



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

Friday, February 7, 2020
WELL WORK PERMIT
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for ANTONIO 1206 N-1H
47-033-05978-00-00

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

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

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

James A. Martin
Chief

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

Operator's Well Number: ANTONIO 1206 N-1H
Farm Name: CHARLES R. & FRANKLIN I⁺
U.S. WELL NUMBER: 47-033-05978-00-00
Horizontal 6A New Drill
Date Issued: 2/7/2020

Promoting a healthy environment.

PERMIT CONDITIONS

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

CONDITIONS

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

PERMIT CONDITIONS

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

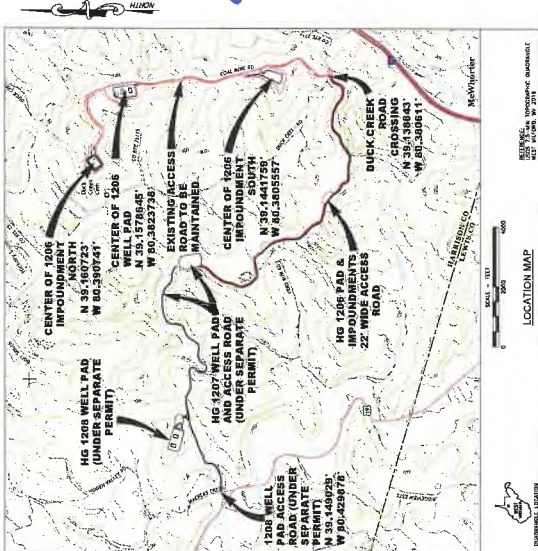
CONSTRUCTION IMPROVEMENT PLANS WITH EROSION AND SEDIMENT CONTROLS HG 1206 WELL PAD & IMPOUNDMENTS

GRANT DISTRICT
HARRISON COUNTY
WEST VIRGINIA

SHT. NO.	TITLE	SHEET TITLE
1	TITLE SHEET	
2A-2Z	SITE DEVELOPMENT PLANS	
3A-3B	IMPOUNDMENT SECTIONS	
4A-4F	ACCESS ROAD SECTIONS	
5A-5G	CONSTRUCTION NOTES & DETAILS	
6A-6K	RESTORATION PLAN	
7A-7C	PROPERTY MAP	

CONSTRUCTION SEQUENCE

- Prior to commencement of any earth disturbance activity, the contractor shall submit a site-specific Erosion and Sediment Control Plan to the West Virginia DEP by calling 811 or 1-800-245-4438 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.
- Site access - This is the first land-disturbance activity to be undertaken. The contractor shall develop routes 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.
- 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.
- Grading - Grading shall be completed after clearing and grading only after all downslope EAS BMPs have been constructed and stabilized.
- 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.
- Construction of Buildings, Utilities, and Paving - During construction, install perimeter BMPs to prevent erosion. Structural post construction stormwater BMPs that may be required.
- Upon completion of pad grading, compact the pad to grade and begin placement of pad soil cement.
- 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 the final stabilization phase, the contractor shall stabilize any borrow and spoil areas and remove all temporary BMPs and stabilize any disturbances associated with the removal of the BMP.



PREPARED FOR
HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WEST VIRGINIA 26101
(304) 420-1100

PREPARED BY
PENN ENVIRONMENTAL & REMEDIATION, INC.
RYAN COURT
PITTSBURGH, PA 15205
(412) 722-1222

Estimated Gross Material Balance (CY)	CUY	HA	80%+ SW
Final Development - Standard Option	28,485	32,355	510
1500 Impoundment North & South Area	144	26	2,880
1500 Impoundment North Ditch & 60'	144	26	2,880
1500 Impoundment South Ditch & 60'	144	26	2,880
1500 Pad Impoundment at Access Road	4,316	3,070	348
1500 Well Pad & Access	32,740	37,055	300
Construction Material Balance Summary	1,200	0	1,200
Total	128,155	112,070	14,085
1500 Well Pad	17,432		
1500 Site Infill	17,432		
1500 Staged / Spaced (L. Area of Embankment)	26,238		
1500 Soil Factor	4,147		
1500 Material Balance Summary	42,857		

WELL	LAT.	LONG.
N-1H	N 35.150696	W 80.382420
N-1H	N 35.158101	W 80.382374
N-1H	N 35.158112	W 80.382369
N-1H	N 35.158112	W 80.382369
N-1H	N 35.158118	W 80.382378
N-1H	N 35.157314	W 80.382218
S-1H	N 35.157314	W 80.382284
S-1H	N 35.157319	W 80.382542
S-1H	N 35.157319	W 80.382542
S-1H	N 35.157330	W 80.382417
S-1H	N 35.157338	W 80.382684

RECORD	LOT #	AREA OF LOT	WITHIN LOT
DUCK CREEK ROAD CROSSING	N 35.138843	W 80.388511	
1207 WELL PAD ACCESS ROAD ENTRANCE	N 35.152081	W 80.420447	
1208 WELL PAD ACCESS ROAD ENTRANCE	N 35.148029	W 80.428876	

OWNER	RECORD	LOT #	AREA OF LOT	WITHIN LOT
ANDREW R. W. SOKOR & WEL	17-12-0445-0013-0000	32,852	3,987	
LELAND J. FREEMAN	17-12-0445-0013-0000	15,506	2,236	
DANIELS & SUTTON	17-12-0445-0043-0000	4,655	1,134	
FRANKLIN L. SUTTON	17-12-0445-0047-0000	72,273	4,670	
RICHARD L. HAWKINS, JR	17-12-0446-0031-0000	53,125	3,425	
W. JOE & HANNAH M. SUTTON	17-12-0446-0039-0001	48,329	2,713	
DUCK CREEK RD	N/A	84,603	1,709	
FRANKLIN L. SUTTON	17-12-0446-0040-0000	84,603	2,253	
CHARLES BLAIR & TARA K. SUTTON	17-12-0446-0031-0001	22,672	1,811	
MARY RICHARDS	17-12-0446-0033-0000	47,934	6,427	
WILLIAM LIBERTY & VIRGINIA A. JENKINS	17-12-0446-0018-0000	78,568	2,638	
MARY RICHARDS	17-12-0446-0019-0001	0,9075	0,197	
MARY RICHARDS	17-12-0446-0019-0000	56,5818	2,028	
P. ANTONIO, LLC	17-12-0446-0033-0000	180,7720	1,658	
P. ANTONIO, LLC	17-12-0446-0032-0000	31,0599	0,688	
CHARLES S. SUTTON	17-12-0446-0032-0000	31,1124	21	
KATHA H. RUSSELL	17-12-0446-0031-0000	151,1380	4,504	
TOTAL LIMIT OF DISTURBANCE				665,187 AC.

WEST VIRGINIA
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4438
1. RESPONSIBLE FOR OBTAINING ALL NECESSARY AND APPROPRIATE PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES.
2. RESPONSIBLE FOR OBTAINING ALL NECESSARY AND APPROPRIATE PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES.

Penn E&R
Environmental & Remediation, Inc.
111 RYAN COURT, PITTSBURGH, PA 15205
(412) 722-1222



TITLE SHEET
HG 1206 WELL PAD & IMPOUNDMENTS
GRANT DISTRICT
HARRISON COUNTY, WEST VIRGINIA
PREPARED FOR
HG ENERGY II APPALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

APPROVED	DATE	BY
PROJECT NO.	DATE	BY
PROJECT NAME	DATE	BY
DRAWING NUMBER	DATE	BY
SHEET NO.	DATE	BY



Office of Oil and Gas

West Virginia Department of
Environmental Protection
Office of Oil & Gas
601 57th Street SE
Charleston, WV 25304-2345

47-033-05978

DEP Office Use only	
Date Received by Oil & Gas:	10-28-19
Assigned Impoundment ID #:	033-FWA-00109

Permit Associated Impoundment / Pit Registration

Instruction: This form is to be used to register impoundments or waste pits, greater than 5,000 bbls, that are associated with a WVDEP, Office of Oil and Gas, well drilling permit. An **associated impoundment or pit** means it has been designed and included in the well drilling permit application, will follow the reclamation time frame of well work permit, and will be approved in conjunction with the well work permit. An impoundment ID number will be assigned by WVDEP, Office of Oil and Gas, to all impoundments and pits. This impoundment ID number will be sent to the applicant following receipt of this form by WVDEP. Please reference this impoundment ID number with all future correspondence and reference to this impoundment. Conditions as described in W.Va. State Rule §35-4-21 will be followed as it relates to impoundments and pits.

Section 1 – Operator Information

Operator Name:	HG Energy II Appalachia, LLC.		
Operator ID:	494519932		
Address: Street	5260 Dupont Road		
City:	Parkersburg	State:	WV
		Zip:	26101
Contact Name:	Diane White	Contact Title:	Accountant
Contact Phone:	304-420-1119	Contact Email:	dwhite@hgenergyllc.com

Section 2 – Engineering / Design Contractor Information

Design will be contracted <input checked="" type="checkbox"/> Designed in-house <input type="checkbox"/>			
Company Name:	Penn Environmental & Remediation, Inc.		
Address: Street	111 Ryan Court		
City:	Pittsburgh	State:	PA
		Zip:	15205
Contact Name:	Matthew E. Pierce	Contact Title:	Senior Project Manager
Contact Phone:	412-722-1222	Contact Email:	mpierce@penn-er.com
Certifying Professional Engineer:	Matthew E. Pierce		
Professional Engineer Registration Number:	20458		

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WV Department of
Environmental Protection



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Section 3 - Impoundment / Pit Information

OCT 28 2010

Type of Structure. Check one of two choices below: <input checked="" type="checkbox"/> Freshwater Impoundment <input type="checkbox"/> Waste Pit		WV Department Environmental Protection
Note: <u>Any</u> waste in a pit will make it a waste pit.		
Name of Structure (Company Name) : <u>1206 South Impoundment (HG Energy II Appalachia, LLC.)</u>		
County: <u>Harrison</u>	District: <u>Grant</u>	
USGS 7.5' Quad Map Name: <u>West Milford</u>		
Farm Name: <u>HG Energy II Appalachia</u>		
Pad Name: <u>1206</u>		
Surface Owner Name: <u>HG Energy II Appalachia, LLC.</u>		
Physical Description of Location: <u>Less than two miles north from the intersection of SR 27/2 (Long Run Road) and SR 25/6 (Duck Creek Road) in Jane Lew, WV, left on Coal Mine Rd.</u>		
(Note: Give general location, example: 2 miles south of Smalltown, WV on Rt. 22, left on Buffalo Creek)		
Watershed (nearest perennial): <u>West Fork River (Duck Creek)</u>		
Distance (Drainage Distance) to nearest perennial stream: <u>1,500 feet</u>		
Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxxx))		
Latitude: <u>39.1441759°</u>	Longitude (Use negative sign): <u>-80.3805557°</u>	<u>E - 553529.96</u> <u>N - 4332958.81</u>
UTM Coordinates : <u>1816039.529</u>	E	<u>14215715.692</u> N
Access Road Coordinates (junction of state highway access)		
Latitude: <u>39.149029°</u>	Longitude (Use negative sign): <u>-80.429878°</u>	
UTM Coordinates : <u>1802044.630</u>	E	<u>14217391.017</u> N
Approximate Dimensions		
Length: <u>621</u>	Width: <u>312</u>	Height: <u>15.05</u>
Note: If irregularly shaped, give approximate dimensions of long axis.		
Total Capacity – Provide all units of measure below:		
Barrels: <u>342,893</u>	Gallons: <u>14,401,322</u>	Acre-Feet: <u>44.196</u>
Capacity with 2' Freeboard – Provide all units of measure below:		
Barrels: <u>285,925</u>	Gallons: <u>12,008,689</u>	Acre-Feet: <u>36.853</u>
Incised volume:		
Barrels: <u>181,779</u>	Gallons: <u>7,634,596</u>	Acre-Feet: <u>23.430</u>
Net impounded volume: (Total volume less incised volume.)		
Barrels: <u>161,114</u>	Gallons: <u>6,766,726</u>	Acre-Feet: <u>20.766</u>
Anticipated Construction Start Date (estimation, non-binding): _____		
Note: No construction may begin on Associated impoundment until WVDEP issues the drilling permit. At least 7 calendar days prior to confirmed construction start date, notify the Office of Oil & Gas, and the local Oil and Gas inspector of construction start date. Use form IMP-2, "Notification of Impoundment / Pit Construction."		



Section 4 - Associated Well Numbers and API Numbers. List associated well numbers and API number. API numbers may not be assigned at time of registering this impoundment, if so list as pending.

Well Number(s):	API Number(s) – If issued:
1206 N-1H	Pending
1206 N-2H	Pending
1206 N-3H	Pending
1206 N-4H	Pending
1206 N-5H	Pending
1206 S-6H	Pending
1206 S-7H, S-8H, S-9H, S-10H	Pending

Section 5 - Required Information Checklist To Register Permit Associated Impoundments or Pits. Include the following information and plans with application.

- Engineered Construction Plans, certified by WV Registered P.E.
- Erosion and Sediment Control Plan, certified by WV Registered P.E.
- Reclamation Plan, certified by WV Registered P.E.

Section 6 – Dam Standard Qualifying Evaluation

- The design of this structure has been evaluated by the applicant to determine it does NOT qualify to be defined as a dam, under W.Va Rule §47-34. If the design of this structure qualifies it to be defined as a dam, all permits regulating dams will be required prior to registering the structure with the Office of Oil and Gas. The dam standard, from the WVDEP, Div. Of Water and Waste, is available for review at: <http://www.dep.wv.gov/WWE/ee/ds/Pages/default.aspx>

Section 7 –Comments – Provide any additional comments concerning this project

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Section 8 - Application Certification

I hereby certify that the information listed above is true and accurate. I understand that this pit/impoundment is to be constructed only in a location appropriate for the storage of water, including wastewater, and will be constructed in accordance with plans designed and certified by a West Virginia registered professional engineer. I further recognize that all required plans have been submitted to the Office of Oil and Gas. I understand that after construction, and prior to any fluid being placed in the pit/impoundment, it shall be inspected by a West Virginia registered professional engineer to ensure compliance with the certified design and construction plan, and that the professional engineer shall certify that this structure was constructed in accordance with design and construction plans. I understand that such certification shall be in writing to the Chief and that no fluids may be placed in the pit/impoundment until the certification has been filed with the chief. I agree that this pit/impoundment shall be constructed, maintained, operated and closed in accordance with all applicable laws and rules, including the requirements of W. Va. Code R § 35-4-2 .

Name: Diane White

Title: Accountant

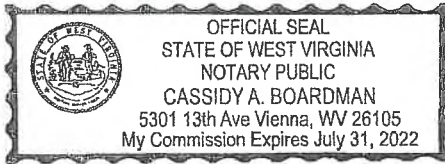
Signature: Diane White

Taken, subscribed and sworn to before me this, 10th Day of October 20 19

Notary Public: Cassidy Boardman

My commission expires: 7/31/2022

Notary Seal:



Section 9. Submittal Instructions

Submit original paper copy of application to:
West Virginia Department of Environmental Protection
Office of Oil and Gas
Impoundment Registration
601 57th Street, SE
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :
Depimpoundments@wv.gov

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WV Department of
Environmental Protection



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West Virginia Department of
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601 57th Street SE
Charleston, WV 25304-2345

47-033-05978

DEP Office Use only	
Date Received by Oil & Gas:	10-28-19
Assigned Impoundment ID #:	033-FWA-00110

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Contact Phone:	304-420-1119	Contact Email:	dwhite@hgenergyllc.com

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Design will be contracted	<input checked="" type="checkbox"/>	Designed in-house	<input type="checkbox"/>
Company Name:	Penn Environmental & Remediation, Inc.		
Address: Street	111 Ryan Court		
City:	Pittsburgh	State:	PA
		Zip:	15205
Contact Name:	Matthew E. Pierce	Contact Title:	Senior Project Manager
Contact Phone:	412-722-1222	Contact Email:	mpierce@penn-er.com
Certifying Professional Engineer:	Matthew E. Pierce		
Professional Engineer Registration Number:	20458		

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Section 3 - Impoundment / Pit Information

Type of Structure. Check one of two choices below:

Freshwater Impoundment Waste Pit

Note: Any waste in a pit will make it a waste pit.

Name of Structure (Company Name :) 1206 North Impoundment (HG Energy II Appalachia, LLC.)

County: Harrison District: Grant

USGS 7.5' Quad Map Name: West Milford

Farm Name: HG Energy II Appalachia

Pad Name: 1206

Surface Owner Name: HG Energy II Appalachia, LLC.

Physical Description of Location: Less than two miles north from the intersection of SR 27/2 (Long Run Road) and SR 25/6 (Duck Creek Road) in Jane Lew, WV, left on Coal Mine Rd.

(Note: Give general location, example: 2 miles south of Smalltown, WV on Rt. 22, left on Buffalo Creek)

Watershed (nearest perennial): West Fork River (Duck Creek)

Distance (Drainage Distance) to nearest perennial stream: 1,600 feet

Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxxx))

Latitude: 39.160723° Longitude (Use negative sign): -80.390741° **E- 552637.45**
N- 4334789.17

UTM Coordinates : 1813111.352 E 14221720.801 N

Access Road Coordinates (junction of state highway access)

Latitude: 39.149029° Longitude (Use negative sign): -80.429878°

UTM Coordinates : 1802044.629 E 14217391.017 N

Approximate Dimensions

Length: 469 Width: 363 Height: 16

Note: If irregularly shaped, give approximate dimensions of long axis.

Total Capacity – Provide all units of measure below:

Barrels: 379,766 Gallons: 15,949,957 Acre-Feet: 48.949

Capacity with 2' Freeboard – Provide all units of measure below:

Barrels: 320,631 Gallons: 13,466,320 Acre-Feet: 41.327

Incised volume:

Barrels: 174,445 Gallons: 7,326,597 Acre-Feet: 22.484

Net impounded volume: (Total volume less incised volume.)

Barrels: 205,321 Gallons: 8,623,360 Acre-Feet: 26.465

Anticipated Construction Start Date (estimation, non-binding): _____

Note: No construction may begin on **Associated** impoundment until WVDEP issues the drilling permit. At least 7 calendar days prior to confirmed construction start date, notify the Office of Oil & Gas, and the local Oil and Gas inspector of construction start date. Use form IMP-2, "Notification of Impoundment / Pit Construction."



Section 4 - Associated Well Numbers and API Numbers. List associated well numbers and API number. API numbers may not be assigned at time of registering this impoundment, if so list as pending.

Well Number(s):	API Number(s) – If issued:
1206 N-1H	Pending
1206 N-2H	Pending
1206 N-3H	Pending
1206 N-4H	Pending
1206 N-5H	Pending
1206 S-6H	Pending
1206 S-7H, S-8H, S-9H, S-10H	Pending

Section 5 - Required Information Checklist To Register Permit Associated Impoundments or Pits. Include the following information and plans with application.

- Engineered Construction Plans, certified by WV Registered P.E.
- Erosion and Sediment Control Plan, certified by WV Registered P.E.
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Section 7 –Comments – Provide any additional comments concerning this project

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Section 8 - Application Certification

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Name: Diane White

Title: Accountant

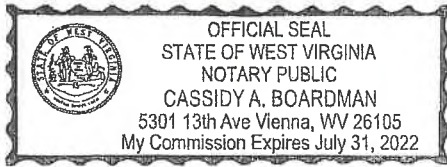
Signature: Diane White

Taken, subscribed and sworn to before me this, 10th Day of October 20 19

Notary Public: Cassidy Boardman

My commission expires: 7/31/2022

Notary Seal:



Section 9. Submittal Instructions

Submit original paper copy of application to:
West Virginia Department of Environmental Protection
Office of Oil and Gas
Impoundment Registration
601 57th Street, SE
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :
Depimpoundments@wv.gov

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OCT 28 2019
WV Department of
Environmental Protection

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

1) Well Operator: HG Energy II Appalachia, LLC 494519932 Harrison Grant West Milford 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Antonio 1206 N-1H Well Pad Name: Antonio 1206

3) Farm Name/Surface Owner: HG Energy II Appalachia, LLC Public Road Access: Hackers Creek Rd @ SR 19

4) Elevation, current ground: 1364' Elevation, proposed post-construction: 1350'

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

(b) If Gas Shallow Deep
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 7081'/7260' and 179' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 7252'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21,256'

11) Proposed Horizontal Leg Length: 12,539'

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

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

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

15) Approximate Coal Seam Depths: 623', 1010' to 1015'

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

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

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

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*SDW
10/4/19*

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18) CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1100'	1100'	40% excess, CTS
Intermediate 1	13 3/8"	NEW	J-55	68	2200'	2200'	40% excess, CTS
Intermediate 2	9 5/8"	NEW	J-55	40	3000'	3000'	40% excess tail, CTS
Production	5 1/2"	NEW	P-110	23	21256'	21256'	20% excess tail, CTS
Tubing							
Liners							

*SDW
10/4/19*

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	30"	.500				Drilled In
Fresh Water/Coal	20"	24"	.438	2110	1200	Type 1, Class A	40 % excess yield = 1.20, CTS
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 0% Excess
Production	5 1/2"	8 1/2"	.415	16240	12500	Type 1/Class A	20% excess yield = 1.19, tail yield 1.94
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 7252 feet. Drill horizontal leg to estimated 12544' lateral length, 21,256' TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 68.187 acres

22) Area to be disturbed for well pad only, less access road (acres): 11.058 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Freshwater - centralized every 3 joints to surface.
Coal - Bow Spring on every joint, will also be running ACP for isolating storage zone
Intermediate - Bow Spring on first 2 joints then every third joint to 100' from surface.
Production - Run 1 spiral centralizer every 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 - 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 CaCl_{40%} Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS"
Intermediate 2 - "Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl_{40%} Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS"
Production - "Lead: 14.5 ppg POZ.PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA17020% ExcessLead Yield=1.19Tail Yield=1.94CTS"

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

Antonio 1206 Well Pad (N-1H, N-2H, N-3H, N-4H, N-5H)
Cement AdditivesWV Department of
Environmental Protection

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 (SiO ₂)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO₂)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO ₂)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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EC-1		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												
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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 (SiO ₂)	5 - 10	14808-60-7	Calcium oxide	1 - 5	1305-78-8									
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R-3	Retarder	A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Organic acid salt</td> <td>40 - 60</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Organic acid salt	40 - 60	Trade secret.												
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S-5	Surfactant	Used to water wet casing and formation to facilitate cement bonding.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>2-Butoxyethanol</td> <td>20 - 30</td> <td>111-76-2</td> </tr> <tr> <td>Proprietary surfactant</td> <td>10 - 20</td> <td>Trade secret.</td> </tr> <tr> <td>D-Glucopyranose, oligomeric, C10-16-alkyl glycosides</td> <td>5 - 10</td> <td>110615-47-9</td> </tr> <tr> <td>Alkylarylsulfonate amine salt</td> <td>1 - 5</td> <td>Trade secret.</td> </tr> <tr> <td>Polyoxyalkylenes</td> <td>0.1 - 1</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	2-Butoxyethanol	20 - 30	111-76-2	Proprietary surfactant	10 - 20	Trade secret.	D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	5 - 10	110615-47-9	Alkylarylsulfonate amine salt	1 - 5	Trade secret.	Polyoxyalkylenes	0.1 - 1	Trade secret.
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1206 N-1H
Marcellus Shale Horizontal
Harrison County, WV

WV Department of Environmental Protection

Ground Elevation

1350'

Environmental Protection

1206 N-1H SHL

14220780.27N 1815474.77E

340.538°

1206 N-1H LP

14219939.72N 1812638.84E

14231762.61N 1808461.07E

WELLBOREDIAGRAM

HOLE

CASING

GEOLOGY

TOP

BASE

MUD

CEMENT

CENTRALIZERS

CONDITIONING

COMMENTS

30"

30" 157.5# LS

Conductor

0

120

AIR

N/A, Casing to be drilled in w/ Dual Rotary Rig

N/A

Ensure the hole is clean at TD.

Conductor casing = 0.5" wall thickness

24"

20" 94# J-55

Fresh Water

0

135,480, 637,731

1015

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

Little/Big Lime

1555 / 1596

1575 / 1658

1658 / 1985

1770 / 2050

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

5th Sand

2515

2527

2591 / 2891

2601 / 2931

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

8.5" Vertical

5-1/2" 23# P-110 HP CDC HTQ

Rhinestreet

6395

6651

6651

6651

6651

6651

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

5-1/2" 23# P-110 HP CDC HTQ

Cashagua

6651

6651

6651

6651

6651

6651

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

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Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

West River

6783

6783

6783

6783

6783

6783

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

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8.5" Vertical

5-1/2" 23# P-110 HP CDC HTQ

Baillovn

3438

3448

3448

3448

3448

3448

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
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8.5" Vertical

5-1/2" 23# P-110 HP CDC HTQ

Benson

4505

4525

4525

4525

4525

4525

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.

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8.5" Vertical

5-1/2" 23# P-110 HP CDC HTQ

Rhinestreet

6395

6651

6651

6651

6651

6651

Run 1 spiral centralizer every 5 joints from the top of the curve to surface.

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8.5" Curve

5-1/2" 23# P-110 HP CDC HTQ

Middlesex

6751

6783

6783

6783

6783

6783

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

West River

6783

6783

6783

6783

6783

6783

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

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Burst=16240 psi
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8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

Burkett

6854

6864

6864

6864

6864

6864

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

Tully Limestone

6864

6872

6872

6872

6872

6872

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

Hamilton

6972

7081

7081

7081

7081

7081

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

Marcellus

7081

7081

7081

7081

7081

7081

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

8.5" Lateral

5-1/2" 23# P-110 HP CDC HTQ

Onondaga

7260

7260

7260

7260

7260

7260

Run 1 spiral centralizer every 3 joints from the top of the curve.

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

Production casing = 0.415" wall thickness
Burst=16240 psi
Note: Actual centralizer schedules may be changed due to hole conditions

LP @ 7252' TVD / 8712' MD

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

+/-12544' ft. Lateral

TD @ +/-7252' TVD
+/-21256' MD

X=Centralizers

4703000078

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(4/16)

OCT 22 2019

47 03 05978

API Number 47 -

Operator's Well No. Antonio 1206 N-1H

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

WV Department of Environmental Protection

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 [X] No []

Will a pit be used? Yes [] No [X]

If so, please describe anticipated pit waste: NA

Will a synthetic liner be used in the pit? Yes [] No [X] 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

SDW
10/14/2019

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

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

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

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

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

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

-Landfill or offsite name/permit number? See Attached

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

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

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

Company Official Signature Diane White

Company Official (Typed Name) Diane White

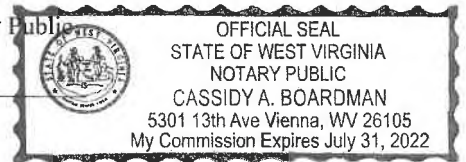
Company Official Title Agent

Subscribed and sworn before me this 27th day of September, 2019

Cassidy Boardman

Notary Public

My commission expires 7/31/2022



HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 68.187 Prevegetation pH

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay 2 Tons/acre

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Seed Mixtures

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

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

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

Title: Oil & Gas Inspector Date: 10/4/19

Field Reviewed? (X) Yes () No

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WV Department of
Environmental Protection**Cuttings Disposal/Site Water****Cuttings Haul off Company:**Eap Industries, Inc. DOT # 0876278
1875 Smith Two State Rd. Atlasburg, PA 15004
1-888-284-5227Waste Management
200 Rangos Lane
Washington, PA 15301
724-222-3272Environmental Coordination Services & Recycling (ECS&R)
8287 US Highway 19
Cochranon, PA 16814
814-425-7778**Disposal Locations:**Apex Environmental, LLC Permit # 06-08488
11 County Road 78
Amsterdam, OH 43903
740-548-4888Westmoreland Waste, LLC Permit # 100277
111 Conner Lane
Belle Vernon, PA 15012
724-829-7694Sycamore Landfill Inc. Permit #R80-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611Max Environmental Technologies, Inc. Facility Permit # PAD004835146 / 301071
233 Max Lane
Yukon, PA 25968
724-722-3500Max Environmental Technologies, Inc. Facility Permit # PAD05087072 / 301359
200 Max Drive
Bulger, PA 15019
724-796-1571Waste Management Kelly Run Permit # 100662
1901 Park Side Drive
Elizabeth, PA 15037
412-884-7569Waste Management South Hills (Arnoni) Permit # 100592
3100 Hill Road
Liberty, PA 15129
724-348-7013
412-884-7569Waste Management Arden Permit # 100172
200 Rangos Lane
Washington, PA 15301
724-222-3272Waste Management Meadowfill Permit # 1032
1488 Dawson Drive
Bridgeport, WV 26330Brooke County Landfill Permit # SWP-103-97 / WV 0109029
Rd 2 Box 410
Colliers, WV 26035
304-748-0014

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109186
Rt 1, Box 156A
New Martinsville, WV 26035
804-455-8800

Energy Solutions, LLC Permit # UT 2300249
428 West 800 South
Suite 200
Salt Lake City, UT 84101

Energy Solutions Services, Inc. Permit # R-73006-L24
1550 Bear Creek Road
Oak Ridge, TN 37830

Northern A-1 Environmental Services Permit ID MIP020906814
3947 US 131 North, PO Box 1080
Kalkaska, MI 49646
281-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720485
3790 State Route 7
New Waterford, OH 44445
330-892-0184

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

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

Nuverra Environmental Solutions
11942 Veterans Memorial Highway
Masontown, WV 26542

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

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

Disposal Locations:

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

Solidification/Incineration
Soil Remediation, Inc. Permit # 02-20753
6065 Arjay-Smith Road
Lowellville, OH 44486
330-586-6825

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

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

Force, Inc.
1380 Rte. 286 Hwy. E, Suite 308
Indiana, PA 15701

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

Equipment Transport
1 Tyler Court
Carlisle, PA 17015

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

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

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

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

Kambla 1-D Well
Permit # 8780
7675 East Pike
Norwich, Oh 43767
614-648-8898
740-796-6465

Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin TX 78703
Permit # 84-031-2-7173
740-575-4434
512-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit # 84-031-2-7241-00-00
2650 Exposition, Suite 117
Austin, TX 78703
512-478-6545

Mozana #1 Well (SWIW # 13)
Permit # 84-157-2-5511-00-00
5337 E. State Street
Newcomerstown, OH 43882
740-763-3966

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

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

Dudley #1 UIC (SWIW #1)
Permit # 84-121-2-2459-00-00
Select Energy Services, LLC
7994 S. Pleasants Hwy
St. Marys, WV 26170
304-665-2652

OH UIC #1, Buckeye UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consof Energy Drive
Permit # 84-013-2-0609-00-00
Permit # 84-013-2-0614-00-00
804-823-6568

US Steale 1.1385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15730
804-823-6568

Chapin #7 UIC (SWIW #7)
Permit # 84-083-2-4137-00-00
Elkhead Gas & Oil Company
12163 Marne Rd. NE
Newark, OH 43055
740-763-3966

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Environmental Protection

HG Energy II Appalachia, LLC

Site Safety Plan

**Antonio 1206 Well Pad
5279 Duck Creek Road Lost Creek
Harrison County, WV 26385**

September 2019: Version 1

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

HG Energy II Appalachia, LLC

*SDW
10/14/19*

5260 Dupont Road

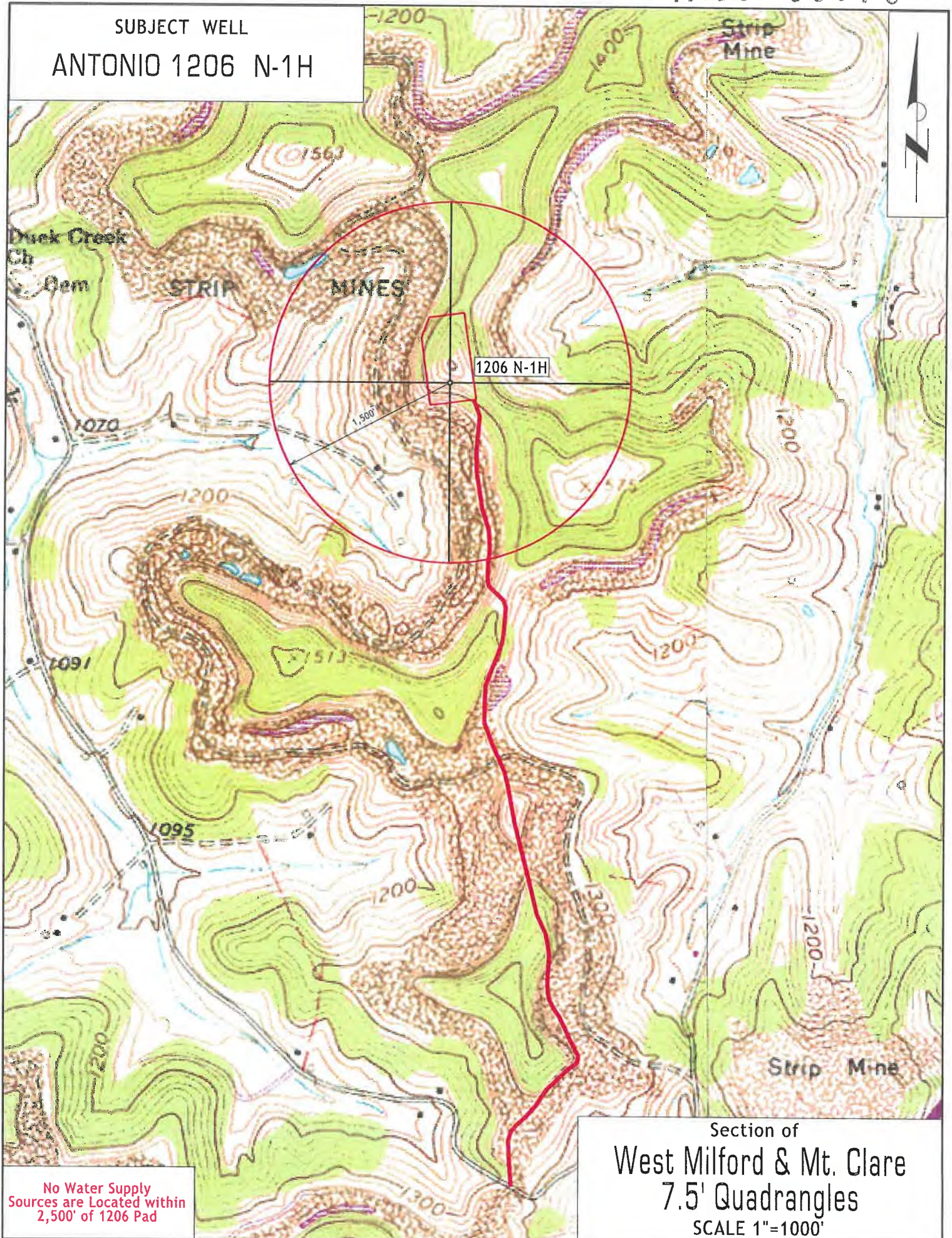
Parkersburg, WV 26101

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WV Department of
Environmental Protection

SUBJECT WELL
ANTONIO 1206 N-1H



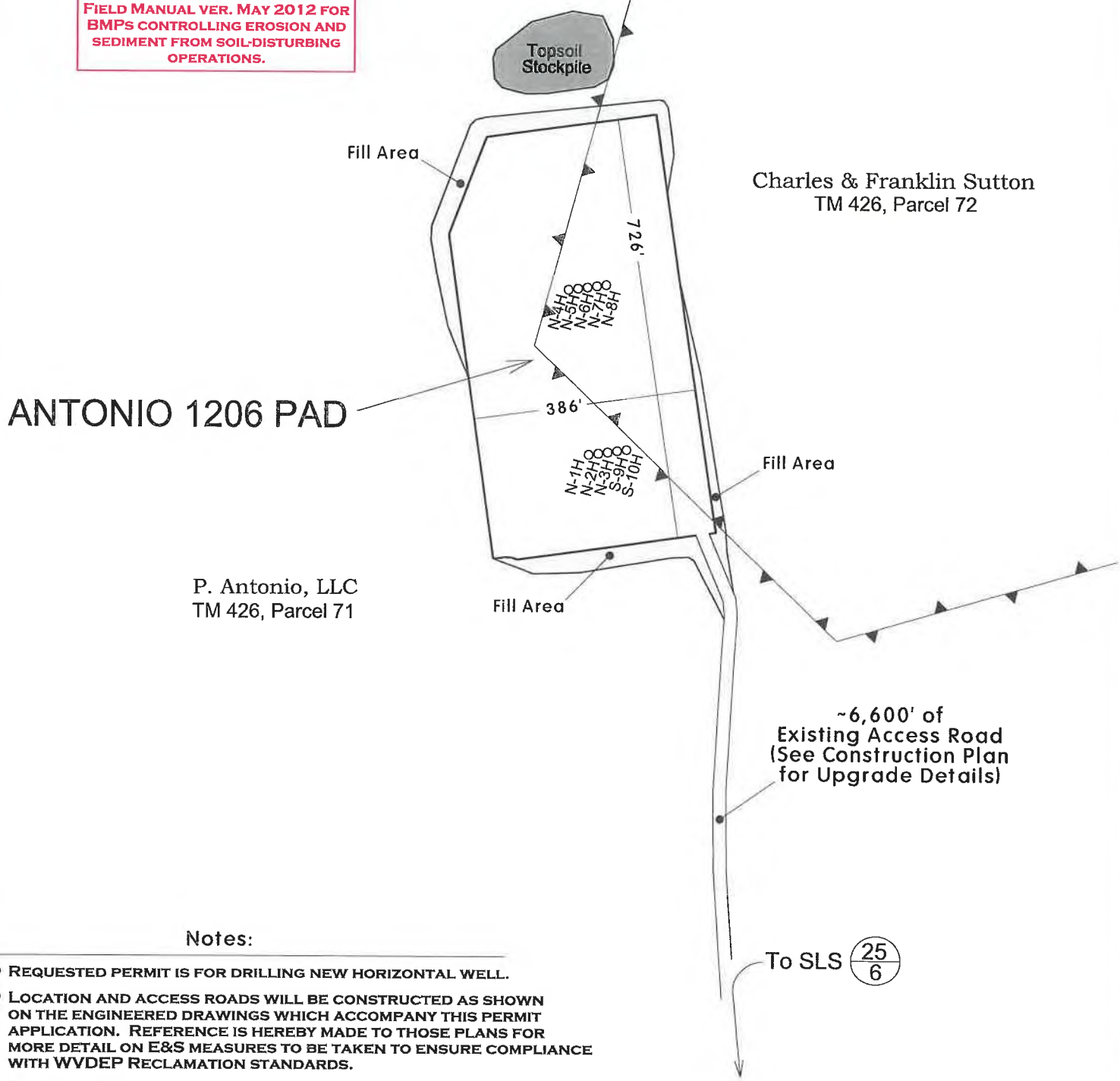
No Water Supply Sources are Located within 2,500' of 1206 Pad

Section of
West Milford & Mt. Clare
7.5' Quadrangles
SCALE 1"=1000'



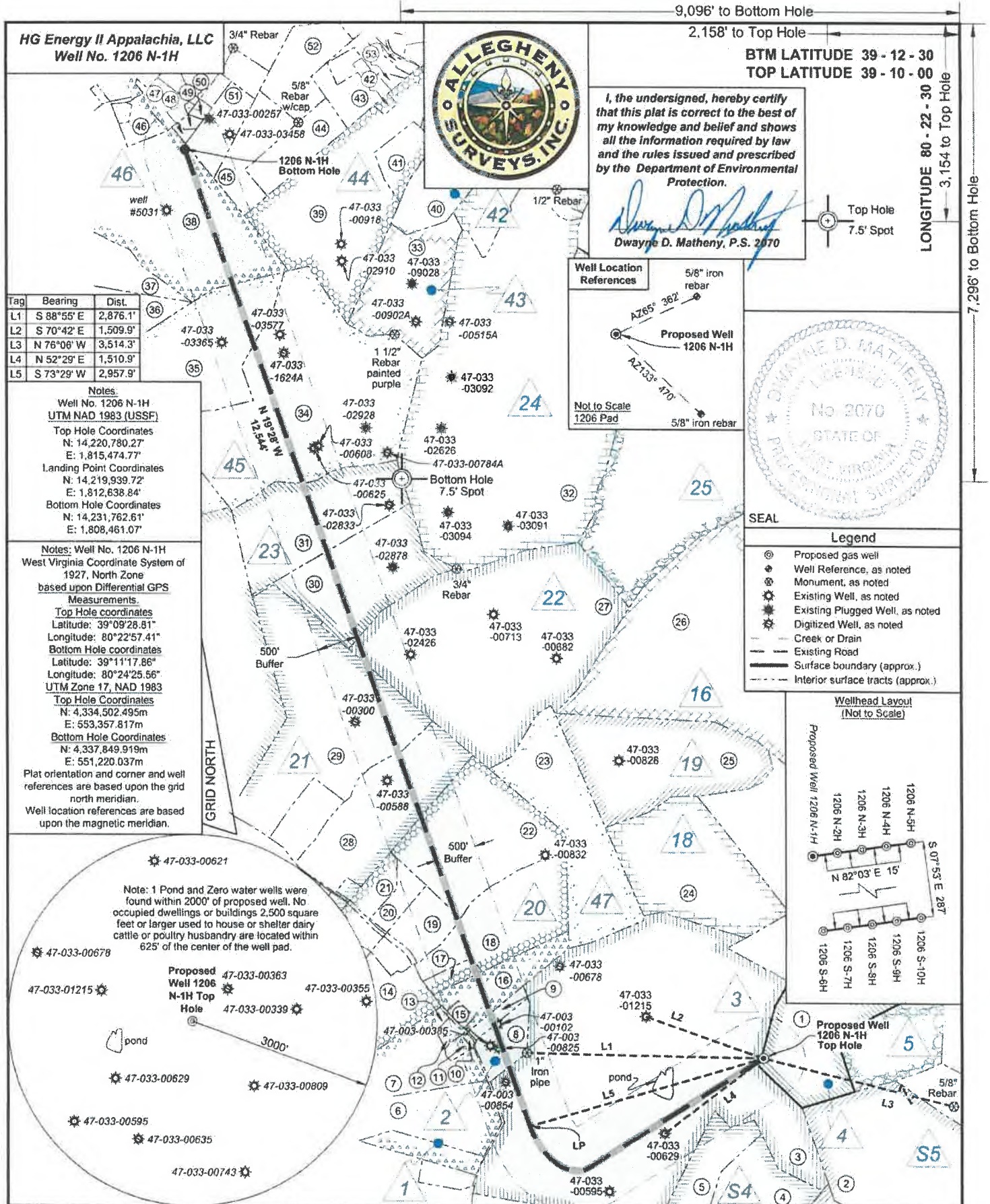
Reclamation Plan For:
ANTONIO 1206 PAD

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



Notes:

- REQUESTED PERMIT IS FOR DRILLING NEW HORIZONTAL WELL.
- 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.



Tag	Bearing	Dist.
L1	S 88°55' E	2,876.1'
L2	S 70°42' E	1,509.9'
L3	N 76°06' W	3,514.3'
L4	N 52°29' E	1,510.9'
L5	S 73°29' W	2,957.9'

Notes:

Well No. 1206 N-1H
 UTM NAD 1983 (USSF)
 Top Hole Coordinates
 N: 14,220,780.27'
 E: 1,815,474.77'
 Landing Point Coordinates
 N: 14,219,939.72'
 E: 1,812,638.84'
 Bottom Hole Coordinates
 N: 14,231,762.61'
 E: 1,808,461.07'

Notes: Well No. 1206 N-1H
 West Virginia Coordinate System of
 1927, North Zone
 based upon Differential GPS
 Measurements.

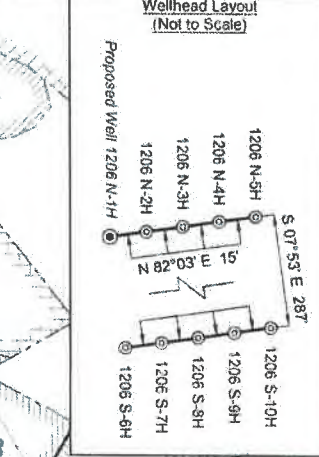
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 N: 4,337,849.919m
 E: 551,220.037m

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

Note: 1 Pond and Zero 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.



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



FILE NO: 06-36-12-G-H-19
 DRAWING NO: 1206 N-1H Well Plat
 SCALE: 1" = 1500'
 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 14 20 19
 OPERATOR'S WELL NO. 1206 N-1H
 API WELL NO
 47 — 033 —
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek
 DISTRICT: Grant QUADRANGLE: West Milford
 SURFACE OWNER: Charles R. & Franklin L. Sutton COUNTY: Harrison
 ROYALTY OWNER: Charles R. Sutton LEASE NO: ACREAGE: 30.00
 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: 21,256' MD
 7,252' 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

HG Energy II Appalachia, LLC
Well No. 1206 N-1H



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

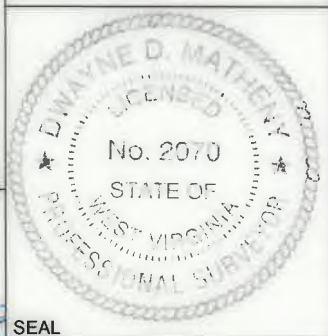
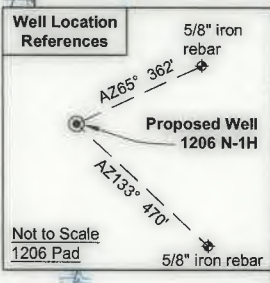
9,096' to Bottom Hole
2,158' to Top Hole
BTM LATITUDE 39 - 12 - 30
TOP LATITUDE 39 - 10 - 00

LONGITUDE 80 - 22 - 30
3,154' to Top Hole
7.5' Spot

Tag	Bearing	Dist.
L1	S 88°55' E	2,876.1'
L2	S 70°42' E	1,509.9'
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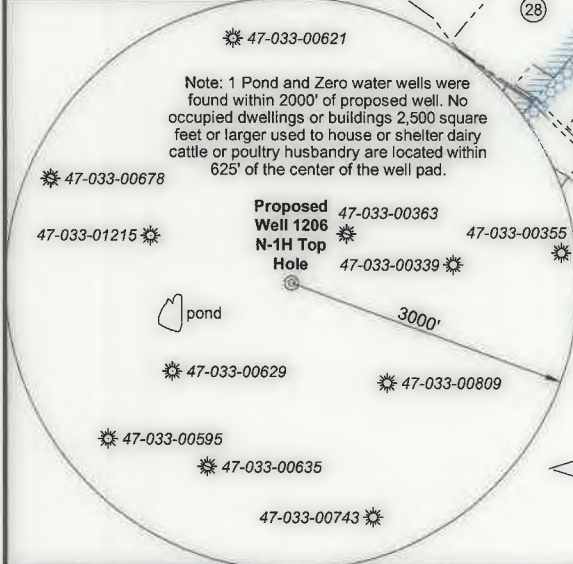
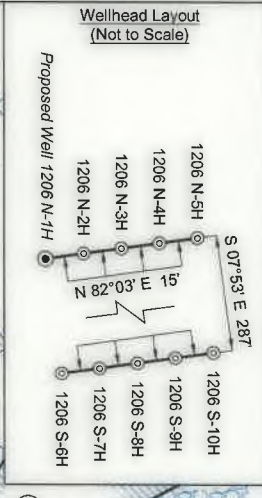
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Well location references are based upon the magnetic meridian.



Legend

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



FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 N-1H Well Plat
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MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: COR.S. Bridgeport, WV

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

DATE: October 14 2019
OPERATOR'S WELL NO. 1206 N-1H
API WELL NO
47 - 033 - 05978
STATE COUNTY PERMIT

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(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

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 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 7,252' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 21,256' 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

EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:

ANTONIO 1206 NORTH UNIT AND PROPOSED WELLS N-1H, N-2H, N-3H, N-4H, N-5H, N-6H, N-7H and N-8H.

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	4703300300	HARRISON	C H Gaston 2 CW136	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2050	PLUGGED	39.169238	-80.399969
2	4703300339	HARRISON	Alton Bell CW-333	Dominion Energy Transmission Inc.	Gantz	Storage	1959	ACTIVE	39.158620	-80.376279
3	4703300355	HARRISON	Fred H Smith	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	4290	ACTIVE	39.158947	-80.372289
4	4703300362	HARRISON	A J Randolph	Dominion Energy Transmission Inc.	Thirty-foot	Dry w/ Gas Show	2210	PLUGGED	39.163566	-80.376303
5	4703300363	HARRISON	A Bell	Dominion Energy Transmission Inc.	Thirty-foot	Storage	2150	PLUGGED	39.158029	-80.381243
6	4703300588	HARRISON	Petit Brothers Inc	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4461	ACTIVE	39.167358	-80.398451
7	4703300595	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4620	ACTIVE	39.153667	-80.389064
8	4703300608	HARRISON	Carl Smith 2	Antero Resources Corporation	Benson	Gas	4538	ACTIVE	39.178483	-80.401302
9	4703300621	HARRISON	Young & Smith	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4575	ACTIVE	39.165178	-80.384332
10	4703300625	HARRISON	Carl Smith 2	Antero Resources Corporation	Big Injun (Grnbr)	Gas	2010	ACTIVE	39.178420	-80.401465
11	4703300629	HARRISON	C Earl Snider	Dominion Energy Transmission Inc.	Thirty-foot	Storage	-	ACTIVE	39.155591	-80.386677
12	4703300652	HARRISON	R Bartlett CW628	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2140	PLUGGED	39.157187	-80.394798
13	4703300658	HARRISON	G W Conley CW632	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2301	ACTIVE	39.159653	-80.391075
14	4703300678	HARRISON	C E Snider CW238	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2264	ACTIVE	39.161099	-80.389720
15	4703300682	HARRISON	R S Hersey CW242	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2297	ACTIVE	39.171410	-80.391133
16	4703300713	HARRISON	Rachel S Hershey	Dominion Energy Transmission Inc.	Benson	Gas	4585	ACTIVE	39.172871	-80.393813
17	4703300714	HARRISON	Mary A Lowther	Dominion Energy Transmission Inc.	Benson	Gas	4510	ACTIVE	39.180897	-80.392280
18	4703300724	HARRISON	A C Thrash CW235	Dominion Energy Transmission Inc.	Fifty-foot	Storage	1910	PLUGGED	39.158092	-80.395928
19	4703300768	HARRISON	Petito Brothers	Dominion Energy Transmission Inc.	Hampshire Grp	Observation	2080	ACTIVE	39.169307	-80.378760
20	4703300775	HARRISON	W B & P Maxwell	Dominion Energy Transmission Inc.	Benson	Gas	4600	ACTIVE	39.182072	-80.382784
21	4703300781	HARRISON	L M Stout CW243	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2250	PLUGGED	39.171363	-80.387380
22	4703300809	HARRISON	Lloyd Stout CW234	Dominion Energy Transmission Inc.	Mid Devonian	not available	4793	PLUGGED	39.155225	-80.378750
23	4703300823	HARRISON	Lewis M Stout	Dominion Energy Transmission Inc.	Benson	Gas	4553	ACTIVE	39.169821	-80.381490
24	4703300825	HARRISON	H T Edwards CW236	Dominion Energy Transmission Inc.	Fifty-foot	Storage	1881	ACTIVE	39.159502	-80.394379
25	4703300828	HARRISON	A W Smith	Dominion Energy Transmission Inc.	Benson	Gas	4660	ACTIVE	39.168004	-80.388510
26	4703300829	HARRISON	A W Smith	Dominion Energy Transmission Inc.	Fourth	Storage	2490	ACTIVE	39.168042	-80.384254
27	4703300832	HARRISON	Mae Gaston	Dominion Energy Transmission Inc.	Benson	Gas	4364	ACTIVE	39.164846	-80.391702
28	4703300854	HARRISON	Hiram E Edmonds	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4410	ACTIVE	39.159254	-80.393799
29	4703300917	HARRISON	Dorothy Sinclair	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4520	ACTIVE	39.176741	-80.377661
30	4703300918	HARRISON	S S Floyd 3	Mineral Resource Management, LLC	Benson	Gas	4580	ACTIVE	39.185209	-80.400218
31	4703300935	HARRISON	J West 2	ALAMCO, Inc.	Benson	Gas	4526	PLUGGED	39.189992	-80.391397
32	4703300979	HARRISON	R M Lewis 1	Mineral Resource Management, LLC	Benson	Dry w/ Gas Show	4420	ACTIVE	39.191805	-80.401080
33	4703301215	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4661	ACTIVE	39.159492	-80.387444

34	4703301510	HARRISON	T Pettito CW-244	Dominion Energy Transmission Inc.	Fifth	Storage	2714	ACTIVE	39.175019	-80.388015
35	4703301696	HARRISON	Dane Williams	Dominion Energy Transmission Inc.	Hampshire Grp	House Gas	2346	ACTIVE	39.188717	-80.387797
36	4703302323	HARRISON	P Maxwell CW-245	Dominion Energy Transmission Inc.	Hampshire Grp	Storage	2132	PLUGGED	39.177871	-80.382055
37	4703302426	HARRISON	R S Hershey	Dominion Energy Transmission Inc.	Gantz	Observation	2000	ACTIVE	39.171549	-80.397385
38	4703302472	HARRISON	Mary A Lowther (CW-257)	Spencer Enterprises	UNKNOWN	not available	-	PLUGGED	39.187832	-80.387111
39	4703302484	HARRISON	C H Woodford CW343	Dominion Energy Transmission Inc.	Thirty-foot	Storage	1960	ACTIVE	39.177810	-80.373752
40	4703302626	HARRISON	J R Richards CW256	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2101	ACTIVE	39.179068	-80.395987
41	4703302818	HARRISON	P Maxwell CW-348	Dominion Energy Transmission Inc.	Gantz	Storage	2048	ACTIVE	39.183148	-80.379538
42	4703302883	HARRISON	John Alvin Smith 1	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	3187	PLUGGED	39.176640	-80.399782
43	4703302928	HARRISON	Carl Smith (CW-150)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.179095	-80.399236
44	4703303014	HARRISON	Dorothy S Sinclair	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.177510	-80.377794
45	4703303091	HARRISON	Mary A Lowther (CW-260)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.175796	-80.393167
46	4703303092	HARRISON	Mary A Lowther (CW-261)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.180757	-80.395520
47	4703303093	HARRISON	Mary A Lowther (CW-262)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.178462	-80.391401
48	4703303094	HARRISON	Mary A Lowther (CW-259)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.176248	-80.395739
49	4703303365	HARRISON	Carl V Smith Jr 4	Antero Resources Corporation	Benson	Gas	4575	ACTIVE	39.181950	-80.405388
50	4703303458	HARRISON	Ted/B Wilfong	Alliance Petroleum Corporation	Greenland Gap Fm	Gas	5018	ACTIVE	39.188870	-80.404970
51	4703303568	HARRISON	Byron Construction Co	Dominion Energy Transmission Inc.	Hampshire Grp	Storage	2292	PLUGGED	39.185657	-80.385247
52	4703303577	HARRISON	Carl Smith	Dominion Energy Transmission Inc.	UNKNOWN	not available	2400	PLUGGED	39.182204	-80.402884
53	4703304598	HARRISON	Robert W Benson	Ross & Wharton Gas Co. Inc.	Brallier	Gas	5038	ACTIVE	39.197983	-80.386181
54	4703304606	HARRISON	Robert W Benson	Ross & Wharton Gas Co. Inc.	Brallier	Gas	5126	ACTIVE	39.197983	-80.386181
55	4703304776	HARRISON	Carol Daugherty-Skidmore	Ross & Wharton Gas Co. Inc.	Greenland Gap Fm	Gas	5024	ACTIVE	39.188534	-80.392055
56	4703304777	HARRISON	Carol Daugherty-Skidmore	Ross & Wharton Gas Co. Inc.	Greenland Gap Fm	Gas	4813	ACTIVE	39.192332	-80.387363
57	4703304838	HARRISON	Jim K & Betty L Stutler	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39.186628	-80.391066
58	4703305031	HARRISON	Robert M Lewis	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4550	ACTIVE	39.186354	-80.407701

GREEN DENOTES SURVEYED WELLS

SOURCE: WVGES DATASET (2017) and WVDEP WEBSITE



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

4703-05978

October 9, 2019

Spencer Enterprises
P. O. Box 143
Smithburg, WV 26436

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

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 7050' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the Nutter 1208 Pad during the fourth quarter of 2019. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals (Nutter 1208 N-1H). A plat for the well is attached.

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

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

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

Sincerely,
Diane White

Diane White

Enclosure



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

October 9, 2019

ALAMCO, Inc
P. O. Box 6070
Charleston, WV 25302

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

Dear Sir:

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Diane White

Diane White

Enclosure



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

4703805978

October 9, 2019

Mineral Resource Management, LLC
P. O. Box 603
Jane Lew, WV 26378

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

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Sincerely,
Diane White

Diane White

Enclosure



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

47 03 : 05978

October 9, 2019

Antero Resources
535 White Oaks Blvd
Bridgeport, WV 26330

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

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Sincerely,

Diane White

Diane White

Enclosure



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

October 9, 2019

Dominion Energy Transmission, Inc.
925 White Oaks Blvd
Bridgeport, WV 26330

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

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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

47 03 05978

October 9, 2019

Alliance Petroleum Company
101 McQuiston Drive
Jackson Center, PA 16133

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

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Sincerely,

Diane White

Diane White

Enclosure



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

4703305978

October 9, 2019

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

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

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Sincerely,

Diane White

Diane White

Enclosure

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

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

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

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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****See Attached Sheets****

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

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

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

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

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

HG Energy II Appalachia, LLC
Antonio 1206 N-1H Lease Chain

1206 Tract	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
4	LC066828	12-0426-0072-0000	Q100892000	ALTON BELL SINGLE, MARCELLA R. BOND AND KARELY D. BOND, HER HUSBAND; MARY E. KENNEDY, WIDOW; DORSEY C. KENNEDY AND VELMA ICE KENNEDY, HIS WIFE; LELA K. RUMBLE, WIDOW; MARTHA F. WILSON, WIDOW; HARRY W. KENNEDY AND LILLIAN KENNEDY, HIS WIFE; JOHN L. KENNEDY AND REVA B. KENNEDY, HIS WIFE; SUE K. HOPE NATURAL GAS COMPANY	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	781	591
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CNG TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				DOMINIUM TRANSMISSION, INC.	DOMINIUM TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				CNX GAS COMPANY LLC	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINIUM TRANSMISSION, INC.	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				CNX GAS COMPANY LLC	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				DOMINIUM TRANSMISSION, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				DOMINIUM TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINIUM ENERGY TRANSMISSION, INC.	DOMINIUM ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINIUM ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
3	LC068498	12-0426-0071-0000	Q100540000	EARL SNIDER AND RELLA SNIDER, HIS WIFE; MARGARET RICE AND W. A. RICE, HER HUSBAND; K. M. SNIDER AND HANNAH M. SNIDER, HIS WIFE; CREED SNIDER AND MAE SNIDER, HIS WIFE; THE UNION NATIONAL BANK OF CLARKSBURG TRUSTEE U/W OF GERTRUDE E. DAVIS, DECEASED; AND RALPH SNIDER AND NELL SNIDER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	820	519
				HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	903	179	
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	250
				CNG TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
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				CNX GAS COMPANY LLC	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
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				DOMINIUM ENERGY TRANSMISSION, INC.	DOMINIUM ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINIUM ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
2	LC068498	12-0425-0023-0000	Q1008910000	HIRAM E EDMONDS AND GLADYS R. EDMONDS	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	1621	1295
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS SUPPLY CORPORATION	FARMOUT AGREEMENT	1004	1092
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CNG TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				DOMINIUM TRANSMISSION, INC.	DOMINIUM TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINIUM TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINIUM TRANSMISSION, INC.	CNX GAS COMPANY LLC	FARMOUT AGREEMENT	1524	491
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235

	LC NUMBER	ACQUISITION NUMBER	CUSTODY NUMBER				
4		12-0425-0023-0006		DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	PARTIAL ASSIGNMENT (32%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1576 1584 1584 1600 WVSOS 1601 1621 1295
1	LC068725	12-0425-0023-0004; 12-0425-0023-0003; 12-0425-0029-0001; 12-0425-0030-0001; 12-0425-0030-0000; 12-0425-0022-0000; p/o 12-0425-0029-0000; 12-0425-0021-0000; 12-0445-0004-0000; 12-0445-0007-0000	Q100848000	A. C. THRASH, MARTHA D. THRASH, HIS WIFE, ROSA A. SHEETS, WIDOW; AND MARY B. DAWSON, WIDOW HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT MERGER/NAME CHANGE ASSIGNMENT SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	824 903 1136 51 58 1522 1524 1543 1576 1584 WVSOS 1600 1601 581

20	LC098215; LC068632	12-0425-0009-0000; 12-0425-0010-0000; 12-0425-0010-0001; 12-0425-0011-0001; 12-0425-0018-0000; 12-0425-0019-0000; 12-0425-0020-0000; 12-0425-0027-0000; 12-0425-0028-0000; p/o 12-0425-0011-0000; p/o 12-0425-0029-0000;	Q100898000	MAE GASTON AND W. C. GASTON, HER HUSBAND; VANCE GASTON AND REVA GASTON, HIS WIFE; GARNET H. GRAY AND C. L. GRAY, HER HUSBAND; LENA V. JOHNSON AND EARL W. JOHNSON, HER HUSBAND; EDNA G. LACHAPPELLE AND RAYMOND C. LACHAPPELLE, HER HUSBAND; ADDIE M. GASTON, WIDOW; JAMES HARRY GASTON AND ETHEL D. GASTON, HIS WIFE; RACHEL POST WELLS AND M. E. WELLS, HER HUSBAND; CAMELLA Y. MORRIS, WIDOW; WILLIAM Y. MORRIS AND VIRGINIA MORRIS, HIS WIFE; ROBERT H. MORRIS AND LOIS T. MORRIS, HIS WIFE; RUTH E. WATSON, WIDOW; JEAN D. MORRIS; ALBERT GASTON AND BARBARA GASTON, HIS WIFE; HAROLD GASTON AND MILDRED GASTON, HIS WIFE; BETTY J. CAMARATA AND CARL P. CAMARATA, HER HUSBAND; NELLE M. GASTON, WIDOW; PATRICIA A. VOGEL AND WILLIAM VOGEL, HER HUSBAND; LORETTA S. KARWICK AND HARRY W. KARWICK, HER HUSBAND; M. MARIE REED FOOSE AND VINCENT J. FOOSE, HER HUSBAND; OCIE RENSHAW AND O. M. RENSHAW, HER HUSBAND; AND ALPHA KOWALSKY AND PETER J. KOWALSKY, HER HUSBAND	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT MEMORANDUM OF LEASE FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT MERGER/NAME CHANGE ASSIGNMENT SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	823 903 1136 51 58 1522 1511 1524 1543 1576 1584 1600 1601	178 179 250 795 362 33 969 491 1235 125 942 692 581
21	LC068585	12-0425-0026-0000; 12-0425-0008-0000; 12-0425-0008-0001; 12-0425-0008-0002; 12-0425-0008-0003; 12-0425-0014-0000; 12-0425-0013-0000; 12-0425-0012-0000	Q100867000	CHARLES H. GASTON AND NORA M. GASTON, HIS WIFE; NATHAN G. MCWHORTER AND DORA E. MCWHORTER, HIS WIFE; LILLIAN E. STOUT AND JESSE C. STOUT, HER HUSBAND; BERTHA STALNAKER, WIDOW; MARY MCWHORTER WEST AND CLINE WEST, HER HUSBAND; EVAN G. LAW AND ORA L. LAW, HER HUSBAND; FORD GASTON AND MILDRED E. GASTON, MILDRED G. TALLMAN AND KIRK C. TALLMAN, HER HUSBAND; FLORA JANE WOLVERTON AND J. MASON WOLVERTON, HER HUSBAND; THE PARKERSBURG NATIONAL BANK; GUARDIAN FOR JOSEPH WOOFER AND ANDREW C. WOOFER, JR.	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT MERGER/NAME CHANGE	822 903 1136 51 58 1522 1543 1576 1584 1600	99 179 509 795 362 33 1235 125 942 692

22	LC069358 LC068669	12-0425-0016-0000	Q101126000 Q101124000	DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
				RACHEL SMITH HERSHEY	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	823	133				
				APPALACHIAN ROYALTIES, INC.	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	834	361				
				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				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FARMOUT AGREEMENT	1524	491				
				DOMINION TRANSMISSION, INC.	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				
				DOMINION TRANSMISSION, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942				
				DOMINION ENERGY TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
				DOMINION ENERGY TRANSMISSION, INC.	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	309				
				23	LC069359; LC068670	12-0425-0006-0000; 12-0425-0015-0000; 12-0405-0081-0000	Q100817000; Q100630000	DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
								ROBERT AND BETTY STEVENSON	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	
								DOMINION ENERGY TRANSMISSION, INC.	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	319
								WILLIAM H. AND HELEN JENKINS	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	
								CARL V. AND SADIE L. SMITH, WILLIAM L. AND ALBERTA FALKNOR	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	327
								ALAN AND EMMA YOHO	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	337
								UNITED OPERATING COMPANY, INC.	PATRICK PETROLEUM CORPORATION	PARTIAL ASSIGNMENT (32%)	1078	1068
PATRICK PETROLEUM CORPORATION	LADD PETROLEUM CORPORATION	ASSIGNMENT	1142					305				
LADD PETROLEUM CORPORATION	UNITED OPERATING COMPANY, INC.	ASSIGNMENT	1167					207				
UNITED OPERATING COMPANY, INC.	PEAKE ENERGY, INC.	ASSIGNMENT	1303					17				
45	LC090349	12-405-80 12-405-70 12-405-73 12-405-74	ANTERO1					DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				ROBERT AND BETTY STEVENSON	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	309				
				DOMINION ENERGY TRANSMISSION, INC.	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	319				
				WILLIAM H. AND HELEN JENKINS	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000					
				CARL V. AND SADIE L. SMITH, WILLIAM L. AND ALBERTA FALKNOR	UNITED OPERATING COMPANY, INC.	NOT LESS THAN 1/8	1000	327				

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

Date of Notice Certification: 10/13/2019

API No. 47- _____ - _____

Operator's Well No. Antonio 1206 N-1H

Well Pad Name: Antonio 1206 Well Pad

Notice has been given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>553357.8</u>
County:	<u>Harrison</u>		Northing:	<u>4334502.5</u>
District:	<u>Grant</u>	Public Road Access:	<u>SR 19 / Hackers Creek Road</u>	
Quadrangle:	<u>West Milford</u>	Generally used farm name:	<u>Antonio</u>	
Watershed:	<u>Middle West Fork Creek</u>			

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

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
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RECEIVED
Office of Oil and Gas
OCT 22 2019

WV Department of
Environmental Protection

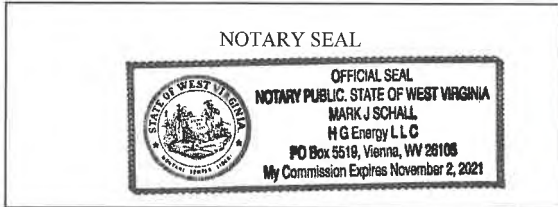
Required Attachments:

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

Certification of Notice is hereby given:

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

Well Operator:	<u>HG II Appalachia, LLC</u>	Address:	<u>5260 Dupont Road</u>
By:	<u>Diane White</u> <i>Diane White</i>		<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 14th day of October, 2019.

[Signature] Notary Public

My Commission Expires 11/2/2021

Oil and Gas Privacy Notice:

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

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Office of Oil and Gas
OCT 22 2019
WV Department of
Environmental Protection

WW-6A
(9-13)

API NO. 47- _____
OPERATOR WELL NO. 1206 N-1H
Well Pad Name: Antonio 1206

**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: 10/09/19 **Date Permit Application Filed:** 10/11/19

Notice of:

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

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

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

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

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

SURFACE OWNER(s)

Name: Antonio PLLC, c/o Mike Ross
 Address: P. O. Box 219
Coalton, WV 26257
 Name: Charles R. Sutton
 Address: 593 Long Run Road
Lost Creek, WV 26385

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

Name: See Above
 Address: _____
 Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: See Above
 Address: _____

COAL OWNER OR LESSEE

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

COAL OPERATOR

Name: _____
 Address: _____

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

Name: _____
 Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

*Please attach additional forms if necessary

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Office of Oil and Gas

OCT 22 2019

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

WW-6A
(8-13)

API NO. 47- 4703-05978
OPERATOR WELL NO. 1206 N-1H
Well Pad Name: Antonio 1206

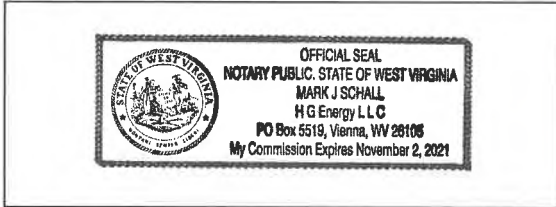
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 9th day of October, 2019.

Mark J Schall Notary Public

My Commission Expires 11/2/2021

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WV Department of
Environmental Protection



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

October 9, 2019

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

RE: Antonio 1206 N-1H Well Work Permit Application - Notification
Grant District, Harrison County
West Virginia

Dear Mr. Sutton:

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

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

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

Very truly yours,

Diane White

Diane C. White

Enclosures

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Environmental Protection



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

October 9, 2019

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

RE: Antonio 1206 N-1H Well Work Permit Application - Notification
Grant District, Harrison County
West Virginia

Dear Mr. Sutton:

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

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

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

Very truly yours,

Diane White

Diane C. White

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OCT 22 2019
WV Department of
Environmental Protection



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

47 0 3 8 0 5 9 7

October 9, 2019

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

RE: Antonio 1206 N-1H Well Work Permit Application - Notification
Grant District, Harrison County
West Virginia

Dear Mr. Ross:

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

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

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

Very truly yours,

Diane White

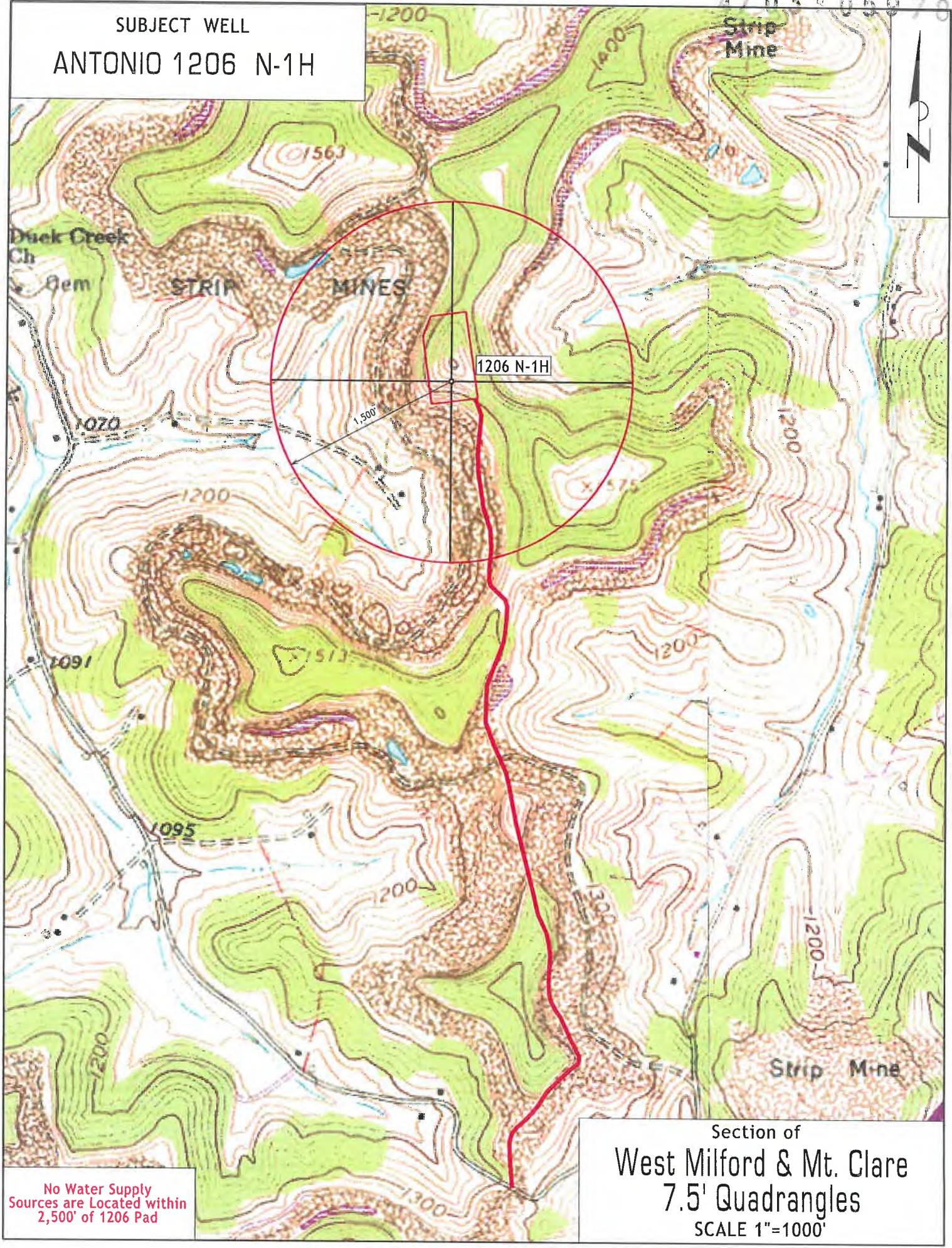
Diane C. White

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SUBJECT WELL
ANTONIO 1206 N-1H

47 0 3 8 0 5 0 7 9



No Water Supply
Sources are Located within
2,500' of 1206 Pad

Section of
West Milford & Mt. Clare
7.5' Quadrangles
SCALE 1"=1000'

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF 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: 9/12/19 **Date of Planned Entry:** 9/19/19

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

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

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

Name: _____
Address: _____

COAL OWNER OR LESSEE

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

MINERAL OWNER(s)

Name: Mineral Owners
Address: _____

*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(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>39.157314 / -80.382294</u>
County: <u>Harrison</u>	Public Road Access: <u>SR 19</u>
District: <u>Grant</u>	Watershed: <u>Middle West Fork Creek</u>
Quadrangle: <u>West Milford WV 7.5'</u>	Generally used farm name: <u>Antonio</u>

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

Notice is hereby given by:

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

Oil and Gas Privacy Notice:

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

HG Energy II Appalachia, LLC

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

September 12, 2019

RE: Antonio 1206 N-1H
Grant District, Harrison 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). Statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WVDEP at 304-926-0450, located at 601 57th Street, Charleston, WV. Copies of such documents or additional information related to horizontal drilling may also be obtained by visiting the WV DEP online.

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

Very truly yours,

Diane White

Diane C. White

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WW-6A3Antonio 1206 N-1H(1-12)Page 1 ContinuedMineral Owners

Antonio PLLC
 c/o Mike Ross
 PO Box 219
 Coalton, WV 26257

Charles R Sutton
 593 Long Run Road
 Lost Creek, WV 26385

Alberta Lee Falknor
 8710 Sugar Creek Point
 Centerville, OH 45458

Andrew C. Woofter
 1806 Washington Ave.
 Parkersburg, WV 26101

Betty J. Gaston
 1320 Williams Ave
 Clarksburg, WV 26301

Billie Sue Simmons
 8111 Dominic Lane
 Stonewood, WV, 26301

Caroyn L. Gelinis
 4798 Thurston Place
 San Diego, CA 92130

Catherine D. Weber
 RR1 Box 60-1
 Belington, WV 26250

Charles L. Gray and Goldie Gray
 170 Goldie Lane
 Lost Creek, WV 26385

Charles R. Sutton
 801 Worthihngton Dr
 Bridgeport, WV 26330

Clara A. Gaston
 1638 1/2 Gould Ave
 Clarksburg, WV 26301-1614

Cynthia Preston
 610 Stealey Ave
 Clarksburg, WV 26301

Darlene G. Riggs
 312 Duff Rd
 Penn Hills, PA 15235

David L. Yoho
 1581 Woodway Rd
 Kent, OH 44240

Donald Allen
 541 Union Street
 Carlstad, NJ 07075-1838

Donald and Louella Gaston Family Trust
 Donald B. Gatson, II, Trustee
 1613 Gould Ave
 Clarksburg, WV 26301-1614

Donald R. Reynolds
 PO Box 607
 Jane Lew, WV 26378

Franklin L. Sutton
 113 Cimmarron Rd
 Clarksburg, WV 26301

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WW-6A3Antonio 1206 N-1H(1-12)Page 1 ContinuedMineral Owners

Helen M. Burton
PO Box 8179
Nutterfort, WV 26301

Helen R. Corder
132 Morningside Circle
Parkersburg, WV 26101

J.P Morgan Chase Bank
Trustee for Gore-Morris Trust
PO Box 659
Wichita Falls, TX 76307

James K. McWhorter
RR 2 Box 39
Wellsburg, WV 26070

Jerry Stein
2008 Linkside Lane
Woodstock, GA 30187

John G. Sommerville
101 Coventry Ct
Bridgeport, WV 26330

Joseph C. Woofter
1810 Washington Ave.
Parkersburg, WV 26101

JP Morgan Chase
Trustee for Appalachian Royalties, Inc.
P.O. Box 659
Wichita Falls, TX 76307

Kathy Sullivan
223 McCarty Rd
Fredericksburg, VA

Kenneth M Snider Sr
5711 Castlebridge Rd
Fredericksburg, VA 22407

Kenneth R. Snider
4820 Old Main St
Richmond, VA 23231

Kimberly K. Lough and John T. Lough
4019 Hawk Hwy
Lost Creek, WV 26385

L&D Investments, Inc.
363 Washington Avenue
Clarksburg, WV 26301-2911

Lost Creek United Methodist Church
P.O. Box 176
Lost Creek, WV 26385

Lucy Ann West
PO Box 613
Troy, WV 26443

Margaret Short
RR 2 Box 763
Clarksburg, WV 26301

Marva Shepherd
3350 Duck Creek Road
Lost Creek, WV 26385

Mary Ann Shawhan
2854 Poplar Dr
Kempner, TX 76539

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WW-6A3Antonio 1206 N-1H(1-12)Page 1 ContinuedMineral Owners

Mary Anne Kowalsky
7863 Birchwood RD
Chesterland, OH 44026

Mary Beth Bonington
22 Conifer Lane
South Dennis, MA 02660-3628

Mary L. Reel
580 Deer Haven Drive
Lost Creek, WV 26385

Mary Lou Smith
1579 Duck Creek Road
Lost Creek, WV26386

Mary Margaret Hood
401 E Olive St
Bridgeport, WV 26330

Mary Thrash
770 Duck Creek Rd.
Lost Creek, WV 26385

Michael Ross
PO Box 219
Coalton, WV 26257

Minnie S. Lee LLC
R Waggoner Glass, Managing Member
P.O. Box 5034
Cary, NC 27512

Nancy C Harvey
4408 Lorraine Dr
Monroeville, PA 15146

Nellie Jo Brissey and Richard R. Bond
156 Valley Street
Salem, WV 26426

Pamela Faith Schwarz
541 Union Street
Carlstad, NJ 07072-1838

Patricia Ann Vogel Heirs
7 Dancer Road
Budd Lake, NJ 07828-1919

Patricia Randolph
189 Randolph Hollow Road
Clarksburg, WV 26301

Paul R. Stein
505 Manor Rd.
Cinnaminson, NJ 08077

Perenia Gray
14090 Collins Ranch Pl
San Diego, CA 92130

Rhonda R and George P Koutsobaris
3478 Duck Creek Rd
Lost Creek, WV 26318

Robert M Lewis, Jr & Connie J Lewis
664 Turner Rd
Buckhannon, WV 26201

Robin Thorne
1839 Snowflake Dr
Colorado Springs, CO 80921-4001

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WW-6A3

Antonio 1206 N-1H

(1-12)

Page 1 Continued

Mineral Owners

Ryan C. Radtka
205 Mystic Drive
Morgantown, WV 26508

Sandra Childers
228 Liberty Ave
Clarksburg, WV 26301

Seneca-Upshur Petroleum LLC
PO Box 2048
Buckhannon, WV 26201

Sherri L. Gaston
PO Box 302
Anmoore, WV 26323

Waco Oil and Gas Company, Inc.
PO Box 219
Coalton, WV 26257

Will E. Morris Heirs Trust
PO Box 659
Wichita Falls, TX 76307

William Harmon Jenkins
636 Fleet Drive
Virginia Beach, VA 26454

WV Dept of Natural Resources
Building 74
324 Fourth Avenue
South Charleston, WV 25303

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

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

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

Date of Notice: 09/26/2019 **Date Permit Application Filed:** 10/07/2019

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

HAND DELIVERY CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

Notice is hereby provided to the SURFACE OWNER(s):

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

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

Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 553369.8
County: Harrison Northing: 4334415.8
District: Grant Public Road Access: SR19/Hackers Creek Road
Quadrangle: West Milford Generally used farm name: Antonio
Watershed: Middle West Fork Creek

This Notice Shall Include:

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

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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

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WV Department of
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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: 09/27/2019 **Date Permit Application Filed:** 10/07/2019

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

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

Notice is hereby given:

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

State:	West Virginia	UTM NAD 83	Easting:	553369.8
County:	Harrison		Northing:	4334415.8
District:	Grant	Public Road Access:	SR19/Hackers Creek Road	
Quadrangle:	West Milford	Generally used farm name:	Antonio	
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
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com

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

Oil and Gas Privacy Notice:

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

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OCT 22 2019

WV Department of
Environmental Protection



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

October 9, 2019

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

RE: Drilling Under Roads – Antonio 1206 N-1H
Grant District, Harrison County
West Virginia

Dear Ms. Adkins:

HG Energy II Appalachia, LLC, has the right to drill, stimulate and produce wells that are drilled under the County and State Roads as designated on the plats.

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

Very truly yours,

Diane White

Diane C. White

Enclosures

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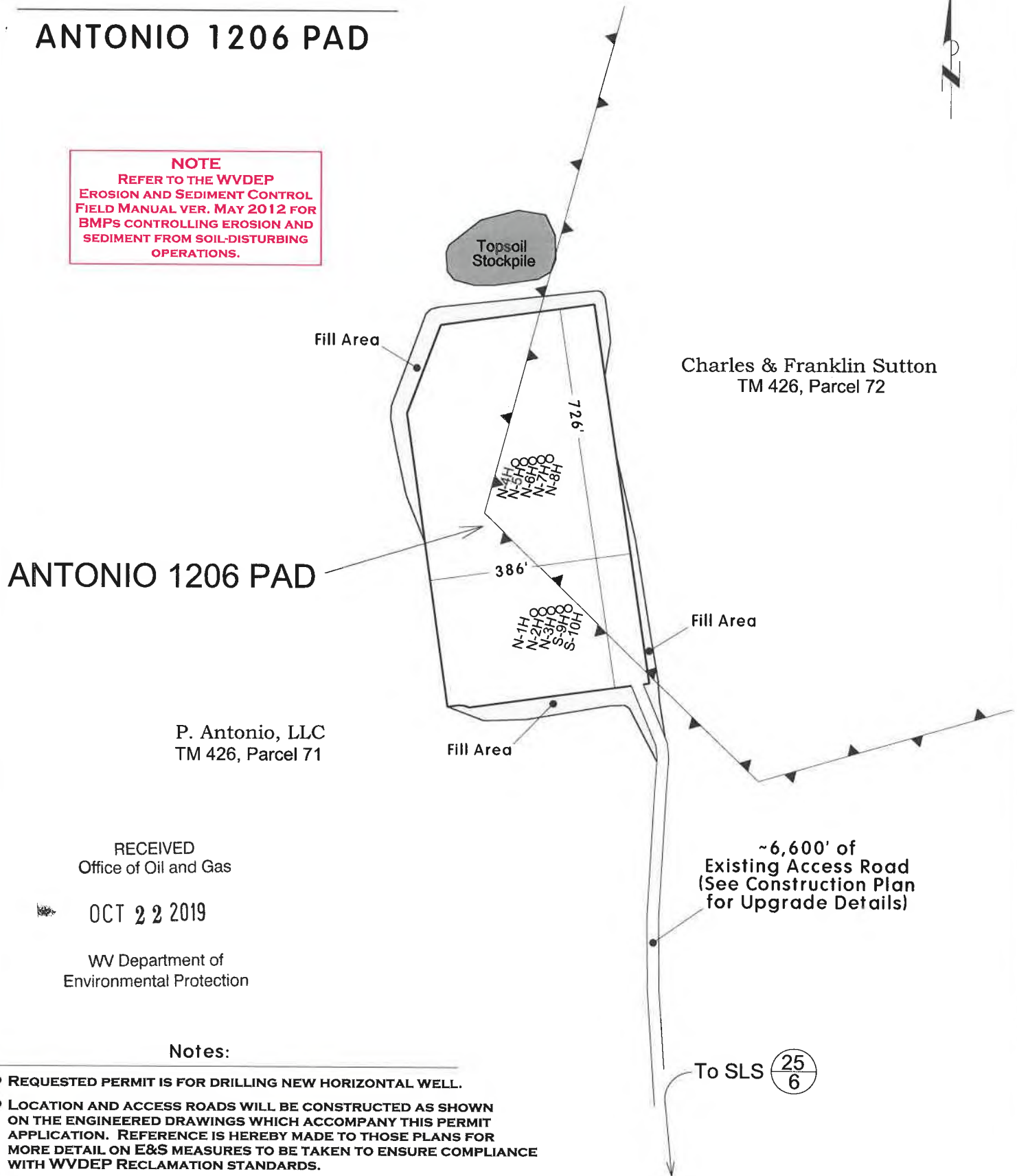
OCT 22 2019

WV Department of
Environmental Protection



Reclamation Plan For: ANTONIO 1206 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.



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Office of Oil and Gas

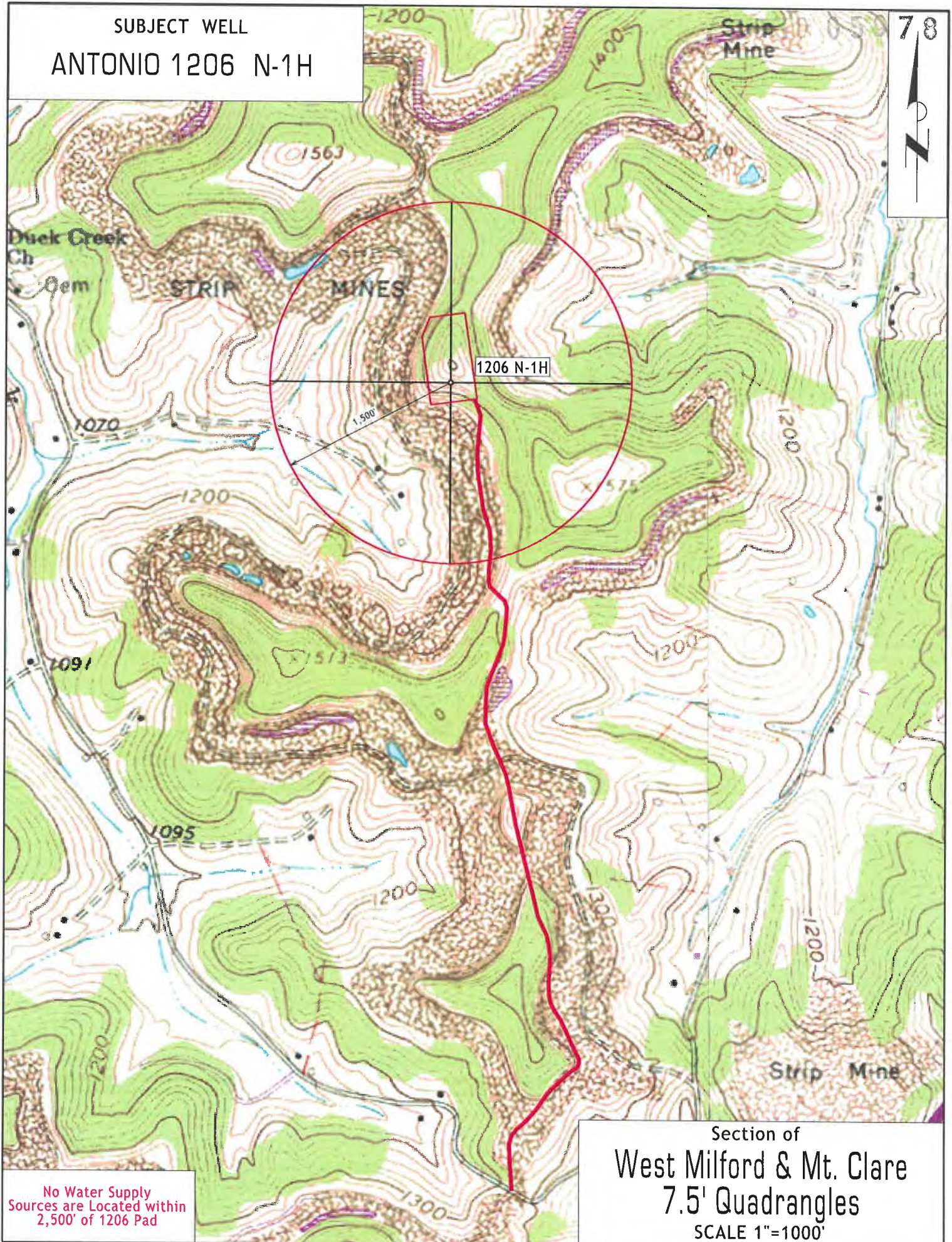
OCT 22 2019

WV Department of
Environmental Protection

Notes:

- REQUESTED PERMIT IS FOR DRILLING NEW HORIZONTAL WELL.
- 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
ANTONIO 1206 N-1H



No Water Supply
Sources are Located within
2,500' of 1206 Pad

Section of
West Milford & Mt. Clare
7.5' Quadrangles
SCALE 1"=1000'



4703805978

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

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

Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways

October 18, 2019

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

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

Subject: DOH Permit for the Antonio 1206 Pad, Harrison County
1206 N-1H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #04-2018-1374 which has been issued to HG Energy II for access to the State Road for a haul road located off Harrison County Route 19/20 SLS. The haul route will cross Harrison County Route 25/6 by permits 04-2019-0930 & 04-2019-0931.

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

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➤ OCT 22 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
CH, OM, D-4
File

E.E.O./AFFIRMATIVE ACTION EMPLOYER

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

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

OCT 22 2019

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Office of Oil and Gas

WV Department of
Environmental Protection

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

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		64742-47-8
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		68607-28-3
		107-21-1
		111-76-2
		67-56-1
		107-19-7
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		1344-28-1
		1309-37-1
		13463-67-7
Hydrochloric Acid 22 DEG BE	7647-01-0	
PROGEL - 4.5	64742-96-7	
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PRO - Flow - 102-N	Mixture	67-63-0
		68439-45-2
		2687-96-9
PROGEL - 4	9000-30-0	

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WV Department of
Environmental Protection

CONSTRUCTION IMPROVEMENT PLANS WITH EROSION AND SEDIMENT CONTROLS HG 1206 WELL PAD & IMPOUNDMENTS

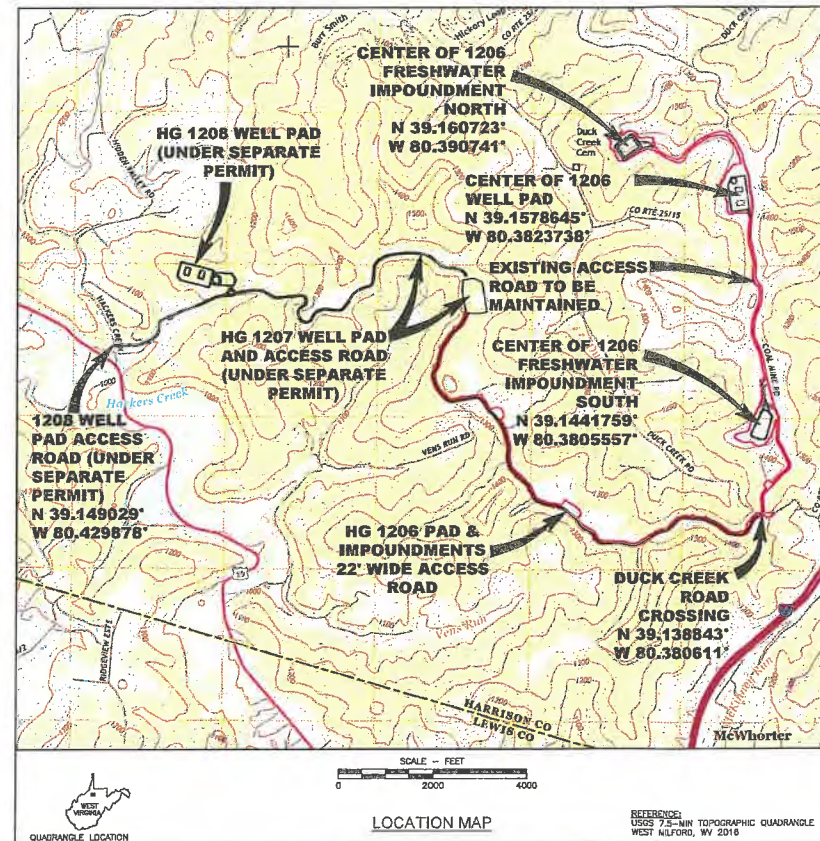
GRANT DISTRICT
HARRISON COUNTY
WEST VIRGINIA

APPROVED
WVDEP OOG
WAS 11/12/2019

SHT. NO.	SHEET TITLE
1	TITLE SHEET
2A-2Z	SITE DEVELOPMENT PLANS
3A-3B	IMPOUNDMENT SECTIONS
4A-4H	ACCESS ROAD SECTIONS
5A-5G	CONSTRUCTION NOTES & DETAILS
6A-6K	RESTORATION PLAN
7A-7C	PROPERTY MAP

CONSTRUCTION SEQUENCE

- 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.
- 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.
- 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.
- Land Clearing and Grading - Implement clearing and grading only after all downslope E&S BMPs have been constructed and stabilized.
- 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.
- Construction of Buildings, 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.
- Upon completion of pad grading, compact the pad to grade and begin placement of pad soil cement.
- 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 any disturbances associated with the removal of the BMP.



PREPARED FOR
HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WEST VIRGINIA 26101
(304) 420-1100

PREPARED BY
PENN ENVIRONMENTAL & REMEDIATION, INC.
111 RYAN COURT
PITTSBURGH, PA 15205
(412) 722-1222

Estimated Gross Material Balance (CY)			
Final Development - Gravel Option			
	Cut	Fill	Stockpile
1206 Impoundment North & Staging Area	32,865	32,355	510
1206 Impoundment North DC-01 & 02	2,610	20	2,590
1206 Impoundment South & Staging Area	54,705	44,870	9,835
1206 Pad & Impoundments Access Road	4,315	3,970	345
1206 Well Pad & Access	32,760	32,455	305
Coal Mine Rd Sight Distance Improvements	1,200	0	1,200
Totals	128,455	113,670	14,785
Est. Swell Factor (20%)			2,957
Total Site Balance:			17,742
Stripped Topsoil (Limits of Earthwork)			20,738
Est. Swell Factor (20%)			4,147
Est. Topsoil Stockpile Volume (Loose CY)			24,885
Minimum Total Stockpile Capacity Required (CY)			42,627

Notes:
1. Material balance for est. gross earthwork quantities only.
2. Topsoil est. volume based on 6 inches 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.

Estimated Gravel Quantities				
	Impoundment North Staging & Access Road	Impoundment South Staging & Access Road	1206 Well Pad & Access	TOTAL
1" Soil Cement (Placed In)	27,390	2,985	3,690	30,530
Top Coat Chip & Seal (Placed In)	27,390	2,985	3,690	34,995
2" Depth of 3/4" Crusher Run (Form)	-	-	3,270	3,270

	Length (LF)
Estimated Pad & Impoundments Access Road 12" Filter Sock Length	14,510
Estimated Impoundment North 12" Filter Sock Length	2,901
Estimated Impoundment South 12" Filter Sock Length	5,450
Estimated Well Pad 12" Filter Sock Length	1,576
TOTAL Estimated 12" Compost Filter Sock Length	24,437
Estimated Pad & Impoundments Access Road Limit of Disturbance (Acres)	21,955
Estimated 1206 Impoundment North Limit of Disturbance (Acres)	9,297
Estimated 1206 Impoundment South Limit of Disturbance (Acres)	11,695
Estimated Existing Coal Mine Road Limit of Disturbance (Acres)	14,181
Estimated 1206 Well Pad Limit of Disturbance (Acres)	11,058
TOTAL Estimated Limit of Disturbance (Acres)	68,187
Impoundment North Peak Pre-Construction Elevation (Ft)	1304
Impoundment South Peak Pre-Construction Elevation (Ft)	1454
Well Pad Peak Pre-Construction Elevation (Ft)	1364
Well Area Subbase Elevation (Top of Soil Cement Subbase) (Ft)	1349.50
Well Area Surface Elevation (Ft)	1349.75

WELL #	LAT.	LONG.
N-1H	N 39.158096	W 80.382426
N-2H	N 39.158101	W 80.382374
N-3H	N 39.158107	W 80.382321
N-4H	N 39.158112	W 80.382269
N-5H	N 39.158118	W 80.382216
S-6H	N 39.157314	W 80.382294
S-7H	N 39.157319	W 80.382242
S-8H	N 39.157325	W 80.382189
S-9H	N 39.157330	W 80.382137
S-10H	N 39.157336	W 80.382084

WELL ELEVATIONS 1349.75
UTM83-17F

	LATITUDE	LONGITUDE
DUCK CREEK ROAD CROSSING	N 39.138843	W 80.380611
1207 WELL PAD ACCESS ROAD ENTRANCE	N 39.152061	W 80.420447
1208 WELL PAD ACCESS ROAD ENTRANCE	N 39.149029	W 80.429878

RECORD OWNER	RECORD LOT #	RECORD AREA OF LOT	AREA WITHIN LOD
HUBERT E & SANDRA K NEEL	17-12-0445-0005-0000	89.07	0.099
MICKEY PETITO	17-12-0445-0013-0000	132.852	5.952
LELAND J FREEMAN	17-12-0445-0026-0000	15.5506	2.236
CHARLES R SUTTON	17-12-0445-0043-0000	4.655	1.134
FRANKLIN L SUTTON	17-12-0445-0047-0000	72.2783	4.670
RICHARD L HAWKINS, JR	17-12-0446-0031-0000	53.1225	3.425
FRANKLIN L SUTTON	17-12-0446-0039-0001	48.3295	2.713
W JOE & HANNAH M SUTTON	17-12-0446-0040-0000	84.6203	1.709
DUCK CREEK RD	N/A	N/A	0.052
CHARLES NAY	17-12-0446-0039-0000	26.2318	2.168
CHARLES RALPH & TANYA K SUTTON	17-12-0446-0040-0000	84.6203	2.253
JERI L BOOHER	17-12-0446-0031-0001	22.6792	1.811
MARY RICHARDS	17-12-0446-0033-0000	47.9334	6.427
WILLIAM LEROY & VIRGINIA A. JENKINS	17-12-0446-0018-0000	78.5858	2.638
MARY RICHARDS	17-12-0446-0018-0001	0.9075	0.197
MARY RICHARDS	17-12-0446-0019-0000	56.5818	2.028
P ANTONIO, LLC	17-12-0446-0003-0000	180.7720	1.656
P ANTONIO, LLC	17-12-0446-0002-0000	41.0699	0.668
P ANTONIO, LLC	17-12-0426-0071-0000	230.6748	21.146
CHARLES R SUTTON	17-12-0426-0072-0000	31.1173	4.504
JUDITH H RUSSELL	17-12-0425-0021-0000	15.1580	0.701
TOTAL LIMIT OF DISTURBANCE			68.187 AC.

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REVISION	DATE	DESCRIPTION
1	9/18/19	REVISED WELLHEAD LAYOUT
2	10/09/19	WETLAND REVISIONS
3	10/31/19	REVISIONS PER DEP COMMENTS
4	11/05/19	REVISIONS PER DEP COMMENTS



TITLE SHEET
HG 1206 WELL PAD & IMPOUNDMENTS
GRANT DISTRICT
HARRISON COUNTY, WEST VIRGINIA

PREPARED FOR
HG ENERGY II APPALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

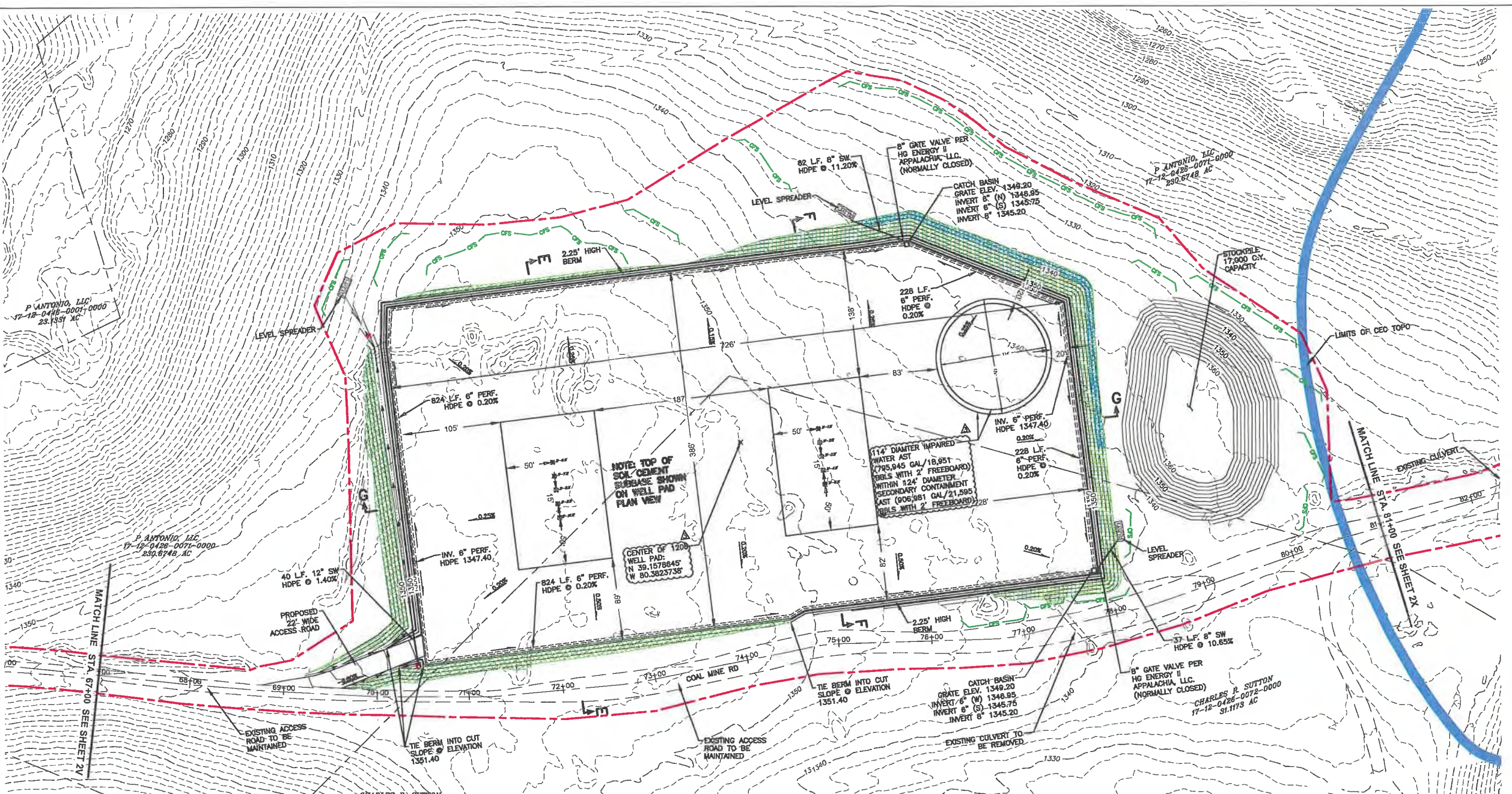
APPROVED MEP 09/05/2019
CHECKED MEP 08/30/2019
DRAWN D.J.A. MFR 08/30/2019
PROJECT No. 4000-PA007871
DRAWING NUMBER
PA007871-001
SHEET 1

Penn E&R
Environmental & Remediation, Inc.
111 RYAN COURT, PITTSBURGH, PA 15205;
412-722-1222

WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
Main Utility of West Virginia

1. SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE.

C:\HOMWORK\PA007871 HG 1206\PA007871 1206 PAD & IMPOUNDMENT REVISED ACCESS PLAN SHEETS.DWG, 11/17/2018 11:21 AM



LEGEND

- ROCK CHECK DAM
- RIPRAP APRON
- ACCESS ROAD/PAD CHANNEL
- COMPOST FILTER SOCK 12" UNLESS OTHERWISE NOTED
- STACKED COMPOST FILTER SOCK 12"
- APPROXIMATE LIMITS OF DISTURBANCE
- APPROXIMATE PROPERTY LINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED FINAL GRADE INDEX CONTOUR
- PROPOSED FINAL GRADE INTERMEDIATE CONTOUR
- LIMITS OF BLUE MOUNTAIN MAPPING
- LIMITS OF CEC MAPPING
- EXISTING ACCESS ROAD
- EXISTING OVERHEAD UTILITY LINE
- EXISTING GAS LINE

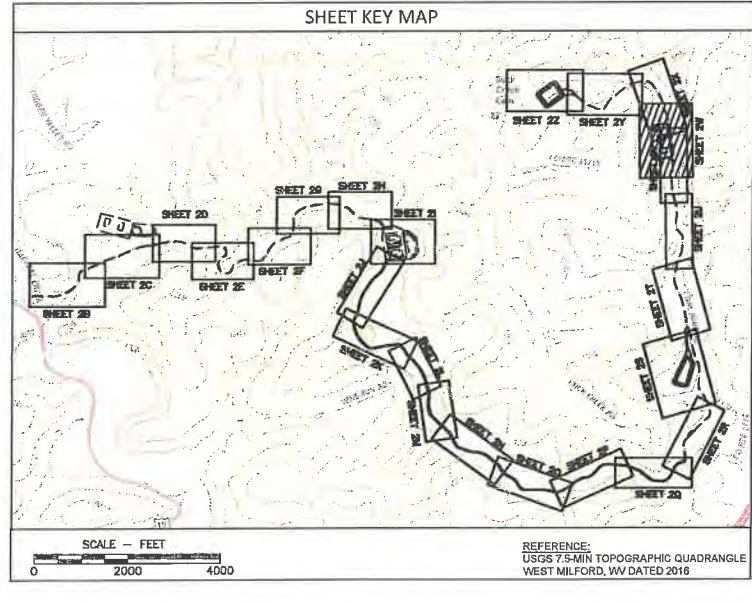
SECTION

TOE BENCH (SEE FILL BENCH DETAIL)

EROSION CONTROL BLANKET

DELIMITED WETLAND

- WEST VIRGINIA GENERAL NOTES:**
- ALL PROPOSED ELEVATIONS SHOWN ON PLAN SHEETS REFLECT PROPOSED SUBBASE ELEVATIONS.
 - REFER TO THIS SHEET WITH THE CONSTRUCTION NOTES AND DETAILS.
 - CONTRACTOR SHALL CONTACT WEST VIRGINIA UTILITIES PROTECTION SERVICES (811) A MINIMUM OF 3 DAYS PRIOR TO EXCAVATION WORK. UTILITIES MUST BE IDENTIFIED AND EITHER RELOCATED OR PROTECTED BY CONTRACTOR PRIOR TO BEGINNING WORK AT THE SITE.
 - SITE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WELL DRILLING PERMIT. CONTRACTOR RESPONSIBLE TO OBTAIN ALL OTHER NECESSARY PERMITS/APPROVALS REQUIRED TO CONSTRUCT SITE INCLUDING BUT NOT LIMITED TO FEDERAL, STATE, AND LOCAL REQUIREMENTS.
 - NO GEOTECHNICAL OR SOIL STABILITY ANALYSIS WAS PERFORMED FOR THIS SITE. CONTRACTOR IS RESPONSIBLE TO CONDUCT PROPER TOE AND BONDING BENCHES BASED ON FIELD CONDITIONS TO PREPARE SURFACES FOR FILL PLACEMENT ON STEEP SLOPES. PERM EAR IS NOT RESPONSIBLE FOR SLOPES, SLIDES, OR EARTH MOVEMENT RESULTING FROM CONSTRUCTION.
 - ESTABLISH EROSION AND SEDIMENTATION CONTROL BMPs PRIOR TO EARTHWORK. SITE CONSTRUCTION SHALL FOLLOW WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DATED MAY 2012.
 - CLEAR AND GRUB WORK AREA REMOVE AND STOCKPILE AVAILABLE TOPSOIL FROM LIMIT OF DISTURBANCE TO A LOCATION DESIGNATED BY HG ENERGY II APPALACHIA, LLC.
 - NO EMBAWMENT FILL SHALL BE PLACED ON FROZEN MATERIAL. FILL MATERIAL SHALL BE FREE OF ORGANICALS, LARGE ROCKS, FROZEN SOIL OR OTHER OBJECTIONABLE MATERIAL.
 - CUT/FILL SLOPES SHALL BE CONSTRUCTED TO A MAXIMUM SLOPE OF 3H:1V UNLESS NOTED OTHERWISE.
 - FILL MATERIAL SHALL BE PLACED IN LIFTS OR LAYERS OVER THE LENGTH OF THE FILL. LIFT THICKNESS OF THE SOIL SHALL BE AS THIN AS THE SUITABLE RANDOM EXCAVATED MATERIAL PERMIT, TYPICALLY 6"-12" INCHES THICK. THE SIZE OF ROCK LIFTS SHALL NOT EXCEED 36 INCHES. THE ROCK SHALL NOT BE GREATER IN ANY DIMENSION THAN 36 INCHES. COMPACTION SHALL BE OBTAINED BY COMPACTION EQUIPMENT. SOILS FOOT OR PAD ROLLERS, DEPENDING ON MATERIAL. COMPACTION TO VISIBLE NON-MOVEMENT OF THE EMBANKMENT MATERIAL. COMPACTION EFFORT SHALL NOT EXCEED OPTIMUM MOISTURE LIMITS. EACH LIFT SHALL BE COMPACTED TO A STANDARD PROCTOR DENSITY OF AT LEAST 90% BEFORE BEGINNING THE NEXT LIFT. QC TESTING SHALL BE PERFORMED AT A RATE OF 2 TESTS/ACRE/LIFT.
 - CONTRACTOR SHALL CONSTRUCT ACCESS ROAD IN ACCORDANCE WITH DETAILS PROVIDED. ADDITIONAL COVER MATERIAL PLACEMENT REQUIRED IN AREA OF UTILITY LINES.
 - CONTRACTOR SHALL COORDINATE MATERIAL MANAGEMENT (EXCESS CUT/FILL, TOPSOIL, STOCKPILES, GRAVEL, SOULINGS) WITH HG ENERGY II APPALACHIA, LLC PRIOR TO MOBILIZATION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER EROSION AND SEDIMENT CONTROLS, BOTH ON SITE AND OFF SITE.
 - ALL SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED AND THE VEGETATIVE GROUND COVER HAS ACHIEVED A UNIFORM 70% GROWTH. ANY AREAS NOT ACHIEVING A 70% VEGETATIVE COVER SHALL BE RESEEDED AND MULCHED WITHIN 24 HOURS OF DETECTION.
 - SECONDARY CONTAINMENT SHALL BE PROVIDED DURING DRILLING PROCESS. A LINDER AND MAT SYSTEM WITH BERM SHALL BE INSTALLED PRIOR TO DRILLING AND WATER INSIDE SECONDARY CONTAINMENT SHALL BE DISPOSED OFFSITE IN ACCORDANCE WITH WV REGULATIONS.
- REFERENCE:**
- TOPOGRAPHY OBTAINED FROM CIVIL & ENVIRONMENTAL CONSULTANTS, INC., BLUE MOUNTAIN, INC. AND NATIONAL ELEVATION DATASET.
 - EXISTING STREAMS AND WETLANDS DELIMITED BY AMY ENVIRONMENTAL, INC.
 - PROPERTY BOUNDARIES & OWNER INFORMATION OBTAINED VIA WV PROPERTY VIEWER WWW.WVPAID.COM/PARCEL/



APPROVED
WVDEP OOG
11/12/2019

WELL #	LAT.	LONG.
N-1H	N 39.158096	W 80.382426
N-2H	N 39.158101	W 80.382374
N-3H	N 39.158107	W 80.382321
N-4H	N 39.158112	W 80.382268
N-5H	N 39.158118	W 80.382216
S-6H	N 39.157314	W 80.382294
S-7H	N 39.157319	W 80.382242
S-8H	N 39.157325	W 80.382189
S-9H	N 39.157330	W 80.382137
S-10H	N 39.157336	W 80.382084

WELL ELEVATIONS 1349.75
UTM83-17F

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REVISION	DATE	DESCRIPTION
1	9/16/19	REVISED WELHEAD LAYOUT
2	10/09/19	WETLAND REVISIONS
3	10/31/19	REVISIONS PER DEP COMMENTS
4	11/06/19	REVISIONS PER DEP COMMENTS

SCALE - FEET
0 80 120 180

SITE DEVELOPMENT PLAN
WITH EROSION AND SEDIMENTATION CONTROLS
HG 1206 WELL PAD & IMPOUNDMENTS
GRANT DISTRICT
HARRISON COUNTY, WEST VIRGINIA

PREPARED FOR
HG ENERGY II APPALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

APPROVED MEP 09/05/2019
CHECKED MEP 08/30/2019
DRAWN DJA, MFR 08/30/2019
PROJECT No. 4000-PA007871

Penn E&R
Environmental & Remediation, Inc.

111 RYAN COURT, PITTSBURGH, PA 15205;
412-722-1222

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

WEST VIRGINIA 811 CALL BEFORE YOU DIG!

Dial 811 or 800.245.4848
Miss Utility of West Virginia

1. SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE.