22	James C. Garrett	1412 / 891	35.58
20	423 / 21	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.77
21	423 / 16	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	26.86
22	423 / 15	Sherry Darlene Baldwin, et al	1531 / 944	28.00
23	423 / 19	Ernest Aubrey Rider	1136 / 136	9.36
24	423 / 17	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.11
25	423 / 18	Ernest Aubrey Rider	1136 / 136	65.00
26	423 / 5	Ernest Aubrey Rider	1136 / 136	137.48
27	423 / 3	Ernest Aubrey Rider	1136 / 136	32.51
28	423 / 4.1	Alice Marie Shortridge	1546 / 839	7.43
29	423 / 4	James E. Dills	1596 / 158	21.32
30	423 / 4.3	Helen & Earl M. Jenkins	1537 / 119	7.50
31	423 / 1	Paul H. Dickerson Jr., et al	W176 / 905	135.764
32	423 / 4.2	CNX Gas Co. LLC	1537 / 119	7.43
33	423 / 4.4	CNX Gas Co. LLC	1537 / 119	6.95

FILE NO: 79-36-12-U-F-18	 <p>STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION</p>	DATE: October 3 20 19
DRAWING NO: 1211 N-1H Well Plat		OPERATOR'S WELL NO. 1211 N-1H
SCALE: 1" = 2000'		API WELL NO
MINIMUM DEGREE OF ACCURACY: Submeter		47 - 041 - 05702 ^{86A}
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV		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
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 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: 22,972' MD

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



**HG Energy II
Appalachia, LLC
Well No. 1211 N-1H**

Page 1 of 2

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

11,642' to Bottom Hole

4,579' to Top Hole

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

LONGITUDE 80 - 27 - 30

11,901 to Top Hole
12,738 to Bottom Hole

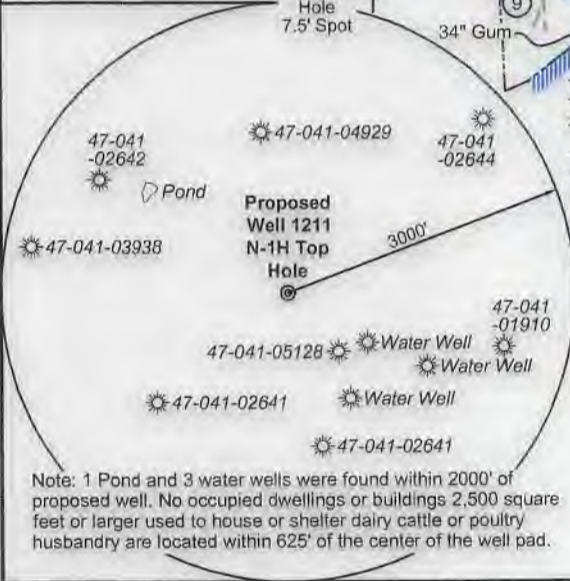
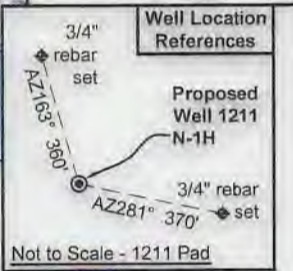
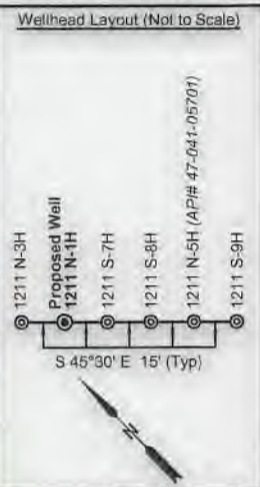
Tag	Bearing	Dist.
L1	S 77°04' W	2,973.8'
L2	N 75°18' W	2,375.3'
L3	N 29°48' W	2,107.9'
L4	N 44°41' E	1,190.4'
L5	S 88°10' W	2,076.4'

Notes:
Well No. 1211 N-1H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,211,869.50'
E: 1,789,484.34'
Landing Point Coordinates
N: 14,211,802.83'
E: 1,787,408.99'
Bottom Hole Coordinates
N: 14,226,162.68'
E: 1,782,334.76'

Notes: Well No. 1211 N-1H
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Top Hole coordinates
Latitude: 39°08'02.33"
Longitude: 80°28'28.13"
Bottom Hole coordinates
Latitude: 39°10'24.06"
Longitude: 80°29'57.89"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,331,786.487m
E: 545,435.918m
Bottom Hole Coordinates
N: 4,336,143.057m
E: 543,256.721m
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
- ⊙ Digitized Well, as noted
- ⊙ Existing Plugged Well, as noted
- ⊙ Surface boundary (approx.)
- ⊙ Interior surface tracts (approx.)



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Parkersburg, WV 26101 Parkersburg, WV 26101



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

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

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

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

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

** See Attached Sheets **

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

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

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

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

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

RECEIVED
Office of Oil and Gas

NOV 13 2019

HG Energy II Appalachia, LLC
McDonald 1211 N-1H 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	FK052962FEE	DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC AND NOBLE ENERGY, INC	NOT LESS THAN 1/8	692	570
				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	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	
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				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				
				HENRY L. FRASHEUR AND ICIE FRASHEUR, HIS WIFE; BERTHA J. KELLY AND E.C. KELLY, HER HUSBAND; BERTHA BRINKLEY AND ALLMAN BRINKLEY, HER HUSBAND; MARY KATHERINE KEARNEY AND JAMES KEARNEY, HER HUSBAND; VIRGINIA PLUNKETT, MARRIED AND LIVING SEPARATE AND APART FROM HER HUSBAND, WILLIAM PLUNKETT; HALL POST AND NELLIE D. POST, HIS WIFE; WILLIAM G. POST AND EFFIE POST, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	211	478

WV Department of Environmental Protection

NOV 13 2019

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Office of Oil and Gas

36	FK062191	03-006B-0034-0000 03-006B-0043-0000	Q101045000	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					
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				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
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				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	736	220				
35	FK062224	03-006B-0035-0000 03-006B-0037-0000 03-006B-0037-0001	Q100501000	HENRY L. FRASHUER AND ICIE FRASHUER, HIS WIFE; BERTHA J. KELLY AND E. C. KELLY, HER HUSBAND; MARY POST DAVIS AND EVERETT W. DAVIS, HER HUSBAND; IDA B. OLDAKER, WIDOW; EVELYN MCDONALD AND ROBERT H. MCDONALD, HER HUSBAND; ELMA MCCLUNG AND JUNIOR MCCLUNG, HER HUSBAND; PARENTHA ROMINE, SINGLE; JAMES H. ROMINE AND MARIE ROMINE, HIS WIFE; NELL ROMINE PIERCE, WIDOW; LOXIE MCCLUNG AND W. D. MCCLUNG, HER HUSBAND; FLODIA B. SMITH AND D. L. SMITH, HER HUSBAND; LUCY A. OLDAKER, WIDOW; DORA L. HOOVER AND JOHN K. HOOVER, HER HUSBAND; WILLIE L. OLDAKER, WIDOW; W. T. FRASHUER AND BERTIE FRASHUER, HIS WIFE; AND S. E. OLDAKER AND DORA E. OLDAKER, HIS WIFE					HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	211	469
				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	579	155				
				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	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				
								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
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	LEWIS 155	202
								CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	HARRISON 508	573
								CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	LEWIS 294	89
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 903					179				
DOMINION TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	LEWIS 425					127				
DOMINION TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 1136					250				

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DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	LEWIS 672 HARRISON 1522	154 33
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	LEWIS 684 HARRISON 1543	57 1235
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	LEWIS 712 HARRISON 1576	848 125
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	LEWIS 717 HARRISON 1584	1 942
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 722 HARRISON 1600	139 660
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 722 HARRISON 1600	170 692
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	LEWIS 723	527
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	LEWIS 723 HARRISON 1601	499 581

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21	FK053272	p/o 20-0443-0028-0000	Q100488000	A W DAVIS	RESERVE GAS COMPANY	NOT LESS THAN 1/8	HARRISON 194	269
				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
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	LEWIS 294	89
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	HARRISON 903	179
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	LEWIS 425	127
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	HARRISON 1136	250
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM FARMOUT AGREEMENT	WVSOS	
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	LEWIS 672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	HARRISON 1522	33
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1524	491
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 684	57
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 1543	1235
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	LEWIS 712	848
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1576	125
				MRS. MARY ROBINSON AND SUSAN H. DAVIS AND A. W. DAVIS, HER HUSBAND	FRED S. RICH	NOT LESS THAN 1/8	LEWIS 717	1
							HARRISON 1584	942
							LEWIS 722	139
							HARRISON 1600	660
			HARRISON 1600	692				
			WVSOS					
			LEWIS 723	527				
			LEWIS 723	499				
			HARRISON 1601	581				
			HARRISON 119	400				
			LEWIS 40	112				

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22	FK052820	20-0443-0012-0000 20-0443-0012-0001 20-0443-0012-0002 20-0443-0027-0001 03-0068-0049-0000	Q100762000	T. M. BARSDALL, SOUTHERN OIL COMPANY, FRED S. RICH, AND W. S.	RESERVE GAS COMPANY	ASSIGNMENT	235	432				
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	HARRISON 508 LEWIS 155	573 202				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	HARRISON 903 LEWIS 294	179 89				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	HARRISON 1136 LEWIS 425	250 127				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1522 LEWIS 672	33 154				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1524 LEWIS 684	491 57				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	HARRISON 1543 LEWIS 684	1235				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	HARRISON 1576 LEWIS 712	125 848				
				CNX GAS COMPANY, LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	HARRISON 1584 LEWIS 717	942 1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT AND BILL OF SALE	HARRISON 1600 LEWIS 722	660 139				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT AND BILL OF SALE	HARRISON 1600	692				
				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	LEWIS 723	527				
				DOMINION ENERGY TRANSMISSION INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1601 LEWIS 723	581 499				
				23	FK052923	All or part of 20-0443-0011-0000 20-0443-0011-0001 20-0443-0026-0000 20-0443-0026-0001	Q100476000	C. C. ASH, ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	399
								RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	508	573
								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 AND BILL OF SALE	1600					660				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601					581				
26	FK066061	20-0423-0015-0000 20-0423-0025-0000 20-0423-0026-0000	Q100727000 Q102320001 Q102320002 Q102320003 Q102320004 Q102320006 Q102320007 Q102320008 Q102320009 Q102320010					WILLIE L. OLDAKER, WIDOW; LUCY A. OLDAKER, WIDOW, DORA L. HOOVER AND JOHN K. HOOVER, HER HUSBAND, DORA L. HOOVER, GUARDIAN OF JAMES H. OLDAKER, NELL ROMINE PIERCE, WIDOW; PORTHENA ROMINE, SINGLE, JAMES H. ROMINE AND MARIE ROMINE, HIS WIFE, EVELYN MCDONALD AND ROBERT H. MCDONALD, HER HUSBAND, LOXIE V. MCCLUNG AND WILBERT MCCLUNG, HER HUSBAND, ELMA F. MCCLUNG AND JUNIOR MCCLUNG, HER HUSBAND, FLODIA B. SMITH AND D. L. SMITH, HER HUSBAND, S. E. OLDAKER AND DORA D. OLDAKER, HIS WIFE, W. T. FRASHURE AND BERTIE FRASHURE, HIS WIFE, ICIE FRASHUER	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	756	136
				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				

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24	FK064358	20-423-0027-0000	Q100857000	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 AND BILL OF SALE	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 FARMOUT AGREEMENT	1601	581
				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				
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 HUSBAND	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

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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
29	N/A	20-00423-0019-0000	HGII158 HGII166	ERNEST AUBREY RIDER	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	1574	105
				THE TRUSTEES OF THE DIOCESE OF THE EPISCOPAL CHURCH	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	1565	500
				THE TRUSTEES OF THE TRINITY EPISCOPAL CHURCH	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	1561	1152
				MELBA BETH ALTIZER	CNX GAS COMPANY LLC	NOT LESS THAN 1/8	1566	727
				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
				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				
30	FK013946	20-0423-0018-0000 20-0423-0005-0000 20-0423-0003-0000	Q100907000	JESSE B. KNIGHT AND LYDIA E. KNIGHT, HIS WIFE; AND A. B. COFFINDAFFER AND S. J. COFFINDAFFER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	192	362
				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	NOT LESS THAN 1/8	192	362
				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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October 21, 2019

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

RE: Drilling Under Roads – McDonald 1211 N-1H
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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Office of Oil and Gas
NOV 13 2019
WV Department of
Environmental Protection

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-1H
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>545442.4</u>
County:	<u>Lewis</u>		Northing:	<u>4331780.1</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
RECEIVED Office of Oil and Gas NOV 13 2019		

Required Attachments:

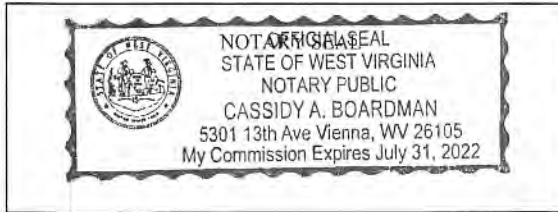
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

WV Department of
Environmental Protection

Certification of Notice is hereby given:

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

Well Operator:	<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: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: _____
 Address: _____

Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
 Address: _____

COAL OWNER OR LESSEE

Name: _____
 Address: _____

COAL OPERATOR

Name: _____
 Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: Charles & Vanessa Brosius Melvin & Terri Woods
 Address: 1050 Hollick Run Road 54 Orchard Drive
Jane Lew, WV 26378 Jane Lew, WV 26378

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

*Please attach additional forms if necessary

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 WV Department of
 Environmental Protection

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

WW-6A
(8-13)

4704105702

API NO. 47-
OPERATOR WELL NO. 4704 McDonald 1211 N-1H 05702
Well Pad Name: McDonald 1211

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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WV Department of
Environmental Protection

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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WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47-
OPERATOR WELL NO. McDonald 1211 N-1H
Well Pad Name: McDonald 1211

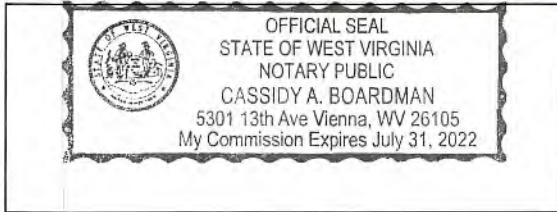
Notice is hereby given by:

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

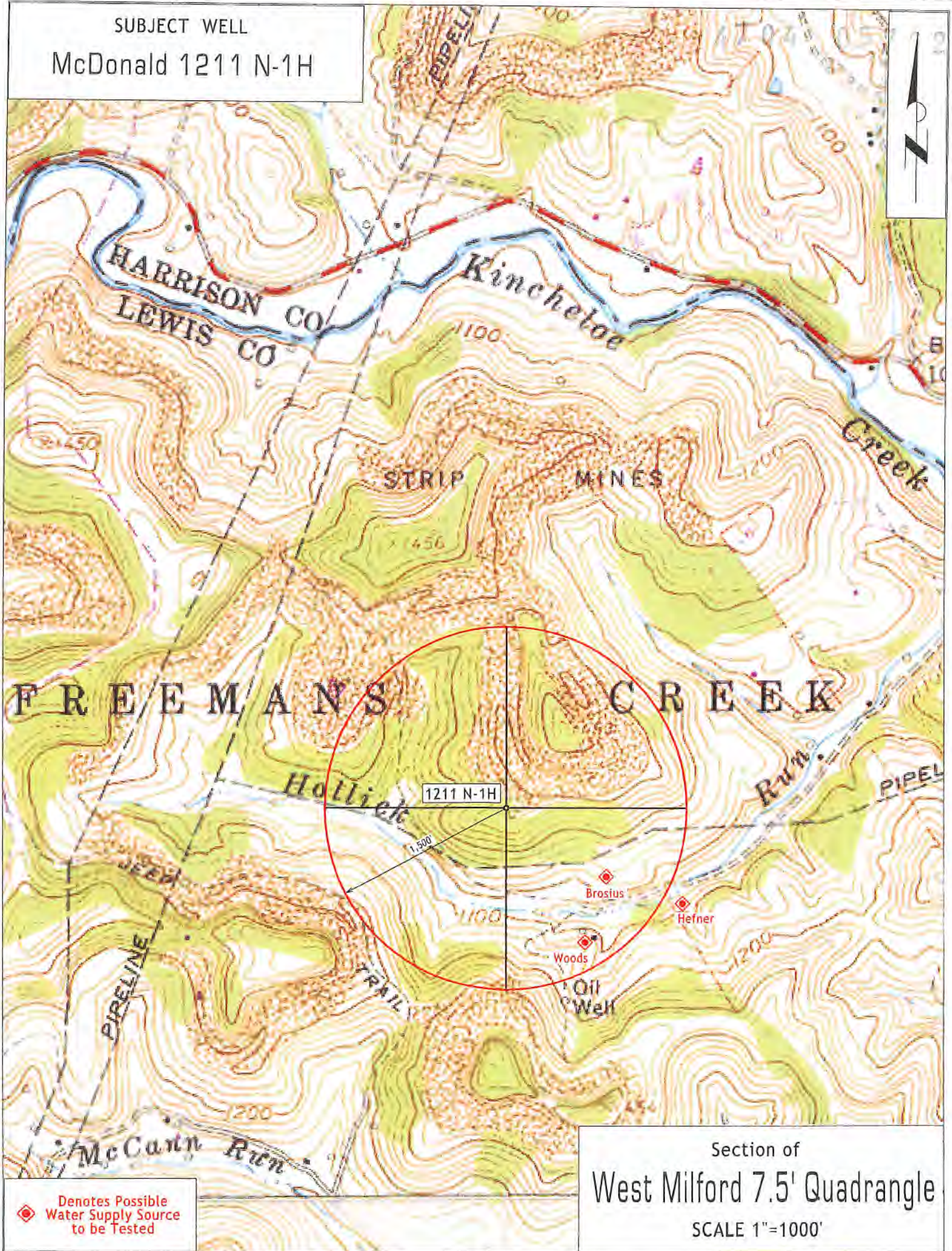
My Commission Expires 7/31/2022

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WV Department of
Environmental Protection

SUBJECT WELL
McDonald 1211 N-1H



◆ Denotes Possible
Water Supply Source
to be Tested

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

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

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

Date of Notice: 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: _____
*RECEIVED
Office of Oil and Gas*

Name: _____
Address: _____
NOV 13 2019

WV Department of
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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>39.134014 / -80.474219</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.

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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Mineral Owners

Aaron K Motley
1526 Lauren Alexis Court
Dallas, NC 28034

Agnes Griffin
545 Welsh Ln
Granville, OH 43023

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

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

Anna Arleena Marks
PO Box 8
Lost Creek, WV 26385

Anna Marie Burkes
200 7th St
Lowry City, MO 64673

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

April Lanning
902 W 885 S
Brigham City, UT 84302

April Victory
11642 Kiowa Ave No 1
Brentwood, CA 90049

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

Beth Ann Thompson
103 Park Rd
Aliquippa, PA 15001

Betty Marion Radcliff
240 Brown Ave
Weston, WV 26452

Betty Taylor
151 Killington Rd
Sutton, WV 26601

Bobbie Jean Spearman Nichols
523 Benton Ave. E.
Albia, IA 52531

Bradley R. Oldaker
PO Box 436
Weston, WV 25452

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Mineral Owners

Brenda Jean Smith
9908 Easy St
Disputante, VA 23842

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

Bryan J Radcliff
349 Center Ave
Weston, WV 26452

Bryan Scott and Johanna Oldaker H/W
527 W. River Rd.
Hamilton, MT 59840

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

Carl Edward Smith
PO Box 273
Lost Creek, WV 26385

Carla Davis
4403 Sayre Ave
Parkersburg, WV 26104

Carney Brand Jackson
632 Rockley Rd
Morgantown, WV 26508

Caterina D. Spring
33 Wilma Court
Gerrardstown, WV 25420

Catherine Benedum
PO Box 8013
Clarksburg, WV 26302

Catherine Marie Campbell
22631 N. Main
Shady Dale, GA 31085

Catherine Marie Campbell
170 Fern Ridge Trail
Murphy, NC 28906

Cecil Henry Smith
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Lost Creek, WV 26385

Charity Lynn & Kenneth D Fishburn
24995 Co. Rd. JJ
Weston, MO 64098

Charles D. Frashure
411 Miles Ave
Hopewell, VA 23860

Charles Russell Jackson
632 Rockley Rd
Morgantown, WV 26508

Charles Wilson Spearman
3055 Olive Dr.
Prescott, AZ 86301

Charlotte Holster
66 Hardware Drive
Jane Lew, WV 26378

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Mineral Owners

Charlotte J Barnette
PO Box 22
Jane Lew, WV 26378

Charlotte J. Davis
59 Maple Dr
Williamstown, WV 26187

Chrystle Renee Oldaker Fleming
309 N. 7th St.
Hamilton, MT 59840

Connie Squires
James H. Romine, Heir
291 Magnolia Ave.
Clarksburg, WV 26301

Cynthia Boswell
713 Casual Ct
Virginia Beach, VA 23454

Dan Benedum
196 RR3
Bridgeport, WV 26330

Darin L. McClung
280 Rock Quarry Rd.
Jane Lew, WV 26378

Daryl E. Strawhorn
8002 W Windrose Dr
Peoria, AZ 85381

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

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

David Beeson
4305 Horine Ct.
Jefferson, MD 21755

David H Benedum
11183 Veteran's Memorial Hwy
Masontown, WV 26542

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P.O. Box 6368
Charleston, WV 25362

David Lee Lund
PO BOX 284
Lost Creek, WV 26385

David Taylor
50 Cool Run
Gap Mills, WV 24941

Debbie Lott
4316 Kincheloe Rd.
Jane Lew, WV 26378

Deborah Meadows
1886 Country Rd, 2300 E
Westfield, IL 62474

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

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Mineral Owners

Delilah Fern Linger
PO Box 88
West Milford, WV 26451

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RR-1 Box 151 AB
Buckhannon, WV 26201

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3926 Alta Vista Dr
Laramie, WY 82072

Diana Jean Smith Rahm
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Veedersburg, IN 27987

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Adelanto, CA 92301

Donald E. Frashure
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Mountlake Terrace, WA 98043

Donna M. Frashure Nutter
14016 Howlett Line Dr.
South Chesterfield, VA 23834

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901 Ellegood St
Salisbury, MD 21801

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

Edward Kent Swisher
9546 Chicken Hollow Rd
Ripley, OH 45167

Elissa A Holt
Holt Properties, LLC
Riviera Beach, FL 33404

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

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

Elizabeth Loegering
24833 Harvey Road
Caldwell, ID 83607

Emery Oldaker
374 SE 300 SE Rd.
Clinton, MO 64735

Eric F Benedum
669 Old Mill Rd
Weston, WV 26452

Erica Davis
435 Larry Drive
Florissant, mo 63033

Ernest Aubrey Rider
3535 Randolph Rd.
Charlotte, NC 28211

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Mineral Owners

Eugene Russell Smith
PO Box 141
Lost Creek, WV 26385

Forest H (Jody) Taylor
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Napier, WV 26631

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

Gaston Egusto Shook
101 E Gore Blvd
Lawton, OK 73502

Geneva Gibbs
78 Millstone Ln
Parkersburg, WV 26104

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

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

Gina Maurie Oldaker Thomas
4411 NW Hon Dr. #11-C
Riverside, MO 64150

Guy Eugene Bell
150 RR 6
Fairmont, WV 26554

H. Dotson Cather, Trustee
315 Spring St.
Clarksburg, WV 26301

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

Helen R. McKay
280 Rock Quarry Rd.
Jane Lew, WV 26378

Herman W. Burkirk
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Petersburg, FL 33701

Holt Properties
PO Box 2612
Davidson, NC 28036

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

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

James Musser Post
22817 Daniel Boone Parkway
Peytona, WV 25154

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7008 Copper Creek Way
Bakersfield, CA 93308

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Moses Lake, WA 98837

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James F. Davis
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Milton, WV 25541

James Leroy Benedum
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Jane Earle Wagoner
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Mineral Owners

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Karen Forney
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Karen Frashure Intile
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Port Charlotte, FL 33980

Karen Harper
196 Curry Ridge Rd
Napier, WV 26631

Karen Muhleisen
c/o Kelly P Sholl
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Karen Muhleisen
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Karen Stillion
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Karme Burton
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Karme Raggio
9401 David Andrew Way
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Mineral Owners

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Kathy Phares Coers
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Linda McGinnis
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Linda Osborn
669 Lynn Avenue
Weston, WV 26452

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Colorado Springs, CO 80936

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115 Franklin Lane
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Lindsay D Garrett
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Grafton, MA 01560

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c/o James Price
806 North Main Street
New Martinsville, WV 26155

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Conshocken, PA 19428-2115

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Zionsville, IN 46071

Martha Cochran
2110 Millstone Run Rd
Napier, WV 26631

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Mary Diane Boso
48 Blosser Street
Fairmont, ,WV 26554

Mary Diane Boso
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Denham Springs, LA 70706-1536

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Mineral Owners

Mary K Dinday
23 Minor Court
San Rafael, CA 94903

Mary Taylor-Forinash
aka Mary Gregory
589 Rock Cave Rd
Crawford, WV 26343

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

Matthew Barnette
289 Cottrill Run Rd.
Jane Lew, WV 26378

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

Matthew W. Barnette
289 Cottrill Run Rd
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Melba Beth Altizer
443 Forest Circle
South Charleston, WV 25303

Melissa A. Frashure Olson
5008 241st St. SW #B
Mountlake Terrace, WA 98043

Melissa L Steege
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Nampa, ID 83651

Mercedes Frashure French
23714 River Rd.
Petersburg, VA 23803

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AIF, Wanda M. Life
3400 Bruceton Ave.
Columbus, OH 43232

Michael Oldaker
1620 Bush Run Road
French Creek, WV 26218

Michael Oldaker
10 RR 1
French Creek, WV 26218

Mildred E. McClung
280 Rock Quarry Rd.
Jane Lew, WV 26378

Misha Lea McDonie
19421 Seneca Trl N
Maxwelton, WV 24957

Movita Lee Hodge
810 Main St
Belpre, OH 45714

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Mineral Owners

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11209 Thomas Dr.
Hopewell, VA 23860

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c/o David Beeghley James Price
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Buckhannon, WV 26201

Phyllis Lennon
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Phyllis Veith
215 Gordon St
Bridgeport, WV 26330

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Rebecca Ann Jarvis
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Rebecca Frashure
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428 East Center Ave
Mooresville, NC 28115

Rita Barnette
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Broken Arrow, OK 74011

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Ojai, CA 93023

Robert Barnette
92 Broad Run Village
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Robert G. Posey
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Robert Gaston Fox
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Robert Glenn Posey
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Robert Paugh
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Jane Lew, WV 26378

Robert R Bowman
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Robert V. Barnette
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Jane Lew, WV 26378

Rochelle Radcliff Little
309 Woodway Dr
Greer, SC 29651

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Middletown, MD 21769

Ruth Messenger
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Clarksburg, WV 26301

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Fort Thomas, KY 41075

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Sarah June Hay
925 Ivory Coast St
Sebring, FL 33875

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Mineral Owners

Sandra Jo Hardway
 115 Hillman Road
 Akron, OH 44312

Scott W. Straka
 34 Readington Rd.
 Whithouse Station, NJ 08889

Shane L. Straka
 233 Shepherd Ave
 Bound Brook, NJ 08805

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

Sharon K. Frashuer Woodridge
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 Richmond, VA 23234

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

Sharon Robinson
 457 Green Valley Road
 Bridgeport, WV 26330

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

Shelly Legaspi
 2972 Wendwood Dr
 Marietta, GA 30062

Sherri Leigh Newland
 374 SE 300 SE Rd.
 Clinton, MO 64735

Sherry Baldwin
 280 Rock Quarry Rd.
 Jane Lew, WV 26378

Sheryl Lynn Smith Koons
 601 N Sterling Ave
 Veedersburg, IN 47987

Sidney Boggess Jackson
 632 Rockley Rd
 Morgantown, WV 26508

Stephanie Meads
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 Bradley, IL 60915

Stephen A. Zellar, Jr.
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 Magness, AZ 72553

Stephen Richards
 PO Box 333
 Elkins, WV 26341

Steven M. Posey
 P.O. Box 592
 Hardy, AR 72542

Sue Ann Waggy
 492 W. Victoria St.
 Buckhannon, WV 26201

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Mineral Owners

Sue Ann Zaldivar
19 Norwood Rd
Charleston, WV 25314

Susan J. Smith
726 S Roth St
Reed City, MI 49677

Tammy L. Oldaker (Lauderdale)
885 Old Corvallis Rd.
Corvalis, MT 59828

Thelma Frashure Wilfong
612 Quarterpath Lane
South Chesterfield, VA 23834

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

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

Tillman Lee Willams
1545 Flinderation RD
Salem, WV 26426

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

Trustees Episcopal Diocese of WV
P.O. Box 5400
Charleston, WV 25311

Trinity Episcopal Church, Trustee
430 Juliana Street
Parkersburg, WV 26101

Virginia Coffindaffer
2223 One Heritage Pt.
Morgantown, WV 26505

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

William A Smith
PO Box 135
Lost Creek, WV 26385

William J. Sheldon
320 Liberty Ave
Clarksburg, WV 26301

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

William Orval Benedum
378 Harvest Dr
Lititz, PA 17543

Yvonne K Washburn
42 Cove Drive
Oak Hill, WV 25901

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

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***Will Not Be Noticed Via Certified Mail**

**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):

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

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Name: _____
 Address: _____

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>545442.4</u>
County:	<u>Lewis</u>	Northing:	<u>4331780.1</u>
District:	<u>Freemans Creek</u>	Public Road Access:	<u>SR 1 / Hollick Run Rd</u>
Quadrangle:	<u>West Milford WV 7.5'</u>	Generally used farm name:	<u>McDonald</u>
Watershed:	<u>Middle West Fork Creek</u>		

This Notice Shall Include:

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

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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

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

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

Name: _____
Address: _____ **NOV 13 2019**

RECEIVED
Office of Oil and Gas

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>545442.4</u>
County:	<u>Lewis</u>		Northing:	<u>4331780.1</u>
District:	<u>Freemans Creek</u>	Public Road Access:	<u>SR 1 / Hollick Run Rd</u>	
Quadrangle:	<u>West Milford WV 7.5'</u>	Generally used farm name:	<u>McDonald</u>	
Watershed:	<u>Middle West Fork Creek</u>			

WV Department of
Environmental Protection

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.

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

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

Date of Notice: 08/07/2019 **Date Permit Application Filed:** 08/15/2019

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

- CERTIFIED MAIL
RETURN RECEIPT REQUESTED
- HAND
DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

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

Notice is hereby given:

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

State: West Virginia	UTM NAD 83	Easting: 545442.4
County: Lewis		Northing: 4331780.1
District: Freemans Creek	Public Road Access:	SR 1 / Hollick Run Road
Quadrangle: West Milford WV 7.5'	Generally used farm name:	McDonald
Watershed: Middle West Fork Creek		

This Notice Shall Include:

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

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

Oil and Gas Privacy Notice:

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Office of Oil and Gas

NOV 13 2019

WV Department of
Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Byrd E. White, III
Secretary of Transportation

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-1H 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.

RECEIVED
Office of Oil and Gas

NOV 13 2019

WV Department of
Environmental Protection

Very Truly Yours,

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

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

List of Frac Additives by Chemical Name and CAS #**McDonald 1211 Well Pad (N-1H to N-5H, S-6H to S-10H)**

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

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Office of Oil and Gas

NOV 13 2019

Missouri Department of
Environmental Protection

10/23/2019

1211 WELL PAD HG ENERGY II APPALACHIA, LLC PERMIT PLANS

FREEMANS CREEK DISTRICT, LEWIS COUNTY, WEST VIRGINIA

PROJECT OWNER/APPLICANT
HG ENERGY II APPALACHIA, LLC
5260 BELFLOUNT ROAD
PARKERSBURG, WV 26101
PH: (304) 424-1100
CONTACT: JARED EMBLE

WYDOH
DISTRICT SEVEN
PH: (304) 252-6040
CONTACT: DISTRICT ENGINEER
BRIAN COOPER, P.E.

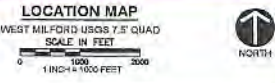
CIVIL ENGINEER
CIVIL & ENVIRONMENTAL
CONSULTANTS, INC.
805 MARKETPLACE AVENUE SUITE 200
BRIDGEPORT, WV 26230
PH: (304) 933-3119
CONTACT: THOMAS ADAMS, P.E.

SPILL NOTICE
WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION (WVDEP)
PH: (304) 642-3074
NATIONAL RESPONSE CENTER
PH: (800) 424-8832

CONSTRUCTION SEQUENCE

1. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITY INCLUDING CLEARING AND GRUBBING, THE RESIDENTRY SHALL CALL WEST VIRGINIA 811 BY DIALING 811 OR 1-800-335-4448 TO IDENTIFY ALL UTILITY LINES. THE RESIDENTRY ALSO MUST CLEARLY DELINEATE EXISTING AREAS, PERMANENT FOREST BUFFER BOUNDARIES, THE LIMITS OF CLEARING AND TREES THAT ARE TO BE CONSERVED WITHIN THE PROJECT SITE, AND SHALL INSTALL APPROPRIATE BARRIERS WHERE CLEARING MAY NOT BE PERMITTED, STAGED, OR LOCATED TO AVOID SENSITIVE AREAS.
2. IF AN ACCESS ROAD IS REQUIRED, CONSTRUCTION ACTIVITY TO TAKE PLACE AT THE SITE AND SHOULD PROVIDE ROPS TO MINIMIZE ACCELERATED EROSION AND SEDIMENTATION FROM THE FOLLOWING AREAS DURING THE CONSTRUCTION PHASES AND MAINTAIN ACCESSWAYS FOR EQUIPMENT OR OTHER USES AT THE SITE INCLUDING PARKING, STORAGE, ETC.
3. SEDIMENT BARRIERS - INSTALL PERMANENT BARRIERS AFTER THE CONSTRUCTION AREA IS ACCESSIBLE. KEEPING ASSOCIATED CLEARING AND GRUBBING LIMITED TO ONLY THAT AMOUNT REQUIRED FOR INSTALLING PERMANENT BARRIERS.
4. LAND CLEARING AND GRUBBING - IMPLEMENT CLEARING AND GRUBBING ONLY AFTER ALL DOWNGRADE AND BARRIERS HAVE BEEN CONSTRUCTED AND STABILIZED.
5. SURFACE STABILIZATION - APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS BEEN PERFORMED. GRADE HAS BEEN DEGRADED 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 MANAGEMENT PRACTICES THAT MAY BE REQUIRED.
7. UPON COMPLETION OF PAD GRADING, COMPACT THE PAD TO GRADE AND BEGIN PAVEMENT OF PAD SURFACE.
8. FINAL STABILIZATION, TOPSOILING, TREES, AND SHRUBS - AFTER CONSTRUCTION IS COMPLETE, INSTALL STABILIZATION BMPs INCLUDING PERMANENT SEEDING, MULCHING, AND UPROOT AND COMPLETE IMPLEMENTATION OF STORMWATER BMPs IN THIS LAST CONSTRUCTION PHASE. STABILIZE ALL UPDRAINED AREAS INCLUDING ROADWAY AND SPILL AREAS, AND REMOVE ALL TEMPORARY BMPs AND STABILIZE AND RESTORE AREAS ASSOCIATED WITH THE REMOVAL OF THE PAD.

WELLS	NORTHING	EASTING	LATITUDE	LONGITUDE
N-3H	14211880.001	1789473.645	N389.134102	W080.474381
N-2H	14211869.492	1789484.339	N389.134073	W080.474294
N-4H	14211858.982	1789495.033	N389.134043	W080.474256
N-1H	14211848.473	1789505.727	N389.134014	W080.474219
N-5H	14211837.964	1789516.421	N389.133985	W080.474181
S-6H	14211809.940	1789544.938	N389.133908	W080.474083
S-7H	14211798.433	1789555.632	N389.133879	W080.474044
S-8H	14211788.921	1789566.326	N389.133850	W080.474006
S-10H	14211778.412	1789577.020	N389.133821	W080.473969
S-9H	14211767.903	1789587.714	N389.133792	W080.473931



AMBULANCE	NAME	TELEPHONE NO.
HOSPITAL EMERGENCY ROOM	UNITED HOSPITAL CENTER	(801) 242-1000
FIRE DEPARTMENT		911
POLICE DEPARTMENT		911
POISON CONTROL CENTER	WEST VIRGINIA POISON CENTER	(800) 222-1222

DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
DESIGNS STUDY COMPLETED:	NO
FLOODPLAIN SHOWN ON DRAWINGS:	NO
FIRM MAP NUMBER(S) FOR SITE:	6041 CODES
ACREAGE OF CONSTRUCTION IN FLOODPLAIN:	0.00 AC

AT LEAST 100 FEET FROM PAD AND LOD INCLUDING ANY EES CONTROL FEATURE TO ANY PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND:	NO
AT LEAST 50 FEET FROM PAD AND LOD INCLUDING ANY EES CONTROL FEATURE TO ANY NATURALLY PRODUCING TIGHT STRATA:	YES
AT LEAST 1000 FEET FROM PAD AND LOD INCLUDING ANY EES CONTROL FEATURE TO ANY SURFACE WATER INTAKE OR PUBLIC WATER SUPPLY:	YES
AT LEAST 250 FEET FROM AN EXISTING WATER WELL OR DEVELOPED SPRING TO WELL BEING DRILLED:	YES
AT LEAST 400 FEET FROM AN OCCUPIED DWELLING STRUCTURE TO CENTER OF PAD:	YES
AT LEAST 60 FEET FROM AGRICULTURAL BUILDINGS LARGER THAN 900 SQUARE FEET TO THE CENTER OF THE PAD:	YES

PLAN REPRODUCTION WARNING
THE PLANS HAVE BEEN CREATED ON ANSI D (22" X 34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.
WARNING INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING.

WEST VIRGINIA CALL BEFORE YOU DIG!
WEST VIRGINIA STATE LAW REQUIRES THAT YOU CALL "911" IN ADVANCE BEFORE YOU DIG IN THE STATE OF WEST VIRGINIA. IT'S THE LAW!

SHEET INDEX

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

OWNER	TM-PARCEL	DEED-PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACRAGE
HG ENERGY II APPALACHIA, LLC	7B-22	730-677	73.63	PARCEL INFORMATION	
				MAIN ACCESS ROAD	4.96
				1ST ACCESS ROAD	1.30
				1ST PAD	1.28
HG ENERGY II APPALACHIA, LLC	7B-10	739-677	61.5	PARCEL INFORMATION	
				MAIN ACCESS ROAD	3.06
				WELL PAD	6.73
				SPILL PILE	1.11
			TOPSOIL/STRIPPING PILE 1	0.51	
			TOPSOIL/STRIPPING PILE 2	2.99	
			PARCEL TOTAL	8.00	
			TOTAL	26.94	
			WOODED	16.26	

DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
MAIN ACCESS ROAD	29,412	32,341	-4,929
1ST PAD ACCESS	122	318	-196
WELL PAD	47,843	37,798	10,045
1ST PAD	240	1,050	-810
SPILL PILE	0	5,220	-5,220
TOTAL	77,344	77,344	0
TOPSOIL / STRIPPING WITH 20% SWELL	14,346 CY	11,955 CY	
TOTAL EXCAVATION	93,299	93,299	0

NOTE: TOPSOIL/STRIPPING THICKNESS FOR REMOVAL AND REPLACEMENT WAS CALCULATED WITH AN ESTIMATED DEPTH OF 6"

APPROVED WVDEP OOG
10/23/2019

GRAVEL QUANTITIES	ESTIMATED GRAVEL QUANTITIES (PLACED CY)				
	1" SOIL CEMENT / 3/8" CRACKER RUN	PAR	1ST ACCESS ROAD	1ST	TOTAL
COMPOST FILTER SOCK, 8-IN	340	340	216	756	580
COMPOST FILTER SOCK, 22-IN					
COMPOST FILTER SOCK, 18-IN					
4" SMARTFENCE HD	6007	1731	965	284	780
COMPOST FILTER SOCK, 32-IN					

- NOTES:
1. MATERIAL BALANCE FOR ESTIMATED GRAVEL QUANTITIES ONLY.
 2. TOPSOIL/STRIPPING ESTIMATED VOLUME BASED ON A 6" AVERAGE DEPTH.
 3. MATERIAL BALANCE AND AGGREGATE QUANTITIES BASED ON ESTIMATES AND MAY NOT BE REPRESENTATIVE OF ACTUAL QUANTITIES.
 4. ESTIMATES DO NOT REFLECT CONTRACTOR PAY VOLUMES.



REVISION RECORD

NO.	DATE	DESCRIPTION
1		ISSUE FOR PERMITTING

Civil & Environmental Consultants, Inc.
805 Marketplace Ave., Suite 200 - Bridgeport, WV 26309
Ph: 304.933.3119 - 855.484.8939 Fax: 304.933.3327
www.civilenv.com

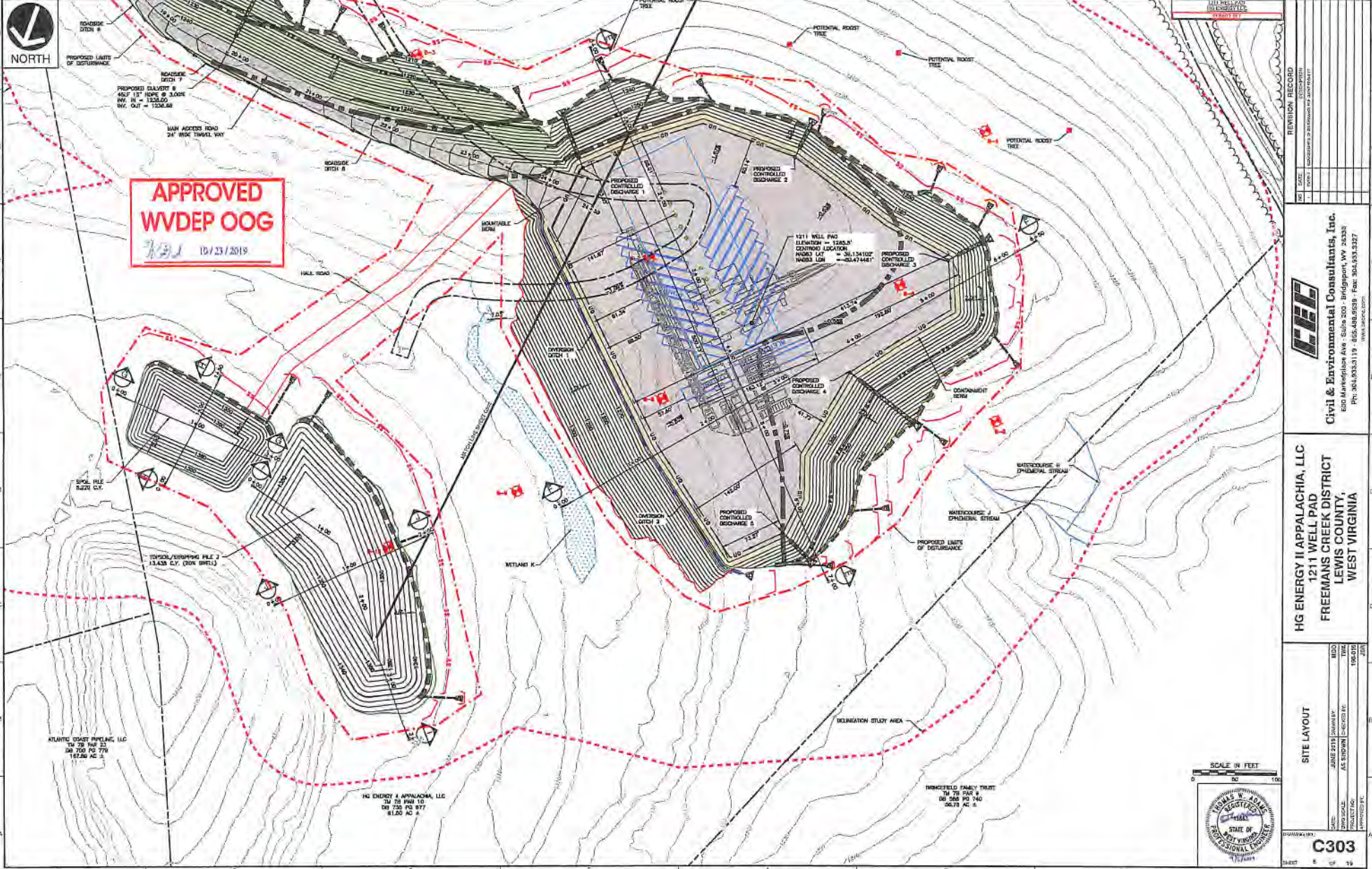
HG ENERGY II APPALACHIA, LLC
1211 WELL PAD
FREEMANS CREEK DISTRICT
LEWIS COUNTY,
WEST VIRGINIA

COVER SHEET

DATE: JUNE 2019
DRAWN BY: [Name]
CHECKED BY: [Name]
APPROVED BY: [Name]

PROJECT NO: [Number]

SHEET 1 OF 19



REVISION RECORD

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

Civil & Environmental Consultants, Inc.
6200 Marketplace Ave. Suite 200 - Bridgeport, WV 26330
PH: 304.633.3119 - 866.488.8638 - Fax: 304.633.3327
www.ceconline.com

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

SITE LAYOUT

DATE	DATE	NO.
JUNE 2018	08/24/18	1001
AUGUST 2018	08/24/18	1002
NOVEMBER 2018	11/15/18	1003
DECEMBER 2018	12/11/18	1004
JANUARY 2019	01/15/19	1005
FEBRUARY 2019	02/15/19	1006
MARCH 2019	03/15/19	1007
APRIL 2019	04/15/19	1008
MAY 2019	05/15/19	1009
JUNE 2019	06/15/19	1010
JULY 2019	07/15/19	1011
AUGUST 2019	08/15/19	1012
SEPTEMBER 2019	09/15/19	1013
OCTOBER 2019	10/15/19	1014
NOVEMBER 2019	11/15/19	1015
DECEMBER 2019	12/15/19	1016

