



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

Thursday, July 26, 2018
WELL WORK PERMIT
Horizontal 6A / Re-Work

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for AUD7GHS
47-001-03350-00-00


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

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

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

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over the typed name and title.

James A. Martin
Chief

Operator's Well Number: AUD7GHS
Farm Name: MURPHY, BRIAN E. & LISA 
U.S. WELL NUMBER: 47-001-03350-00-00
Horizontal 6A Re-Work
Date Issued: 7/26/2018

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.

WW-6B
(04/15)

API NO. 47-001 - 03350 DD
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

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

- 1) Well Operator: HG Energy II Appalachia, L.P. 494519932 Barbour Philippi Audra
Operator ID County District Quadrangle
- 2) Operator's Well Number: AUD7 GHS Well Pad Name: AUD7
- 3) Farm Name/Surface Owner: Brian E. & Lisa L. Murphy Public Road Access: Delta Rt. 8/US Route 119
- 4) Elevation, current ground: 1565' Elevation, proposed post-construction: 1565' (already built)
- 5) Well Type (a) Gas Oil Underground Storage
Other
(b) If Gas Shallow Deep
Horizontal
- 6) Existing Pad: Yes or No Yes
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target - Marcellus, Depth - 7575', Thickness - 75', Pressure - 4000#
- 8) Proposed Total Vertical Depth: 7575'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 18,435'
- 11) Proposed Horizontal Leg Length: 9,866'
- 12) Approximate Fresh Water Strata Depths: 160', 635', 725', 730'
- 13) Method to Determine Fresh Water Depths: Actual
- 14) Approximate Saltwater Depths: 1870'
- 15) Approximate Coal Seam Depths: 320', 635', 725', 730'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): 328' - 336'
- 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: _____

WW-6B
(04/15)

API NO. 47- 001 - 03350 DD
 OPERATOR WELL NO. AUD7 GHS
 Well Pad Name: AUD7

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"	N	LS	120 #	74'	74'	Conductor already set
Fresh Water	20"	N	J-55	94 #	416'	416'	Surface casing already set
Coal	13 3/8"	N	J-55	54.5 #	816'	816'	Coal Protection casing already set
Intermediate	9 5/8"	N	J-55	36 #	2164'	2164'	Intermediate casing already set
Production	5 1/2"	N	P-110 HC	23#	18435'	18435'	20% excess, lead yield = 1.19, CTS
Tubing							
Liners							

<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"	42"				Class A Type	1.22
Fresh Water	20"	26"	0.438	2110		Class A Type	1.18
Coal	13 3/8"	17 1/2"	0.380	2730		Class A Type	1.20
Intermediate	9 5/8"	12 3/8"	0.352	3520		Class A Type	1.22
Production	5 1/2"	8 1/2"	0.415	14520	11500	Lead: Class A, Tail: Class A	Lead yield = 1.19, Tail yield = 1.94
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

WW-6B
(10/14)

API NO. 47-001 - 03350 **DD**
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

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

Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 18435'. Well to be drilled to a TVD of 7575', formation at TVD - Marcellus Shale. Drill horizontal leg - stimulate and produce the Marcellus Formation. There will not be any production, perforation or stimulation of any formations below the target formation.

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

The stimulation will be 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. Anticipated maximum pressure 12,000 psi.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.9 acres

22) Area to be disturbed for well pad only, less access road (acres): .96 acres

23) Describe centralizer placement for each casing string:

Conductor - NA
Surface Casing - NA
Coal Protection Casing - NA
Intermediate Casing - NA
Production - 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 - NA
Surface Casing - NA
Coal Protection Casing - NA
Intermediate - NA
Production - "Lead: 14.5 ppg POZ-PN-1 + 0.3% bwoc R3 + 1% bwoc ED1 + 0.75 gal/bk FP13L + 0.2% bwoc MPA170Talc; 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/bk FP13L + 50% bwoc AS CA1 + 0.5% bwoc MPA17020% ExcessLead Yield=1.19Tail Yield=1.84CT5"

25) Proposed borehole conditioning procedures:

Conductor - NA
Surface - NA
Coal Protection - NA
Intermediate - NA
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.

MAR 12 2018

WV Department of
Environmental Protection

HG Energy II Appalachia, LLC
AUD7 Well Pad (GHS,FHS,HHS,IHS)
Cement Additives

Material Name	Material Type	Material Description	CAS #																		
Premium NE-1	Portland Cement	Premium NE-1 is a portland cement with early compressive strength properties.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Portland cement</td> <td>90 - 100</td> <td>65997-15-1</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> <tr> <td>Magnesium oxide</td> <td>1 - 5</td> <td>1309-48-4</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>0.1 - 1</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Portland cement	90 - 100	65997-15-1	Calcium oxide	1 - 5	1305-78-8	Magnesium oxide	1 - 5	1309-48-4	Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 5/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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MPA-170	Gas Migration	Multi-purpose polymer additive used to control free fluid, fluid loss, rheology, and gas migration.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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Poz (Fly Ash)	Base	A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7	Calcium oxide	1 - 5	1305-78-8									
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R-3	Retarder	A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Organic acid salt</td> <td>40 - 50</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Organic acid salt	40 - 50	Trade secret.												
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S-5	Surfactant	Used to water wet casing and formation to facilitate cement bonding.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>2-Butoxyethanol</td> <td>20 - 30</td> <td>111-78-2</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	111-78-2	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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MAR 12 2018

WV Department of Environmental Protection

1-0335000



AUDTG
Marcellus Shale Horizontal
Barbour County, WV

Ground Elevation (RKB) 1565' AUDTG SHL 226980.4N 1834457.7E
Azim 133.801° AUDTG LP 227341.15N 1835980.34E
WELLBORE DIAGRAM HOLE CASING GEOLOGY TOP BASE MUD CEMENT CENTRALIZERS CONDITIONING COMMENTS

WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	42°	30° 120# LS	Conductor *Conductor already set*	0	74	N/A	CTS w/ 675 sils Class A, 15 bpps, 1.22 cu-ft/sk, 653 cu-ft	N/A		
	26°	20° 9.4# J-55	Surface Casing *Already Set* Coal(s)	0	416	N/A	CTS w/ 657 sils Class A, 15 bpps, 7.18 cu-ft/sk, 653 cu-ft	N/A		
	17.8°	13.313° 54.5# J-55	Coal Protection Casing *Already Set* Little Line / Big Line	0	816	N/A	CTS w/ 746 sils Class A, 15 bpps, 1.2 cu-ft/sk, 608 cu-ft	N/A		
	12.375°	9.48° 36# J-55	Intermediate Casing *Already Set*	0	2164	N/A	CTS w/ 728 sils Class A, 15 bpps, 1.22 cu-ft/sk, 612 cu-ft	N/A		
	8.5° (lateral)	5-11/2" 23# F-110 HC CDC HTQ	Bradford Eaton Sycamore Grit Bunker Tully Limestone Harrison Marcellus TMO / TVD Onondaga	3060 3830 6390 7280 7298 7370 7500 20440 7590	1167 / 1234 1208 / 1385 1367 / 1447 1674 2164	6 bpps-10 bpps SCBM	Lead: 14.5 bpps POZ:PVE-1 + 0.3% Bwoc R3 + 1% Bwoc ECI + 0.75 gal/sk FP13L + 0.3% Bwoc MPA-170 Tail: 14.8 bpps PVE-1 + 0.35% Bwoc R3 + 0.75 gal/sk FP13L + 50% Bwoc ASCA-1 + 0.5% Bwoc MPA-170 Lead Yield: 1.19 Tail Yield: 1.94 CTS	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=1450 psi Note: Actual centralizer schedules may be changed due to hole conditions

LP @ 1575' TVD / 8569' MD
8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HC CDC HTQ
+/-1187' (Lateral)
TD @ +/-727' TVD
+/-20440' MD

HG Energy II Appalachia, LLC
List of Frac Additives by Chemical Name and CAS #

AUD7 Well Pad (GHS,FHS,HHS,IHS)

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

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Office of Oil and Gas
MAR 1 2 2018
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Environmental Protection

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Environmental Protection

WR-35
Rev. 8/23/13

Page 1 of 8

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47-001-03350H6A County Barbour District Philippi
Quad Audra Pad Name AUD7HS Field/Pool Name Audra
Farm name MURPHY, BRIAN E. & LISA L. Well Number AUD7GHS
Operator (as registered with the OOG) CNX Gas Company LLC
Address P.O. Box 1248 City Jane Lew State WV Zip 26378

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,330,694.81 m Easting 579,245.10 m
Landing Point of Curve Northing 4,330,754.02 m Easting 579,607.15 m
Bottom Hole Northing 4,329,381.34 m Easting 581,067.66 m

Elevation (ft) 1568' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
N/A (Production hole has not been drilled.)

Date permit issued 10/24/2014 Date drilling commenced 01/10/2015 Date drilling ceased N/A (Drilling has not been completed)
Date completion activities began N/A (Completion has not begun.) Date completion activities ceased N/A
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 160', 635', 725', 730' Open mine(s) (Y/N) depths Y
Salt water depth(s) ft 1870' Void(s) encountered (Y/N) depths Office of Oil and Gas 328'-336'
Coal depth(s) ft 320', 635', 725', 730' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) Y

RECEIVED
Office of Oil and Gas
MAR 21 2018
Reviewed by:
WV Department of
Environmental Protection
AX 03/31/16

MAR 12 2018

WV Department of
Environmental Protection

WR-35
Rev. 8/23/13

API 47-001 - 03350H6A Farm name MURPHY, BRIAN E. & LISA L. Well number AUD7GHS

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	42"	30"	74'	N	L.S. 120# / 74'	N/A	N (grout)
Surface	28"	20"	415.9'	N	J-55 94# / 415.9'	332'	Y
Coal	17 1/2"	13 3/8"	815.8'	N	J-55 84.5# / 815.8'	N/A	N (grout)
Intermediate 1	12 3/8"	9 5/8"	2164'	N	J-55 38# / 2164'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	N/A	(Production hole	has not been	drilled.)	-	-	-
Tubing	N/A	(Tubing has not	been run.)	-	-	-	-
Packer type and depth set		None					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	876	15.80	1.22	820	0'	24
Surface	Class A	562 / 95	15.80	1.18	863	Surface	8
Coal	Class A	749	15.80	1.20	898	Surface	8
Intermediate 1	Class A	728	15.80	1.22	842	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	N/A	(Production hole	has not been	drilled.)	-	-	-
Tubing	N/A	(Tubing has not	been run.)	-	-	-	-

Drillers TD (ft) N/A (Drilling has not been completed.) Loggers TD (ft) N/A (Drilling has not been completed.)
 Deepest formation penetrated N/A (Drilling has not been completed.) Plug back to (ft) N/A (Drilling has not been completed.)
 Plug back procedure N/A (Drilling has not been completed.)

Kick off depth (ft) N/A (Drilling has not been completed.)

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Conductor - No centralizers used.
 Fresh Water - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface.
 Coal - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface.
 Intermediate - Bow spring centralizers one on the first two joints and every fourth joint until inside surface casing.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS N/A (Well has not been completed.)

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS N/A (Well has not been completed.)

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A (Well has not been completed.)

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API 47- 001 - 03350H6A Farm name MURPHY, BRIAN E. & LISA L. Well number AUD7GHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)

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Please insert additional pages as applicable.

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API 47- 001 . 03350H6A Farm name MURPHY, BRIAN E. & LISA L. Well number AUD7GHS

PRODUCING FORMATION(S)	DEPTHS	
N/A (Well has not been completed.)	_____ TVD	_____ MD
No producing formation(s)	_____	_____
_____	_____	_____
_____	_____	_____

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Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface N/A psi Bottom Hole N/A psi DURATION OF TEST N/A hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
N/A mcfpd N/A bpd N/A bpd N/A bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
FILL	0	10	0		
SAND/SHALE	10	135			Gray
SAND/SHALE	140	320			White / Light Gray
COAL	320	440			White / Tan
SAND/SHALE	440	600			White / Medium Gray
SAND/SHALE/COAL	600	640			Gray
SHALE	640	713			Black
SAND/SHALE/COAL	713	1167			Gray
LITTLE LIME	1167	1234			
BIG LIME	1234	1308			
KEENER	1308	1367			
BIG INJUN SAND	1395	1447			
GANTZ	1600	1674			
FIFTH SAND	2114				

Please insert additional pages as applicable.

Drilling Contractor Yost
Address 313 Steel Hill Road City Mt. Morris State PA Zip 15349

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Schlumberger
Address 147 Industrial Park Road City Brookville State PA Zip 15825

Stimulating Company N/A (Formations have not been perforated or stimulated.)
Address N/A City N/A State N/A Zip N/A

Please insert additional pages as applicable.

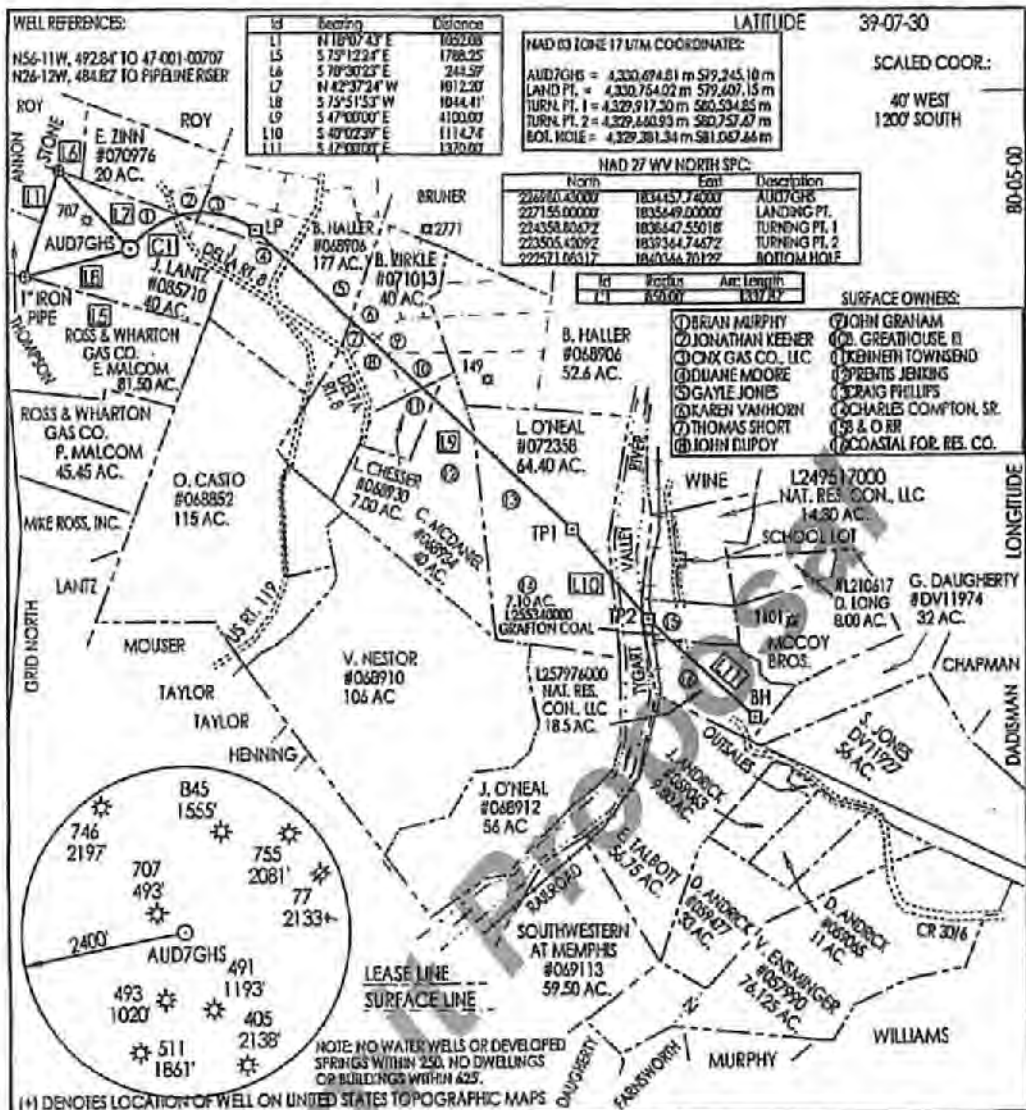
Completed by CNX Gas WV Operations Company, LLC - Drilling and Completions Telephone 304-884-2000
Signature Steve Spiller Title Steve Spiller - Completions Manager-Gas WV Date 3/18/16

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Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Report



I, THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) _____
STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 #100 ACADIA ROAD
 HERRING, WV 25143-2504

FORM WW-6

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

LOCATION: ELEVATION **1568'** WATERSHED **ELK CREEK**
 DISTRICT **PHILIPPI** COUNTY **BARBOUR**
 QUADRANGLE **AUDRA** LEASE NUMBER **SEE ABOVE**

SURFACE OWNER **BRIAN E. & LISA L. MURPHY** ACREAGE **38.00 (13-10)**
 OIL & GAS ROYALTY OWNER **O. CASIO, ET. AL UNIT** LEASE ACREAGE **11.13**

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG & ABANDON
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) **HORIZONTAL & REVEAL**

TARGET FORMATION **MARCELLUS** ESTIMATED DEPTH **TVD = 7950' TMD = 16625'**

WELL OPERATOR **CNX GAS COMPANY LLC** DESIGNATED AGENT **MATTHEW MICHON**
 ADDRESS **P.O. BOX 1248 JANE LEW, WV 26378** ADDRESS **P.O. BOX 1248 JANE LEW, WV 26378**

LAND SURVEYING SERVICES
 21 CEDAR LANE, BRIDGEPORT, WV 26330
 PHONE: 304-842-2018 OR 842-5762

DATE: **AUGUST 26, 2014**

OPERATOR'S WELL NO.: **AUD7GHS**

API WELL NO. **47-001-03350 H6A**

STATE **WV** COUNTY **BARBOUR** PERMIT **SEE ABOVE**

PLACE SEAL HERE

COUNTY NAME: **BARBOUR**

PERMIT NO.: **SEE ABOVE**

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PROFILE VIEW

API 47-001-03350H6A Farm Name MURPHY, BRIAN E. & LISA L. Well Number AUD7GHS

Profile View - Not Available - Drilling has not been completed

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DEVIATION SURVEY

API 47-001-03350H6A Farm Name MURPHY, BRIAN E. & LISA L. Well Number AUD7GHS

Deviation Survey – Not Available – Drilling has not been completed

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FRAC FOCUS REGISTRY

API 47-001-03350H6A Farm Name MURPHY, BRIAN E. & LISA L. Well Number AUD7GHS

Frac Focus Registry - Not Available - Formations have not been perforated or stimulated

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WW-9
(4/16)

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API Number 47 - 001 - 03350PP
Operator's Well No. AUD7 GHS

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy II Appalachia, LLC OP Code 494519932

Watershed (HUC 10) Elk Creek Quadrangle Audra

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: NA

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air and freshwater

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

Additives to be used in drilling medium? Water, soap, KCl, barite

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 List

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

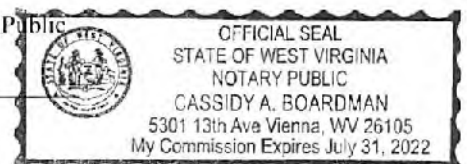
Company Official Title Accountant

Subscribed and sworn before me this 19th day of February, 2018

Cassidy A. Boardman

Notary Public

My commission expires 7/31/2022



061-03350010

Form WW-9

Operator's Well No. AUD7 GHS

HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 13.9 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
Tall Fescue	40
Ladino Clover	5

Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5

**** Pre-seed and mulch all cut area, maintain E&S standards during entire operation.**

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: _____

Thomas L. Stewart

Comments: _____

RECLAIM, RESEED & MULCH ASAP

Title: OIL & GAS INSPECTOR

Date: 3-5-18

Field Reviewed?

() Yes

() No

Cuttings Disposal/Site Water**Cuttings -Haul off Company:**

Eap Industries, Inc. DOT # 0876278
1575 Smith Two State Rd. Atlasburg, PA 15004
1-888-294-5227

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

Environmental Coordination Services & Recycling (ECS&R)
3237 US Highway 19
Cochranon, PA 16314
814-425-7773

Disposal Locations:

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

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

Sycamore Landfill Inc. Permit #R30-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

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

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

Waste Management Kelly Run Permit # 100663
1901 Park Side Drive
Elizabeth, PA 15037
412-384-7569

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

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

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

Brooke County Landfill Permit # SWF-103-07 / WV 0109029
Rd 2 Box 410
Colliers, WV 26035
304-748-0014

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

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

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

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

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720485
 3790 State Route 7
 New Waterford, OH 44445
 330-892-0164

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

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

Nuverra Environmental Solutions
 11942 Veterans Memorial Highway
 Masontown, WV 26542

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

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

Disposal Locations:

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

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

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

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

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

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

Equipment Transport
 1 Tyler Court
 Carlisle, PA 17015

Myers Well Service,
 2001 Ballpark Court
 Export, PA 15632

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

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

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

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

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

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

Mozena #1 Well (SWIW # 13)
Permit # 34-157-2-5511-00-00
5367 E. State Street
Newcomerstown, OH 43832
740-763-3966

Goff SWD #1 (SWIW # 27)
Permit # 34-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-329-7275

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

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

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

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

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4137-00-00
Elkhead Gas & Oil Company
12163 Marne Rd. NE
Newark, OH 43055
740-763-3966

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Reclamation Plan For: AUD7 PAD

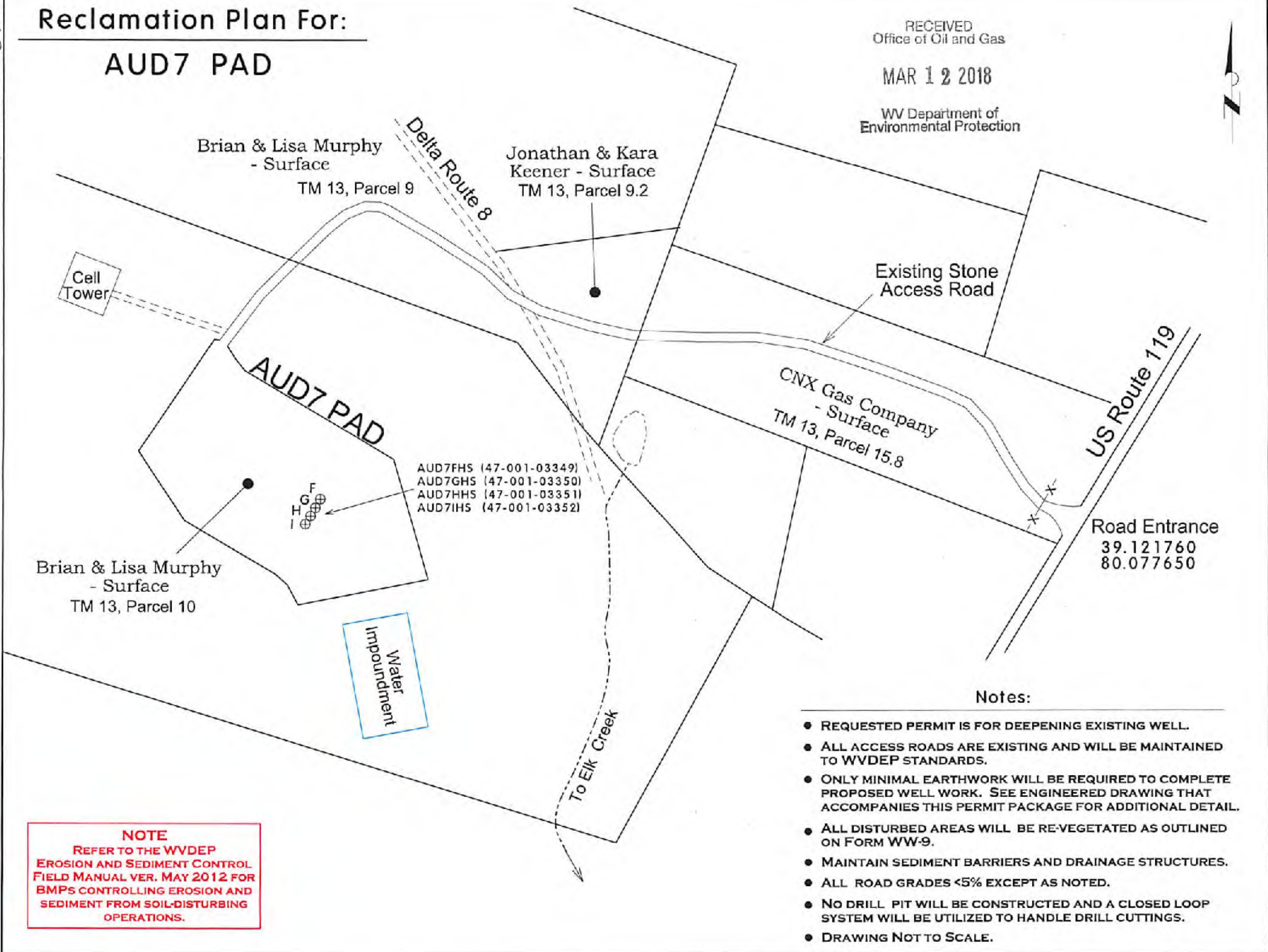
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1-0335044



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 DEEPENING EXISTING WELL.
- ALL ACCESS ROADS ARE EXISTING AND WILL BE MAINTAINED TO WVDEP STANDARDS.
- ONLY MINIMAL EARTHWORK WILL BE REQUIRED TO COMPLETE PROPOSED WELL WORK. SEE ENGINEERED DRAWING THAT ACCOMPANIES THIS PERMIT PACKAGE FOR ADDITIONAL DETAIL.
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.
- ALL ROAD GRADES <5% EXCEPT AS NOTED.
- NO DRILL PIT WILL BE CONSTRUCTED AND A CLOSED LOOP SYSTEM WILL BE UTILIZED TO HANDLE DRILL CUTTINGS.
- DRAWING NOT TO SCALE.

HG Energy II Appalachia, LLC

Site Safety Plan

**AUDRA 7 Well Pad
291 Townsend Rd
Philippi, WV
Barbour County**

December 2017: Version 1

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

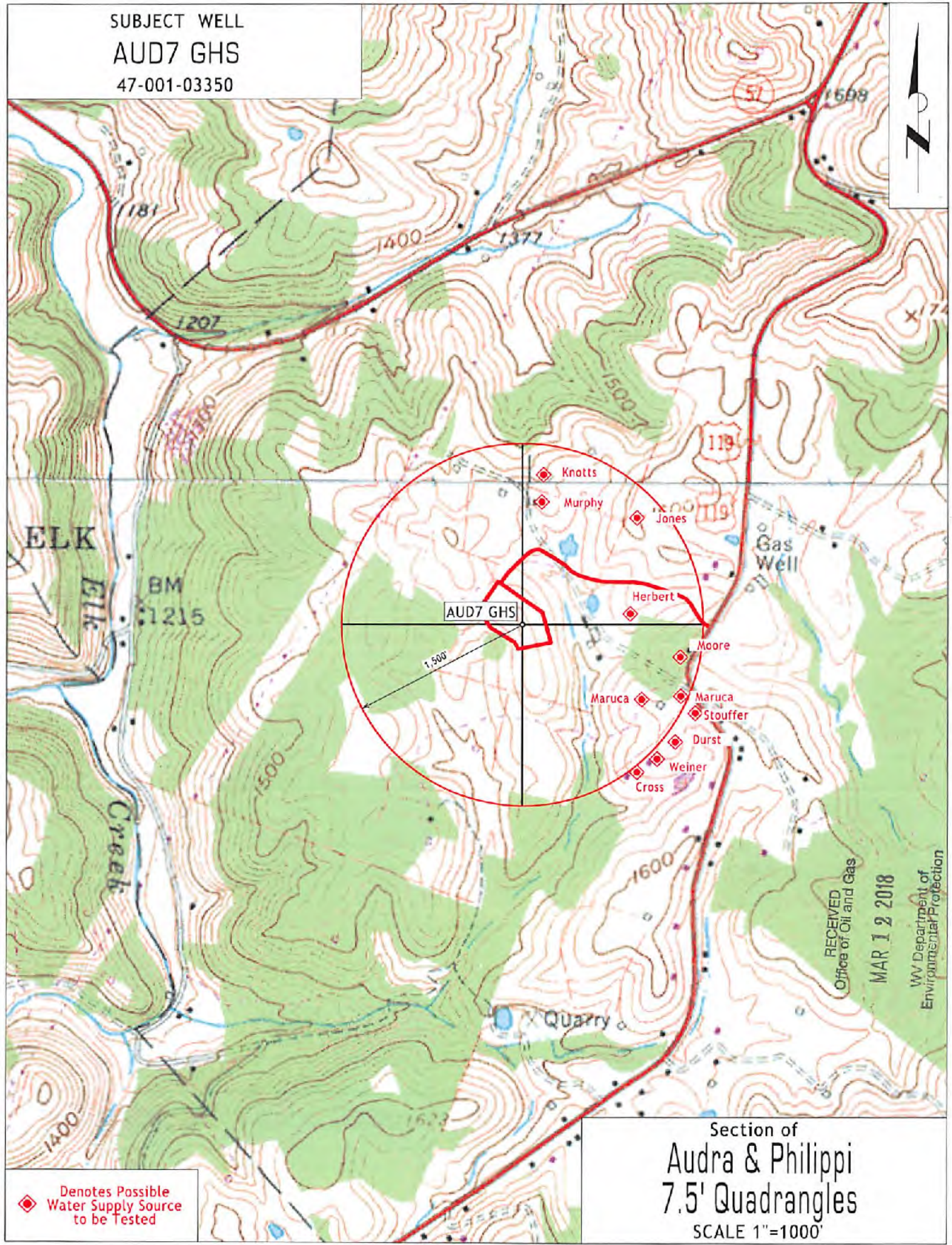
HG Energy II Appalachia, LLC
5260 Dupont Road
Parkersburg, WV 26101

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3-5-18

SUBJECT WELL
AUD7 GHS
47-001-03350



◆ Denotes Possible Water Supply Source to be Tested

Section of
Audra & Philippi
7.5' Quadrangles
SCALE 1"=1000'

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1- 03350 DD

WW-6A1
(5/13)

Operator's Well No. AUD7 GHS DP

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

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

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

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

* See Attached Lease Chains *

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

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

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

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

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

1-03350 DP

Tract	HG Lease Number	MPID	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
B	CNX085710	7-13-10, 7-13-11	Junior Lantz and Lucy P. Lantz, his wife; Elmer Dean, single	Consolidated Gas Supply Corporation	Oil And Gas Lease	NOT LESS THAN 1/8	L72	623
			Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment		L99	481
			Consolidated Gas Transmission Corporation	CNG Transmission	Merger/Name Change		HC 51	795
			CNG Transmission	Dominion Transmission, Inc.	Merger/Name Change		HC 58	362
			Dominion Transmission, Inc.	Consol Energy Holdings LLC XVI	Assignment		L151	423
			Consol Energy Holdings LLC XVI	Consol Gas Company	Merger		18	577
			Consol Gas Company	CNX Gas Company LLC	Merger		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
A	CNX070976	7-13-9, 7-13-9.1	E.C. Zinn et ux et al	Consolidated Gas Supply Corp.	Oil And Gas Lease	NOT LESS THAN 1/8	L64	195
			Consolidated Gas Supply Corp.	Consolidated Gas Transmission Corp.	Merger/Name Change		L99	481
			Consolidated Gas Transmission Corp.	CNG Transmission Corp.	Merger/Name Change		HC 51	795
			CNG Transmission Corp.	Dominion Transmission, Inc.	Merger/Name Change		HC 58	362
			Dominion Transmission, Inc.	Consol Energy Holdings, LLC, XVI	Merger/Name Change		L151	423
			Consol Energy Holdings, LLC, XVI	Consol Gas Company	Merger/Name Change		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger/Name Change		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
G	CNX068906	07-0013-0015-0000, 07-0013-0012-0000, 07-0013-0013-0000, 07-0013-0015-0008, 07-0013-0015-0005, 07-0013-0015-0027, 07-0013-0015-0026, 07-0013-0015-0010, 07-0013-0015-0025, 07-0013-0015-0011, 07-0013-0049-0002, 07-0013-0015-0029, 07-0013-0015-0026, 07-0013-0015-0019	Bly S. Mallar et ux	Hope Natural Gas Company	Oil And Gas Lease	NOT LESS THAN 1/8	41	7
			Hope Natural Gas Company	Consolidated Gas Supply Corp.	Merger/Name Change		WV 53	281
			Consolidated Gas Supply Corp.	Consolidated Gas Transmission Corp.	Merger/Name Change		L20	342
			Consolidated Gas Transmission Corp.	CNG Transmission Corp.	Merger/Name Change		HC 51	795
			CNG Transmission Corp.	Dominion Transmission, Inc.	Merger/Name Change		HC 58	362
			Dominion Transmission, Inc.	Consol Energy Holdings, LLC, XVI	Assignment		151	423
			Consol Energy Holdings, LLC, XVI	Consol Gas Company	Merger/Name Change		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger/Name Change		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406

1-03350DD

Tract	HG Lease Number	MPID	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1

1-3350 1010

AUD 7 G Lease Chains Final

Tract	HQ Lease Number	MHD	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
K	CNX071013	7-13-49, 7-13-15.11, 7-13-15.13, 7-13-15.15, 7-13-15.16	B. L. Zirkle et ux	Hope Natural Gas Company	Oil And Gas Lease	NOT LESS THAN 1/8	44	283
			Hope Natural Gas Company	Consolidated Gas Supply Corp.	Merger/Name Change		WV 53	281
			Consolidated Gas Supply Corp.	Consolidated Gas Transmission Corp.	Merger/Name Change		L20	342
			Consolidated Gas Transmission Corp.	CNG Transmission Corp.	Merger/Name Change		HC 51	795
			CNG Transmission Corp.	Dominion Transmission, Inc.	Merger/Name Change		HC 55	362
			Dominion Transmission, Inc.	Consol Energy Holdings, LLC, XVI	Assignment		151	423
			Consol Energy Holdings, LLC, XVI	Consol Gas Company	Merger/Name Change		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger/Name Change		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
			N	CNX068906	7-13-15.15, 7-13-15.16	Bly S. Maller et ux	Hope Natural Gas Company	Oil And Gas Lease
Hope Natural Gas Company	Consolidated Gas Supply Corp.	Merger/Name Change					WV 53	281
Consolidated Gas Supply Corp.	Consolidated Gas Transmission Corp.	Merger/Name Change					L20	342
Consolidated Gas Transmission Corp.	CNG Transmission Corp.	Merger/Name Change					HC 51	795
CNG Transmission Corp.	Dominion Transmission, Inc.	Merger/Name Change					HC 55	362
Dominion Transmission, Inc.	Consol Energy Holdings, LLC, XVI	Assignment					151	423
Consol Energy Holdings, LLC, XVI	Consol Gas Company	Merger/Name Change					16	577
Consol Gas Company	CNX Gas Company LLC	Merger/Name Change					17	1
CNX Gas Company LLC	Noble Energy	Assignment					155	406
CNX Gas Company LLC	Noble Energy	Assignment					177	231
Noble Energy	HG Energy II Appalachia LLC	Assignment					178	1
M	CNX072358	7-15-16				Lucy O'Neal	Hope Natural Gas Company	Oil And Gas Lease
			Hope Natural Gas Company	Consolidated Gas Supply Corp.	Merger/Name Change		WV 53	281
			Consolidated Gas Supply Corp.	Consolidated Gas Transmission Corp.	Merger/Name Change		L20	342
			Consolidated Gas Transmission Corp.	CNG Transmission Corp.	Merger/Name Change		HC 51	795
			CNG Transmission Corp.	Dominion Transmission, Inc.	Merger/Name Change		HC 55	362
			Dominion Transmission, Inc.	Consol Energy Holdings, LLC, XVI	Assignment		151	423
			Consol Energy Holdings, LLC, XVI	Consol Gas Company	Merger/Name Change		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger/Name Change		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
			S&R	Q097745000	7-18-18	Grafton Coal Company	CNX Gas Company LLC	Oil And Gas Lease
CNX Gas Company LLC	Noble Energy	Assignment					177	231
Noble Energy	HG Energy II Appalachia LLC	Assignment					178	1
X, Y, & Z	Q087669000	7-18-19.1	National Resources Consultants LLC	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	635

1-0335000

Tract	HG Lease Number	MPID	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1

1-03350DD

Tract	HG Lease Number	MPIO	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
c	Q101911000	7-18-28	McCoy Bros. Inc.	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	166	614
	Q091943001		The Rosetta Stanard Strawbridge Revocable Trust	CNX Gas Company LLC	Oil and Gas Lease	NOT LESS THAN 1/8	166	310
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
U	Q087827000	7-18-7	CSX Transportation	CNX Gas Company LLC	Oil and Gas Lease	NOT LESS THAN 1/8	168	612
			CNX Gas Company LLC	Noble Energy	Assignment		165	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
b	Q087145001	7-18-30	Mary Josephine Robinson	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	128
	Q087145002		Phyllis Pitman	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	133
	Q087145003		Patricia Shafer et vir	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	138
	Q087145004		Kathern Starchak	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	143
	Q087145005		Helma Ward	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	148
	Q087145006		Sheila Kathleen Inks	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	153
	Q087145007		John Edward Nowak et ux	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	158
	Q087145008		Keith A. Utz et ux	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	163
	Q087145009		Wayne H. Utz et ux	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	168
	Q087145010		Marcia Armstrong et vir	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	173
	Q087145011		Hugh L. Ogletree Jr.	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	178
	Q087145012		Diane M. Johnson	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	183
	Q087145013		Mark Ogletree	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	188
	Q087145014		Craig Ogletree et al	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	193
	Q087145015		David L. Ogletree	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	198

1-03350100

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Page 6 of 7

Tract	HG Lease Number	MPID	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
	Q087145016		Robert M. Ogletree	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	203
	Q087145017		Ruth Jean Foley	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	347
	Q087145018		Linda Lou Hennessey	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	352
	Q087145019		Carolyn Lee Radabaugh	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	357
	Q087145020		Carol Green	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	362
	Q087145021		Billy L. Talton et ux	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	367
	Q087145022		David Walton	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	168	634
	Q087145023		B F Mineral Holdings III LLC	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	168	69
	Q087145024		Somerset Minerals LP	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	168	76
	Q101929000		Rosaleen Daugherty	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	168	308
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
a	Q087578001	7-18-56	Ricki Ann Ransom	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	313
	Q087578002		Anthony D. Strider et ux	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	165	286
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
T	Q087652000	7-18-62	MM Marcellus III LP	CNX Gas Company LLC	Oil And Gas Lease	NOT LESS THAN 1/8	164	547
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1

1-03350000

Tract	HG Lease Number	MPID	Original Lessor	Original Lessee	Agreement Type	Royalty	Book	Page
v	CNX057990	7-18-59	Verda Ensminger, widow	Consolidated Gas Supply Corporation	Oil And Gas Lease	NOT LESS THAN 1/8	L66	142
			Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment		L89	481
			Consolidated Gas Transmission Corporation	CNG Transmission	Merger/Name Change		HC 51	785
			CNG Transmission	Dominion Transmission, Inc.	Merger/Name Change		HC 58	362
			Dominion Transmission, Inc.	Consol Energy Holdings LLC XVI	Assignment		L151	423
			Consol Energy Holdings LLC XVI	Consol Gas Company	Merger		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1
k & f	CNX059040	7-18-57, 7-18-57.2	Alice Campbell	Consolidated Gas Supply Corporation	Oil And Gas Lease	NOT LESS THAN 1/8	60	367
			Consolidated Gas Supply Corporation	Consolidated Gas Transmission Corporation	Assignment		L99	481
			Consolidated Gas Transmission Corporation	CNG Transmission	Merger/Name Change		HC 51	785
			CNG Transmission	Dominion Transmission, Inc.	Merger/Name Change		HC 58	362
			Dominion Transmission, Inc.	Consol Energy Holdings LLC XVI	Assignment		L151	423
			Consol Energy Holdings LLC XVI	Consol Gas Company	Merger		16	577
			Consol Gas Company	CNX Gas Company LLC	Merger		17	1
			CNX Gas Company LLC	Noble Energy	Assignment		155	406
			CNX Gas Company LLC	Noble Energy	Assignment		177	231
			Noble Energy	HG Energy II Appalachia LLC	Assignment		178	1

HG Energy II Appalachia, LLC
Well No. AUD7 GHS

Notes:
Well No. AUD7 GHS
WVSPC NAD 1927
Top Hole Coordinates
N: 226,980.4'
E: 1,834,457.7'
Landing Point Coordinates
N: 227,341.2'
E: 1,835,980.3'
Bottom Hole Coordinates
N: 220,516.1'
E: 1,843,097.1'

Notes:
Well No. AUD7 GHS
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.
Top Hole coordinates Bottom Hole coordinates
Latitude: 39°07'18.19" Longitude: 80°06'14.83"
Longitude: 80°05'00.50" Longitude: 80°03'10.38"
UTM Zone 17, NAD 1983.
Top Hole Coordinates Bottom Hole Coordinates
N: 4,330,694.797m N: 4,328,769.079m
E: 579,245.086m E: 581,909.912m
Plat orientation and corner and well references
are based upon the grid north meridian.
Well location references are based upon the magnetic
meridian.

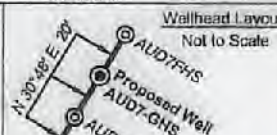
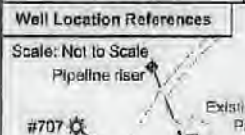
- Lease Owners**
- A. E. C. Zinn, et ux et al
 - B. Junior & Lucy P. Lantz, et al
 - C. Elsie Malcolm
 - D. David G. Wine
 - E. E. Lee Smith, et al
 - F. Orma & Carrie Casto, et al
 - G. Bly S. Maller, et ux
 - H. Lucile F. McGee, et al
 - J. Patricia Ann Townsend, et als
 - K. B. L. Zirkle, et ux
 - L. Prentis B. Jenkins, et al
 - M. Lucy O'Neal
 - N. Bly S. Maller, et ux
 - P. Edith Stalnaker, et al
 - R. Grafton Coal Co.
 - S. Grafton Coal Co.
 - T. M. M. Marcellus III, LP
 - U. CSX Transportation
 - V. Verde Ensminger, widow
 - W. Barbour Co. B.O.E.
 - X. National Resources Consultants, LLC
 - Y. Grafton Coal Co.
 - Z. Natural Resources Consultants, LLC

- Lease Owners**
- a. Deborah Long
 - b. Mary Josephina Robinson, et al
 - c. The Rosella Standard Strawbridge Revocable Trust
 - d. Linn Ventura
 - e. Ricki Ann Ransom, et al
 - f. Alica Campbell
 - g. Mike Ross, Inc., et al
 - h. Ricki Ann Ransom
 - j. Ricki Ann Ransom
 - k. Alica Campbell

Legend

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

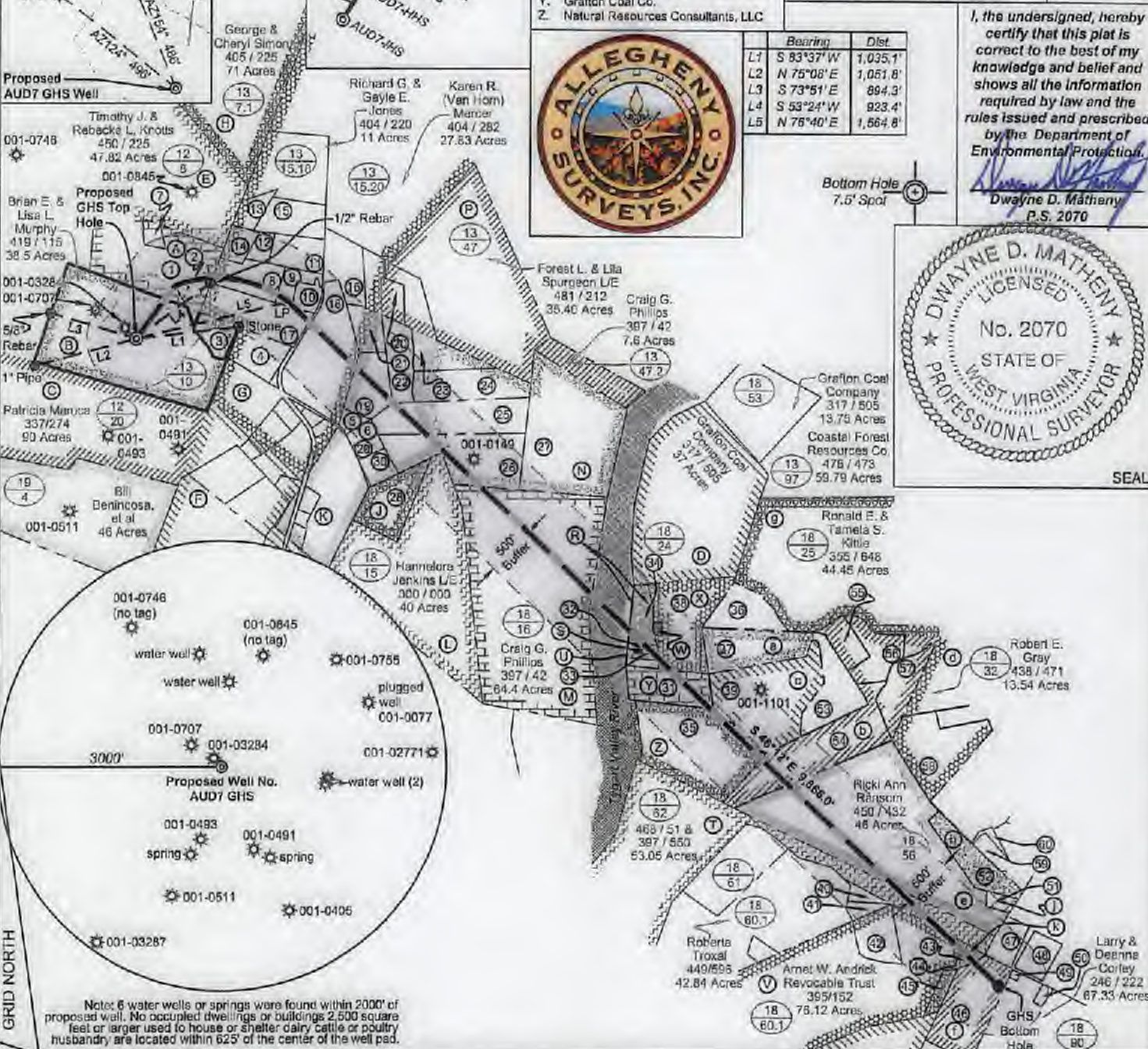
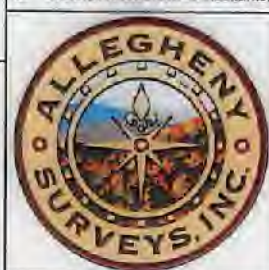
TOP HOLE LONGITUDE 80 - 05 - 00
BTM HOLE LONGITUDE 80 - 02 - 30
1,195' to Top Hole
Top Hole 7.5' Spot
7,605' to Bottom Hole



Bearing	Dist
L1 S 83°37'W	1,035.1'
L2 N 75°08'E	1,051.8'
L3 S 73°51'E	894.3'
L4 S 53°24'W	923.4'
L5 N 78°40'E	1,564.8'

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

Dwayne D. Matheny
P.S. 2070



FILE NO: 279-10-P-17
DRAWING NO: AUD7 GHS 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: July 13 2018
OPERATOR'S WELL NO. AUD7 GHS
API WELL NO. 0003350
STATE COUNTY PERMIT


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

LOCATION: ELEVATION: 1565' WATERSHED: Elk Creek
DISTRICT: Philippi Brian E. & SURFACE OWNER: Lisa L. Murphy
ROYALTY OWNER: Junior & Lucy P. Lantz, et al; et al LEASE NO: 085710 ACREAGE: 37.83;
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 7,575' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 18,435' 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

Surface Owners Table			
No.	TM-Par	Owner	Bk / Pg Acres
1	13-9	Brian E. & Lisa L. Murphy	419 / 115 15.92
2	13-9.2	Jonathan T. & Kara Keener	421 / 34 1.99
3	13-11	Gene F. Herbert III	403 / 184 2.74
4	13-12	Duane E. Moore	415 / 219 3.92
5	13-49.2	Thomas Brian & Jaime Short	385 / 397 1.00
6	18-106	John D. Kimberly Depoy	397 / 585 0.988
7	13-9.1	Brian E. & Lisa L. Murphy	327 / 621 1.09
8	13-15.28	Richard G. & Gayle E. Jones	437 / 35 4.92
9	13-15.27	Gene Herbert Jr.	437 / 40 2.05
10	13-15.5	Gene Herbert Jr.	389 / 535 1.54
11	13-15.19	Richard G. & Gayle E. Jones	418 / 453 3.95
12	13-15.26	Richard G. & Gayle R. Jones	418 / 453 1.35
13	13-15.1	Richard G. & Gayle E. Jones	404 / 220 1.95
14	13-15.29	Eric S. & Denise Sublett	472 / 233 2.07
15	13-15.7	Gayle E. Jones	401 / 344 5.00
16	13-15.10	Gary L. Mayle	410 / 507 5.25
17	13-15.8	CNX Gas Company, LLC	455 / 218 8.15
18	13-15	Gayle E. Jones, et al	WB4 / 313 14.78
19	13-15.11	Karen R. (Van Horn) Mercar	411 / 8 5.43
20	13-15.6	Michael E. & Tracy A. Hicks	433 / 29 2.00
21	13-15.25	Karen R. (Van Horn) Mercar	411 / 8 5.44
22	13-15.13	Forest L. & Lila W. Spurgeon	481 / 205 4.75
23	13-15.12	Forest L. & Lila W. Spurgeon	481 / 205 7.95
24	13-15.14	John A. Graham	412 / 377 7.70
25	13-15.15	John A. Graham	412 / 377 11.60
26	18-107	Bernard W. Gresthouse III	— / — 12.60
27	13-50.1	Craig G. Phillips	397 / 42 25.25
28	18-14	Patricia Ann Townsend	000 / 000 7.00
29	18-105	John & Kim Depoy	377 / 493 1.00
30	18-103	John & Kim Depoy	369 / 87 2.00

Surface Owners Table			
No.	TM-Par	Owner	Bk / Pg Acres
31	18-19	Grafton Coal Company	440 / 544 7.84
32	18-20	Grafton Coal Company	317 / 505 1.00
33	18-18	Grafton Coal Company	317 / 505 0.837
34	18-22	Grafton Coal Company	317 / 505 2.80
35	p/o13-97	Coastal Forest Resources Co.	476 / 373 56.00
36	18-26	Shane A. & Vanessa N. Halle	481 / 459 5.50
37	18-27	Floyd Jones	365 / 236 8.00
38	p/o13-97	Coastal Forest Resources Co.	478 / 373 56.00
39	18-28	Diane S. Pdag	462 / 597 18.00
40	18-60.2	Clayton & Shirley Andrick	395 / 123 1.00
41	18-60	Roger & Kathy Andrick	395 / 129 1.00
42	18-59.1	Lori A. Daugherty	397 / 313 4.76
43	18-57.2	Trent M. Andrick	481 / 498 0.74
44	18-57.1	Mark Harris	451 / 290 0.10
45	18-58	Clayton G. Andrick	402 / 173 1.00
46	18-57	Mark A. & Sarah G. Harris	435 / 330 10.50
47	18-46.1	Jerry K. Jones	351 / 326 2.20
48	18-46	Cheryl Ann Corley	WB32 / 218 2.99
49	18-100	David Burner	WB43 / 108 0.25
50	18-90.1	Burton & Amy Corley	350 / 313 0.49
51	18-56.1	Evan Michael Dadisman	478 / 270 1.00
52	18-55	Ricki Ann Ransom	450 / 432 7.90
53	18-29	Geoffrey Braunsberg, et ux	000 / 000 6.50
54	18-30	Gary Lynn & Gary Levi Carper	412 / 477 14.98
55	18-30.1	Geoffrey & Judy Braunsberg	339 / 359 3.00
56	18-30.3	Rose M. Lants L/E	412 / 474 5.00
57	18-30.2	Deborah K. & Lyonel L. Waugaman	412 / 471 5.00
58	18-53.3	Jan E. & Cynthia R. Chapman	428 / 450 10.68
59	18-54.4	Patricia & John W. Ketchem Jr.	000 / 000 1.41
60	18-54.6	Patricia & John W. Ketchem Jr.	333 / 103 0.73

FILE NO: <u>279-10-P-17</u> DRAWING NO: <u>AUD7 GHS Well Plat</u> SCALE: <u>1" = 1500'</u> MINIMUM DEGREE OF ACCURACY: <u>Submeter</u> PROVEN SOURCE OF ELEVATION: <u>CORS, Bridgeport, WV</u>	 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION	DATE: <u>July 13</u> 20 <u>18</u> OPERATOR'S WELL NO. <u>AUD7 GHS</u> API WELL NO <u>00</u> <u>47</u> — <u>001</u> — <u>03350</u> STATE COUNTY PERMIT
WELL TYPE: <input type="checkbox"/> OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL (IF GAS) PRODUCTION: <input type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input checked="" type="checkbox"/> SHALLOW		
LOCATION: ELEVATION: <u>1565'</u> WATERSHED: <u>Elk Creek</u> DISTRICT: <u>Phillippi</u> Brian E. & SURFACE OWNER: <u>Lisa L. Murphy</u>		QUADRANGLE: <u>Audra</u> COUNTY: <u>Barbour</u> ACREAGE: <u>38.5</u>
ROYALTY OWNER: <u>Junior & Lucy P. Lantz, et al; et al</u> LEASE NO: <u>085710</u> ACREAGE: <u>37.83;</u>		
PROPOSED WORK: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input checked="" type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input checked="" type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 7,575' TVD <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> CLEAN OUT AND REPLUG TARGET FORMATION: <u>Marcellus Shale</u> ESTIMATED DEPTH: <u>18,435'</u> MD		
WELL OPERATOR: <u>HG Energy II Appalachia, LLC</u> DESIGNATED AGENT: <u>Diane C. White</u> ADDRESS: <u>5260 Dupont Road</u> ADDRESS: <u>5260 Dupont Road</u> <u>Parkersburg, WV 26101</u> <u>Parkersburg, WV 26101</u>		



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

1- 0335000

February 21, 2018

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

RE: Drilling Under Roads – AUD7 GHS (47-001-03350)
Philippi District, Barbour County
West Virginia

Dear Ms. Adkins:

HG Energy II Appalachia, LLC, is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to HG's right to drill under Delta Route 8 and US Route 119.

Please be advised that according to the title information we have relied on in submitting this application, the State owns no oil and gas rights under said roads and/or railroads. HG has leased said rights from the appropriate parties as set forth on the accompanying Form WW-6A1.

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

Very truly yours,

Diane C. White

RECEIVED
Office of Oil and Gas

MAR 12 2018

WV Department of
Environmental Protection

WW-6AC
(1/12)

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

Date of Notice Certification: 03/05/2018

API No. 47- 001 - 3350

Operator's Well No. AUD7 GHS

Well Pad Name: AUD7

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>579245.1</u>
County:	<u>Barbour</u>		Northing:	<u>4330694.8</u>
District:	<u>Philippi</u>	Public Road Access:	<u>Delta Rt 8/ US Route 119</u>	
Quadrangle:	<u>Audra</u>	Generally used farm name:	<u>Brian & Lisa Murphy</u>	
Watershed:	<u>Elk 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		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
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY	or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	
<input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY	or <input checked="" 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		
RECEIVED Office of Oil and Gas MAR 12 2018		
WV Department of Environmental Protection		

Required Attachments:

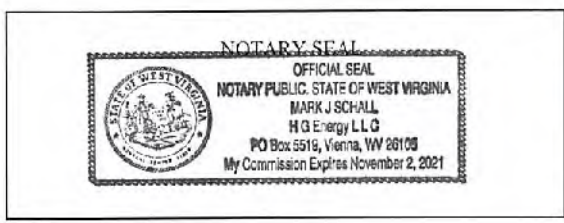
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

WW-6AC
(1/12)

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



Subscribed and sworn before me this 5th day of March, 2018.

Mark J. Schall Notary Public

My Commission Expires 11/2/2021

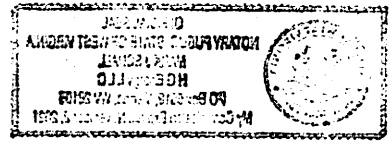
Oil and Gas Privacy Notice:

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

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WW-6A
(9-13)

API NO. 47- 001 - 03350 DD
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

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: 02/27/2018 **Date Permit Application Filed:** 03/09/2018

Notice of:

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

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Office of Oil and Gas

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WV Department of
Environmental Protection

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: Brian E. & Lisa L. Murphy
Address: RR 1, Box 85-B2
Philippi, WV 26416

COAL OWNER OR LESSEE
Name: Kanawha Energy Company
Address: P. O. Box 266
Jullian, WV 25529

Name: _____
Address: _____

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: CONSOL
Address: P. O. Box 1248
Jane Lew, WV 26378

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: ** See Attached List **
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: Brian E. & Lisa L. Murphy
Address: RR 1, Box 85-B2
Philippi, WV 26416

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

POSSIBLE WSW OWNERS WITHIN 1,500' OF:
AUD7 PAD

DISTRICT	TM	PARCEL	OWNER	ADDRESS	STATUS
Philippi	13	9	MURPHY BRIAN E & LISA L	RR 1 BOX 85-B2, PHILIPPI, WV 26416	Declined testing
Philippi	13	8	KNOTT'S TIMOTHY J & REBECCA L	440 TOWNSEND RD, PHILIPPI, WV 26416	Tested
Philippi	13	15-26	JONES RICHARD G & GAYLE E HWS	1086 BUCKHANNON RD, PHILIPPI, WV 26416	Tested
Philippi	13	11	HERBERT GENE F III	541 OLD WESTON RD, BUCKHANNON, WV 26201	Tested
Philippi	13	12	MOORE DUANE E	1386 BUCKHANNON RD, PHILIPPI, WV 26416	Declined testing
Philippi	13	13	MARUCA PATRICIA	13 TOWNSEND RD, PHILIPPI, WV 26416	Declined testing
Philippi	18	2.7	STOUFFER RACHEL R	PO BOX 4074, CLARKSBURG, WV 26302	Declined testing
Philippi	18	2.2	DURST MARTIN GENE & BARBARA JOHWS	89 LILAC LN, PHILIPPI, WV 26416	Declined testing
Philippi	18	2.8	WEINER JESSE D & JESSICA E	113 LILAC LN, PHILIPPI, WV 26416	Declined testing

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WV Department of
Environmental Protection

State of West Virginia

Office of Oil and Gas

WW-6A – Additional Form

Notice of Application

AUD7 Well Pad - AUD7 FHS, GHS, HHS, IHS

List of Surface Owners of Possible Water Wells and/or Water Purveyors

Timothy J & Rebecka L Knotts, 440 Townsend Road, Philippi, WV 26416

Richard G & Gayle E Jones HWS, 1086 Buckhannon Road, Philippi, WV 26416

Gene F Herbert III, 541 Old Weston Road, Buckhannon, WV 26201

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Environmental Protection

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WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 601 - 03350 DD
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

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

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(8-13)

API NO. 47- 001 0335000
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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WV Department of
Environmental Protection

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- ~~001~~ - 03350 DD
OPERATOR WELL NO. AUD7 GHS
Well Pad Name: AUD7

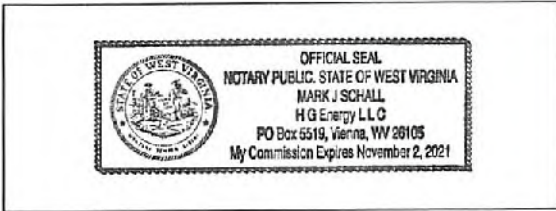
Notice is hereby given by:

Well Operator: HG Energy II Appalachia, LLC
Telephone: 304-420-1119
Email: dwhite@hgenenergyllc.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 27th day of February, 2018.

[Signature] Notary Public

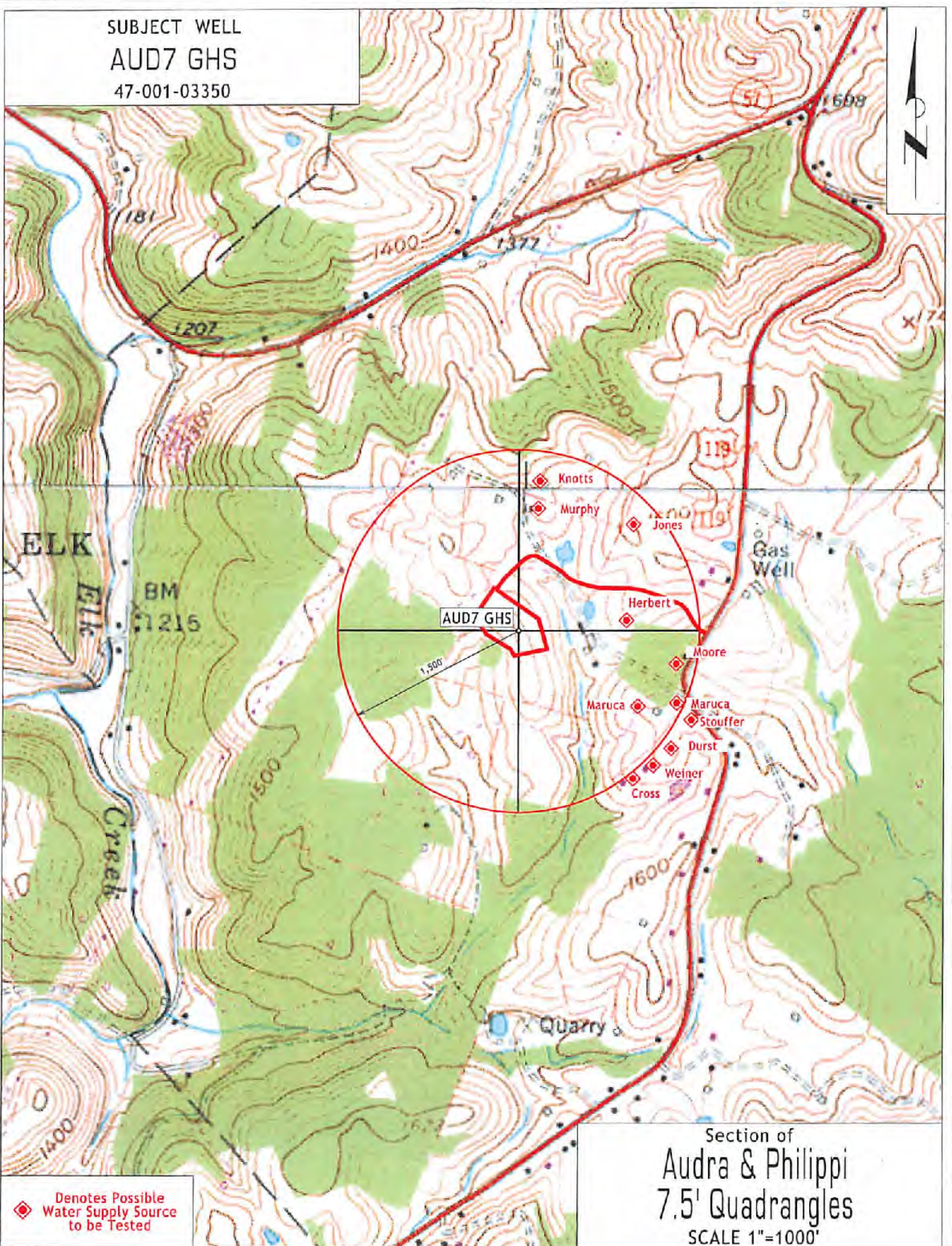
My Commission Expires 11/2/2021

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WV Department of
Environmental Protection

SUBJECT WELL
AUD7 GHS
47-001-03350



AUD7 GHS

◆ Denotes Possible Water Supply Source to be Tested

Section of
Audra & Philippi
7.5' Quadrangles
SCALE 1"=1000'

WW-6A4
(1/12)Operator Well No. AUD7 GHS

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: 10/09/2017

Date Permit Application Filed: 11/09/2017

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MAR 12 2018

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

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

WV Department of
Environmental Protection

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: Brian E. & Lisa L. Murphy
Address: RR 1, Box 85 - B2
Philippi, WV 26416

Name: _____
Address: _____

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>4330694.81</u>
County:	<u>Barbour</u>		Northing:	<u>579245.10</u>
District:	<u>Philippi</u>	Public Road Access:	<u>US 119</u>	
Quadrangle:	<u>Audra</u>	Generally used farm name:	<u>Brian E. & Lisa L. Murphy</u>	
Watershed:	<u>Elk Creek</u>			

This Notice Shall Include:

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

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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

WW-6A5
(1/12)

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: 10/06/2017 **Date Permit Application Filed:** 11/09/2017

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

- CERTIFIED MAIL HAND
- RETURN RECEIPT REQUESTED DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: <u>Brian E. & Lisa L. Murphy</u>	Name: _____
Address: <u>RR 1, Box 85 - B2</u>	Address: _____
<u>Philippi, WV 26416</u>	

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>4330694.81</u>
County: <u>Barbour</u>		Northing: <u>579245.10</u>
District: <u>Philippi</u>	Public Road Access: <u>US 119</u>	
Quadrangle: <u>Audra</u>	Generally used farm name: <u>Brian E. & Lisa L. Murphy</u>	
Watershed: <u>Elk Creek</u>		

This Notice Shall Include:

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

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

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Thomas J. Smith, P. E.
Secretary of Transportation/
Commissioner of Highways

February 27, 2018

Jill M. Newman
Deputy Commissioner

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

Subject: DOH Permits for the AUD 7HS Well Pad, Barbour County

AUD 7FHS

AUD 7GHS

AUD 7HHS

AUD 7IHS

Dear Mr. Martin,

This well site will be accessed from Permit #07-2013-0267 transferred to HG Energy II Appalachia, LLC for access to the State Road for a well site located off of US Route 119 in Barbour County.

The operator has signed a STATE WIDE 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 January 3, 2012.

Very Truly Yours,

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

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

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HG Energy II Appalachia, LLC
List of Frac Additives by Chemical Name and CAS #

AUD7 Well Pad (GHS,FHS,HHS,IHS)

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

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