



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

July 24, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-10303126, issued to AMERICAN ENERGY-MARCELLUS, LLC, 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.



James Martin

Chief

Operator's Well No: HOGE S GRN WZ 6H

Farm Name: STATE OF WV PUBLIC LD CORP

API Well Number: 47-10303126

Permit Type: Horizontal 6A Well

Date Issued: 07/24/2015

Promoting a healthy environment.

07/24/2015

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) and WV DEP Department of Water and Waste Management (DWWM). No activity authorized under this permit shall be commenced until all necessary permits from USACE and DWWM are obtained.
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 fifty (50) 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. 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.
8. 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.
9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

07/24/2015



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Earl Ray Tomblin, Governor
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**ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A**

TO: American Energy Marcellus, LLC
3501 NW 63rd Street
Oklahoma City, OK 73116

DATE: July 24, 2015
ORDER NO.: 2015-W-7

INTRODUCTION

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

FINDINGS OF THE CHIEF

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

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.
2. AEM is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as 3501 NW 63rd Street Oklahoma City, Oklahoma.
3. On June 12, 2015, AEM submitted well work permit applications identified as API#s 47-103-03124, 47-103-03125, 47-103-03126, and 47-103-03127. On June 29, 2015, AEM submitted a well work permit application identified as 47-103-03133. Five proposed wells are to be located on the Hoge GRN WZ Pad in Green District of Wetzel County, West Virginia.
4. On June 12, 2015, AEM requested a waiver for Wetland #3 and Wetland #5 outlined in Exhibit A, from well location restriction requirements in W. Va. Code §22-6A-12(b) for gas well permit applications identified as 47-103-03124, 47-103-03125, 47-103-03126, 47-103-03127 and 47-103-03133 located on the Hoge GRN WZ Pad in Green District of Wetzel County, West Virginia.

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CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that “[i]n addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to... (3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing.”
2. West Virginia Code §22-6A-2(a)(6) requires, in part, that “Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter.”
3. West Virginia Code §22-6A-12(b) requires, in part, that “[n]o well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the Office of Oil and Gas shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The Office of Oil and Gas may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary.”

ORDER

Therefore, the Office of Oil and Gas grants AEM a waiver for Wetland #3 and Wetland #5 from well location restriction requirements in W. Va. Code §22-6A-12(b) for gas well permit applications identified as API#s 47-103-03124, 47-103-03125, 47-103-03126, 47-103-03127, and 47-103-03133 located on the Hoge GRN WZ Pad in Green District of Wetzel County, West Virginia. The Office of Oil and Gas hereby **ORDERS** that AEM shall meet the following site construction and operational requirements for the Hoge GRN WZ well pad:

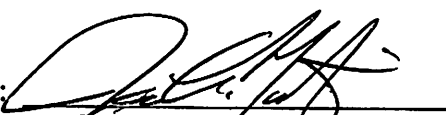
- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least two feet (2') in height;
- b. Filter/silt socks and erosion control blankets shall be installed on all slopes and down gradient locations of the pad and topsoil pile areas as erosion and sediment controlling BMPs;
- c. Wetland #3 and Wetland #5 shall have a 32" compost filter sock and super silt fencing installed adjacent to the wetlands;
- d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
- e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
- f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
- g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
- h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
- i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½") rain within any twenty-four (24) hour period;
- j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
- k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 24th day of July, 2015.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By:


JAMES A. MARTIN, CHIEF

Wetland Waiver Request

API Number 103-03124 Well Number Hoge S GRN WZ 6H
Operator American Energy Marcellus, LLC Pad Name Hoge GRN WZ Well Pad

Submit a conclusive demonstration to justify the proposed activity by addressing the following:

1. Demonstrate that there is not a practical alternative to impact the Waters of the U.S. by including other alternatives that were considered but eliminated.

- a. Include a No-Action Alternative as to show "the future without the project"
- b. Location Alternatives must be shown
- c. Must demonstrate why a 100' buffer cannot be maintained

a. A No-action alternative would result in the in-ability to extract any gas from this unit. The only available area for pad construction would be in the proposed location as shown in the attached drawing. Within this unit boundary there are no other viable pad locations, due to steepness of slope and impacts to waters of the U.S. In essence, the land surface and gas below would be unable to be developed in the Unit Boundary as shown.

b. See Exhibit (b) for overview of elimination of alternatives.

East and West: Pad was unable to be shifted East or West away 100' of the proposed pad location because of impacts to Waters of the U.S. and steep terrain.

North West: Pad was unable to be shifted North West of the proposed pad location without affecting waters of the U.S. because of the steepness of terrain. Refer to Exhibit "A".

South East: Pad was unable to be shifted South East of the proposed location without affecting water of the U.S. because of steepness of terrain. In addition, other areas that are more flat in nature are located on the banks of major watercourses where dwellings are located.

c. Steep terrain and other environmental features prohibit any other location within the area to be utilized. Specifically, an odd shaped pad has been utilized to prevent encroachments into the wetlands themselves and encroachment into the 100' buffer of other wetlands.

Wetland #3 & Wetland #5-> The majority of the well pad proposed above wetland #3 & #5 is in fill. This fill slope results in the encroachment of the 100' buffer. However, shifting the pad away from the wetland #3 & #5 anymore to avoid the 100' setback requirement would result in encroaching into Wetland #2 100' buffer.

2. Show that treatment facilities (Erosion and Sediment Control Features) will be located as close as practical to the source(s) with which it is associated.

Erosion and Sedimentation Controls have been located as close as practicably possible. Erosion & Sediment Control and Site Plan display the location of these controls. These controls are unable to be any closer to the proposed well pad as area is needed to construct the toe benches and fill slopes. This area is already squeezed as tightly as possible for safe construction practices to be met. Exhibits for the wetland shows the location of erosion and sediment controls in relation to the associated wetland.

07/24/2015

Wetland Waiver Request

3. **Demonstrate that all proposed activity will not impact Waters of the U.S. more than is necessary to accommodate the proper construction and operation of the facility.**
 - a. Specify and identify wetlands using unique identification and/or perennial streams located within 100' of the pad's limit of disturbance (including erosion and sediment controls).
 - b. Is the proposed project the least environmentally damaging practicable alternative to the waters of the United States, so long as the alternative does not have other environmental consequences

No proposed activity will impact waters of the U.S.

- a. Three wetlands area located within the 100' of the pad's limit of disturbance.

Wetland #1 is located adjacent to an existing access road and is 0.03 acres or 1,378.8 SF in size. Based on it's location, and long and slender shape this wetland appears to have been created as a result of the previous construction of the adjacent access road. This wetland will be eliminated and a NW-39 permit from ACOE is being obtained.

Wetland #3 is located south of the proposed well pad and below the fill slope. It is 0.05 acres or 2,105.0 SF in size.

Wetland #5 is located southeast of the proposed well pad. It is located overtop an existing access road. Based on it's location, it appears this wetland was most likely created as a result of improper maintainance of this access road. It's 0.29 acres or 12,741.9 SF

- b. Yes, this project avoids being 100' from all perennial streams. In addition, this project completely avoids Wetland #2 which is 1.38 acres 60,149.5 SF. In order to acheive 100' buffer from Wetland #3 & #5 then Wetland #2 would be impacted.

Fill slope heights in this area have been minimized to stay maximum distance away from wetlands.

4. **Provide mapping, plans, specifications and design analysis for the preferred alternative to the project.**
 - a. Specify in writing what additional controls, measures, devices, monitoring, etc will be utilized to protect these wetlands and/or perennial streams.

Erosion and Sediment Control and Site Plan has already been provided. Overviews of these impact areas is attached showing E&S Controls.

Wetland #3

In addition to the Super Silt Fence typically used on sites we have placed 24" compost filter sock in front of the SSF.

A geotechnical inspector will be on-site to insure the recommended construction techniques are followed. An earthen berm is proposed to be placed on the perimeter of the pad. It is 3.3 feet in height with a top width of 2 feet and 2:1 slopes with a base of 15.2 feet.

This provides for more than adequate containment during and after drilling activites. While the distance from the LOD is only 5 feet in the closest area the distance from the fill slope itself is 75.3 feet in its closest spot.

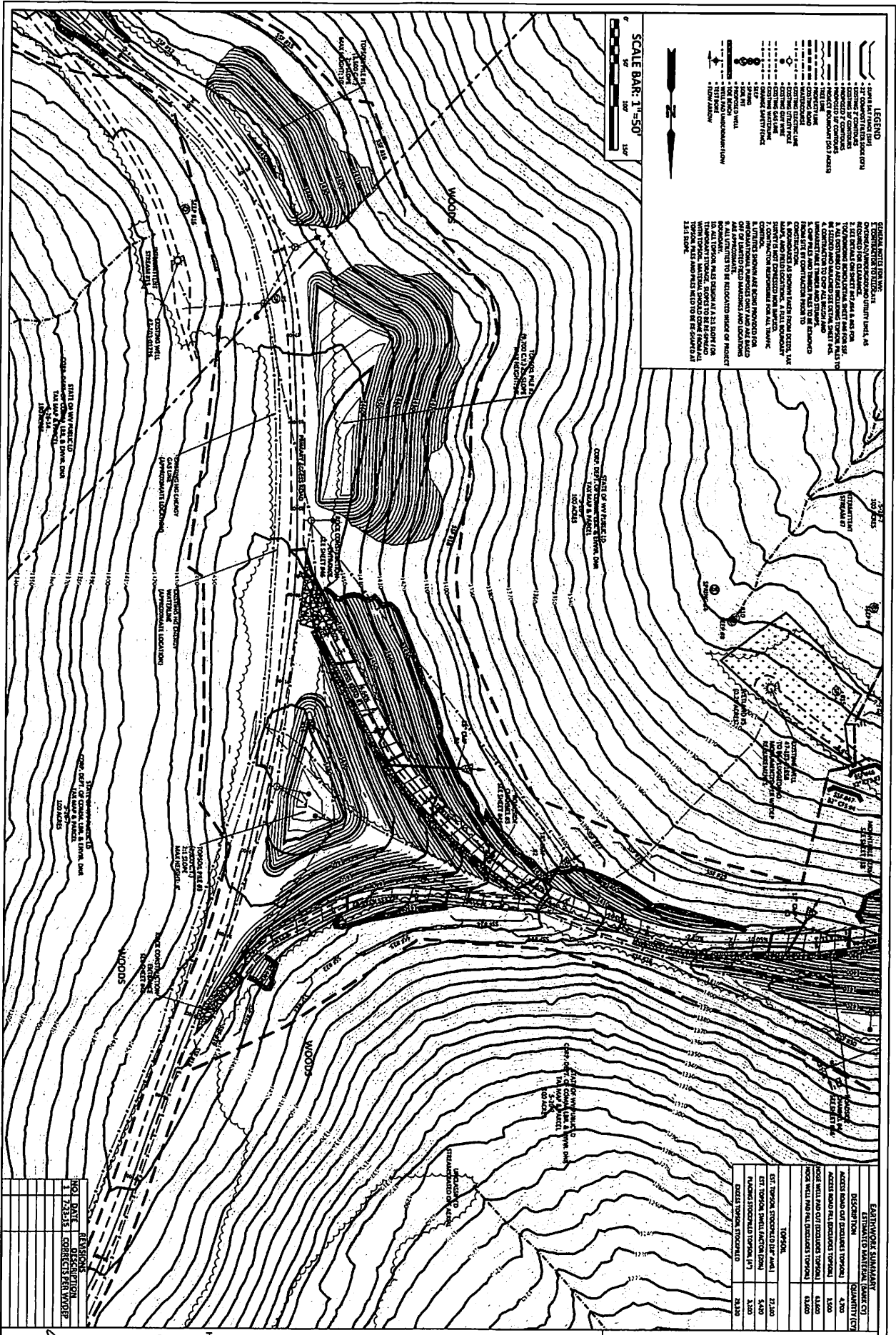
Wetland #5

In addition to the Super Silt Fence typically used on sites we have placed 24" compost filter sock in front of the SSF. While this wetland is within the 100' buffer for the LOD of the Well pad it is not directly below the fill slope of the well pad. It is actually directly below the proposed access road.

A geotechnical inspector will be on-site to insure the recommended construction techniques are followed. An earthen berm is proposed to be placed on the perimeter of the pad. It is 3.3 feet in height with a top width of 2 feet and 2:1 slopes with a base of 15.2 feet.

This provides for more than adequate containment during and after drilling activites. While the distance from the LOD is only 6.5 feet in the closest area the distance from the fill slope itself is 56.7 feet in its closest spot which is not located above the wetland but more towards the side of it.

07/24/2015



NO.	DATE	REVISION
1	1/28/15	CORRECTS PER WADSWORTH
2		
3		

EARTHWORK SUMMARY	
DESCRIPTION	QUANTITY (CY)
ACCESS ROAD CUT EXCLUDING TOPSOIL	4.70
ACCESS ROAD FILL EXCLUDING TOPSOIL	3.00
ROCK WALL AND GUT EXCLUDING TOPSOIL	43.00
ROCK WALL AND GUT EXCLUDING TOPSOIL	53.00
TOTAL	104.70



GREEN & MELROY, INC.
 DISTRICTS
 HIGHLAND & THURMOUNT
 COUNTIES, WV

HOGE GAIN W/IF WELL PAD
 DATE: MAY 2015

E&S CONTROL AND SITE PLAN

THIS DOCUMENT WAS PREPARED BY:
 BOORD, BENCHEK AND ASSOC., INC.
 FOR: AMERICAN ENERGY MARCELLUS, LLC

BOORD, BENCHEK and ASSOC., INC.
 Engineering, Surveying, Construction,
 and Mining Services

Southpointe, PA 15317 Phone: 724-746-1055 **07/24/2015**

WW-6B
(10/14)

API NO. 47- _____ - _____
 OPERATOR WELL NO. Hoge S GRN WZ 6H
 Well Pad Name: Hoge GRN WZ

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

1) Well Operator: American Energy-Marcellus 494510050 Wetzel Green Center Point
 Operator ID County District Quadrangle

2) Operator's Well Number: Hoge S GRN WZ 6H Well Pad Name: Hoge GRN WZ

3) Farm Name/Surface Owner: WV DNR Public Lands Corp Public Road Access: CR 13/8

4) Elevation, current ground: 1380' Elevation, proposed post-construction: 1372.40'

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

(b) If Gas Shallow Deep _____
 Horizontal

6) Existing Pad: Yes or No No

DMH
7-15-15

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Marcellus, Approximate TVD 7352', approximate thickness 50', +/- 4600 psi

8) Proposed Total Vertical Depth: 7352'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 13550'

11) Proposed Horizontal Leg Length: 5811'

12) Approximate Fresh Water Strata Depths: 472'

13) Method to Determine Fresh Water Depths: Based on drilling history in nearby wells

14) Approximate Saltwater Depths: 970'

15) Approximate Coal Seam Depths: 1162'

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

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

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

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JUL 17 2015

Office of Oil and Gas
 WV Dept. of Environmental Protection

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	100'	100'	330, CTS
Fresh Water	13-3/8"	New	J-55	54.5#	600'	600'	320, CTS
Coal							
Intermediate	9-5/8"	New	J-55	40#	3490'	3490'	1650, CTS
Production	5-1/2"	New	P-110	20#	13550'	13550'	4375
Tubing	2-7/8"	New	N-80	4.7#			
Liners							

DMH
7-15-15

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.438	2110	50	Class A	1.2
Fresh Water	13-3/8"	17-1/2"	0.38	2740	600	Class A	1.2
Coal							
Intermediate	9-5/8"	12-1/4"	0.395	3950	1500	Premium H50-50 Poz H	Tail 1.27, Lead 1.51
Production	5-1/2"	8-3/4"	0.361	12640	5000	Premium H50-50 Poz H	Tail 1.27, Lead 1.51
Tubing	2-7/8"	4.778"	0.19	11100			
Liners							

PACKERS

Kind:				<div style="font-size: 2em; opacity: 0.5;">Received</div> <div style="font-size: 1.5em; margin-top: 10px;">JUL 17 2015</div>
Sizes:				
Depths Set:				

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

The well will be spud using a conductor rig. It will drill down 100' per the casing program. It will set 20" casing and circulate cement back to surface. The conductor rig will move off location, a rig capable of drilling to TD will move on and finish drilling the well. We will drill on air with a tri-cone bit to 600' and set freshwater casing. We will then continue drilling vertically and setting casing per the attached casing program to TD.

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

We plan to hydraulically fracture/stimulate the well utilizing the "slickwater" frac technique. We will plug and perforate through cased hole and frac with an anticipated max pressure that will not exceed 10,000 psi.

DRAH
7-15-15

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 50.7

22) Area to be disturbed for well pad only, less access road (acres): 13.6

23) Describe centralizer placement for each casing string:

Conductor: N/A
Surface: Centralizer every 3 joints or 120'
Intermediate: Centralizer every 3 joints or 120'
Production: Run 1 spiral centralizer every 120' from the first 5.5" long joint to the top of the curve
Run 1 spiral centralizer every 200' from the top of the curve to surface

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

Conductor: Class A Cement (see attachment for complete description)
Surface: Class A Cement (see attachment for complete description)
Intermediate: Premium H/50-50 Poz H Cement (see attachment for complete description)
Productions: Premium H/50-50 Poz H Cement (see attachment for complete description)

25) Proposed borehole conditioning procedures:

The wellbore will be properly circulated at TD of each section until as much of the residual drill cuttings have been removed from the wellbore as possible, residual drilling gas has been circulated out and until the mud and wellbore are both constant and stable. Mud properties will be adjusted if needed. Hole cleaning times may vary from well to well, hole section to hole section.

*Note: Attach additional sheets as needed.

47 1 0 3 0 3 1 2 6

Cement Additives for WW-6B

Class A – Neat + 2% BWOC Calcium + Chloride + .25% BWOC Flo-Seal Additives are Polyflake LCM

Class H Premium + 0.75% FI 17 + 0.1% C41P + 0.15% C45 + 3pps gilsonite + 0.2% C20 Additives are FL-17, C41-P, C-45, Gilsoite, and C-20

50/50 Poz H + 0.5 %FL 17 +5% Gyp + 0.1% C41P + 0.15% C51 + 0.1% C20 Additives are FL-17, Gypsum, C41-P, C-51, and C-20

**RECEIVED
Office of Oil and Gas**

JUN 12 2015

**WV Department of
Environmental Protection**

07/24/2015

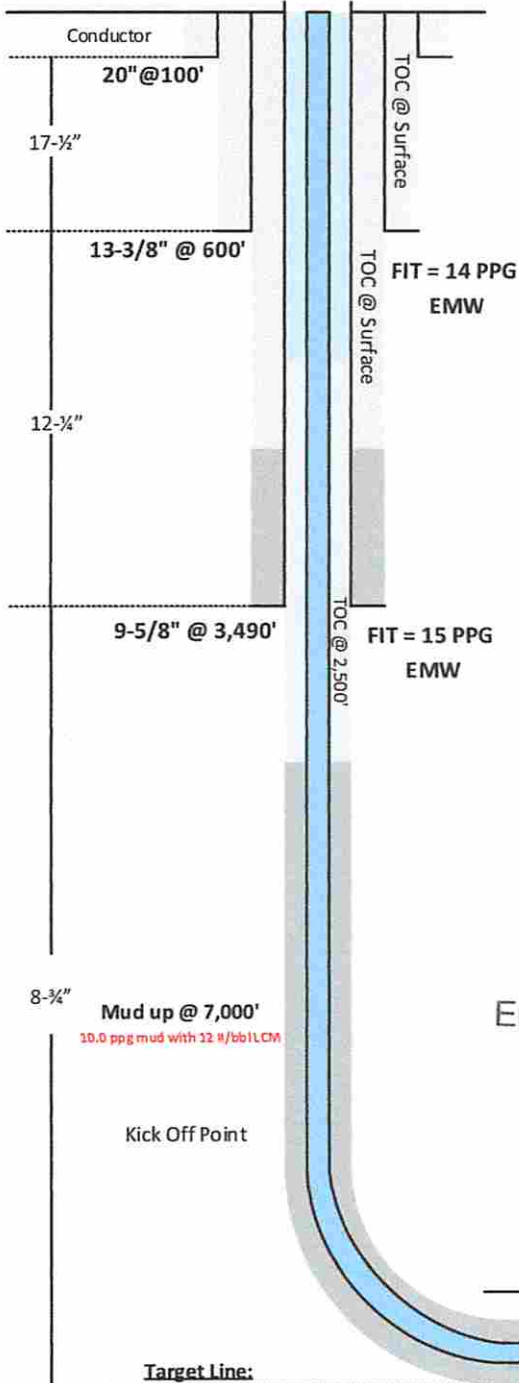
10303126



AMERICAN ENERGY APPALACHIA

Hoge S GRN WZ 6H

County, State:	Township:	Location:	Formation:
Wetzel, West Virginia	Grant		Marcellus
Coordinates:	SHL Lat/Long: 39.479724 N, 80.696407 W		RKB / Elevation:
NAD 27	BHL Lat/Long:		AFE DC/CWC:
Rig:	Target Line:	7,352' TVD @ 0° VS, 89.6° Inc, 150° Azi	472'
			Property #:
			AFE #:



Interval	Hole size (in)	Size (in)	Weight #/ft	Grade	Conn.	Collapse (PSI)	Burst (PSI)	Depth (ft)	Cost \$/ft
Conductor	25"	20"	-	-	-	-	-	100	-
Surface	17-1/2"	13-3/8"	54.5	J-55	BTC	1,130	2,740	600	36
Intermediate	12-1/4"	9-5/8"	36	J-55	LTC	2,020	3,520	3,490	22
Production	8-3/4"	5-1/2"	20	P-110	ULT-DQX	11,110	12,640	13,550	22

Interval	Slurry	Weight	Ft ³	Yield	Excess	Cement Top
Conductor	Tall	15.6 ppg	330	1.20 cuft/sk	50%	Surface
	Lead	15.6 ppg	320	1.20 cuft/sk	50%	Surface
Surface	Tall	15.6 ppg	320	1.20 cuft/sk	50%	Surface
	Lead	13.5 ppg	250	1.51 cuft/sk	30%	Surface
Intermediate	Tall	15.3 ppg	1150	1.27 cuft/sk	30%	700
	Lead	13.5 ppg	1000	1.51 cuft/sk	10%	2500
Production	Tall	15.3 ppg	1300	1.27 cuft/sk	10%	6300
	Lead	13.5 ppg	1000	1.51 cuft/sk	10%	2500

Formation	TVD	Sub Sea
Freshwater	472	900'
Saltwater	970	402'
Pittsburgh Coal	1162	210'
BigInjun	2447	-1,075'
BigInjun Base	2647	-1,275'
Berea	3019	-1,647'
Gordon	3225	-1,853'
Gordon Base	3291	-1,919'
Middlesex	7062	-5,690'
Genesee	7200	-5,828'
Tully	7228	-5,856'
Hamilton	7251	-5,879'
Marcellus	7322	-5,950'
Purcell	7337	-5,965'
Lower Marcellus	7339	-5,967'
Basal Marcellus	7350	-5,978'
Onondaga	7372	-6,000'

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8-3/4" Curve and Lateral | 5-1/2" Casing @ 13,550'

Target Line:
7,352' TVD @ 0° VS, 89.6° Inc, 150° Azi

AIR INTERVALS					SYNTHETIC OIL BASED MUD INTERVAL									
Interval	Depth (MD)	Rate (cfpm)	Water (bbl/hr)	Foamer (gal/hr)	Interval	Depth (MD)	Weight (#/gal)	Viscosity (sec/qt)	HTHP (ml/30min)	PV (cps)	YP (#/100 ft ²)	6 RPM	WPS ppm	OWR % by vol
Surface	0' - 600'	>5000	30-50	1/2 - 3/4	Curve	6,789' - 7,689'	10.5 - 13.5	50 - 60	4 - 6	18 - 24	10 - 12	6-9	150K -	75-25 -
Intermediate	600' - 3490'	>5000	30-50	1/2 - 3/4	Lateral	7,689' - 13,550'	13.5 - 13.7	50 - 60	4 - 6	18 - 24	10 - 12	6-9	180K	70-30
Vent/Nudge	3,490' - 6,789'	>5000	40-60	3/4 - 1										

07/24/2015

WW-9
(9/13)

10 303 126

API Number 47 - _____
Operator's Well No. Hoge S GRN WZ 6H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name American Energy - Marcellus, LLC OP Code 4945100500

Watershed (HUC 10) Fishing Creek Quadrangle Center Point

Elevation 1380' County Wetzel District Green

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: Closed loop system no pits will be used

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 see attached sheet titled UIC Wells and Landfills)
- Reuse (at API Number next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

*DMH
7-15-15*

Will closed loop system be used? If so, describe: yes; see attached sheet titled Closed loop typical description

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

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

Additives to be used in drilling medium? see attached sheet titled drilling additives

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

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

-Landfill or offsite name/permit number? see attached sheet titled UIC Wells and Landfills

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 [Signature] JUL 17 2015

Company Official (Typed Name) American Energy - Marcellus, LLC

Company Official Title Regulatory Technician

Office of Oil and Gas
WV Dept. of Environmental Protection

Subscribed and sworn before me this 10 day of July, 20 15

[Signature] Notary Public

My commission expires 1/23/18



07/24/2015

10303126

Form WW-9

Operator's Well No. Hoge S GRN WZ 6H

American Energy - Marcellus, LLC

Proposed Revegetation Treatment: Acres Disturbed _____ Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch minimum of 2-3 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
<u>See attached</u>		<u>See attached</u>	

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

Received

JUL 17 2015

Title: Oil + Gas Inspector

Date: 7-15-15

Office of Oil and Gas
WV Dept. of Environmental Protection

Field Reviewed? Yes No

07/24/2015

Temporary and Permanent Seed Mix

250 lbs. /acre

Mix Details

Medium red clover	4%
Alsike clover	4%
Birds foot trefoil	5%
Forage tall fescue	45%
Forage perineal rye	20%
Annual rye	11%
Winter wheat	10%

Straw

Winter – 3 ton per acre

Summer – 2 ton per acre

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7-15-15

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Office of Oil and Gas
WV Dept. of Environmental Protection

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UIC WELLS and Landfills

<u>Disposal Location</u>	<u>Type</u>	<u>Permit No.</u>
Wetzel County Landfill –	Landfill	SWF-1021/WV010985
Short Creek Landfill –	Landfill	SWP-1034/WV0109517
Brooke County –	Landfill	SWF-1013/WV0109029
Kemble -	UIC Well	34-119-2-8780-00-00
Elkhead-	UIC Well	34-157-2-5511-00-00
Kent Injection Well	UIC Well	34-119-2-7350-00-00
Moran Well	UIC Well	34-089-2-4412-00-00

Closed Loop Typical Description

A series of storage tanks that separate liquids and solids along with screen shakers, hydro cyclones, centrifuges and collection equipment (e.g., vacuum trucks, shale barges) may be on site. The wastes created are minimized and transferred off-site for disposal.

Drilling Additives

Air mist system additives are commonly; Drilling Foam, Drilling Soap, and occasionally Shale Stabilizer (KCl).

Synthetic Oil Based Additives

The base oil is the main ingredient, and it will run approx. 70% of the fluid volume, water will make up about 25%, the remaining 5% by volume will include a mixture of the following:

ANCO Gel

Cottonseed Hulls	Base Oil	Anco Thunder Plug
D294	Anco Mud Mod	Calcium Carbonate M
Anco Bar	Anco Mul OW	Cedar Fiber
Clayton	Anco Mul P	LCF Blend
Lime	Anco Mul S	Walnut Shell Med
Calcium Chloride	Anco Mul Thin	Anco Drill A
Anco Trol		

DMH
7-15-15

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JUL 17 2015

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WV Dept. of Environmental Protection

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Closed Loop Typical Description

A series of storage tanks that separate liquids and solids along with screen shakers, hydro cyclones, centrifuges and collection equipment (e.g., vacuum trucks, shale barges) may be on site. The wastes created are minimized and transferred off-site for disposal.

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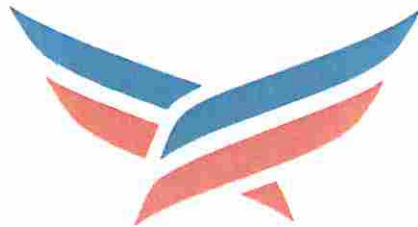
WV Department of
Environmental Protection

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10303126

Hoge N GRN WZ 1H, 3H, 5H, 7H & 9H

Hoge S GRN WZ 2H, 4H, 6H, 8H & 10H Site Safety Plan



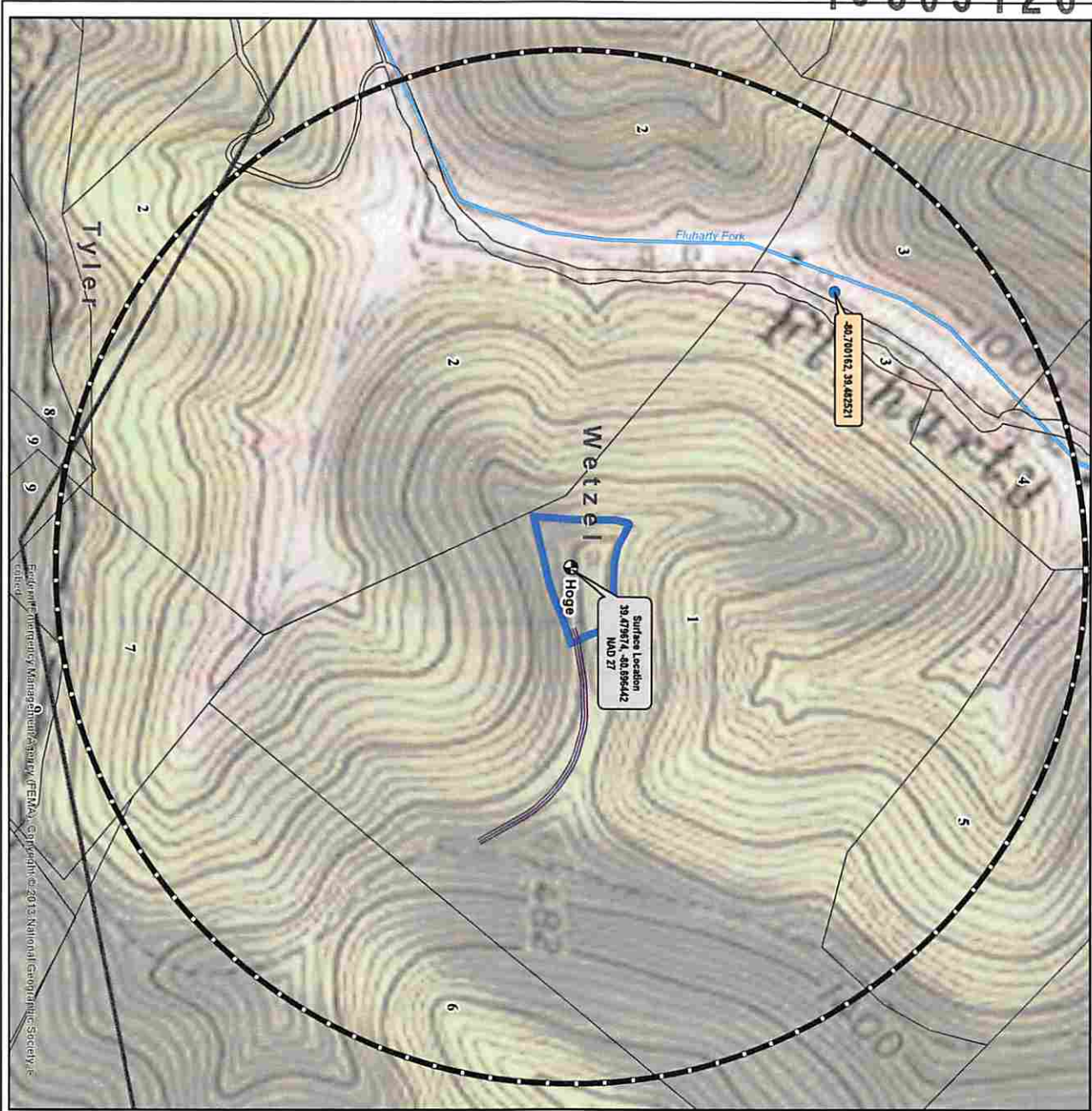
AMERICAN ENERGY
MARCELLUS

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WV Dept. of Environmental Protection

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Department of Environmental Protection

PROPERTY DATA	
PARCEL ID	OWNER
01 200070000	STATE WATER PUBLIC (OIL AND GAS) OF OHIO INC & AFF
01 200110000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES
01 200120000	YELLOW HOUSE SPORTSMAN CLUB
01 200130000	RECREATION
01 200140000	WEST VIRGINIA DIVISION OF NATURAL RESOURCES
01 200150000	STATE OF OHIO PUBLIC (OIL AND GAS) OF OHIO INC & AFF
01 200160000	CONCRETE LUMBER COMPANY
01 200170000	WETZEL COUNTY HISTORICAL
01 200180000	WETZEL TOWN & COUNCIL SERVICES

WEST VIRGINIA REGISTERED WATER WELL LOGS*			
WELL ID	PARCEL #	ORIGINAL OWNER	ADDRESS
3	01-25-11	Yellow House Sportsman Club	1522 MAIN ST WHEELING, WV 26070
4	01-25-07	Richard Hinderford	P.O. Box 23 Clanton, OH 43915

WELL NAME: HOGE S GRN WZ 6H
QUAD: CENTER POINT, WV

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Office of Oil and Gas
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Environmental Protection

G R E E N

HOGE S GRN WZ 6H
ELEVATION: 1,380'

Gas Well

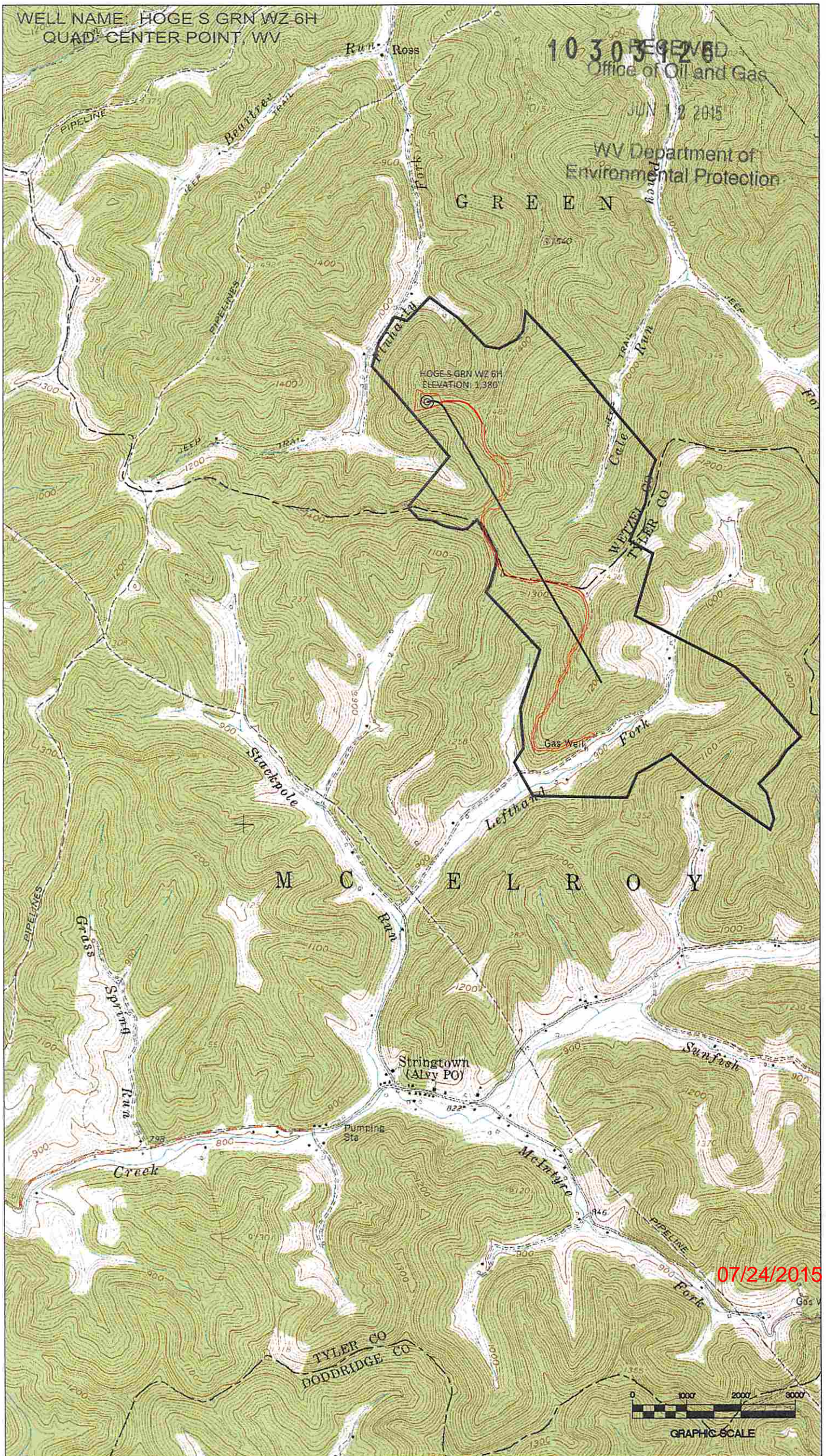
M C E L R O Y

Stringtown
(ALVY PO)

Pumping
Sta

07/24/2015

TYLER CO
DODDRIDGE CO

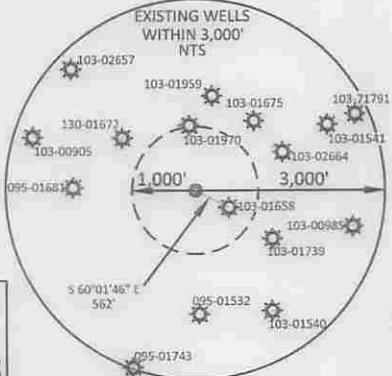
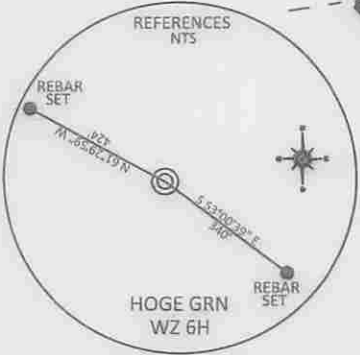
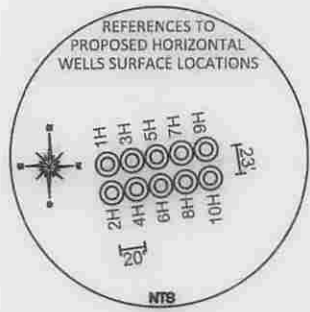


SURFACE HOLE DEC. LONG: 80.696407
 SURVEYED LONG: 80° 41' 47.1"

Latitude: 39° 30' 00" (NAD27)

Longitude: 80° 40' 00" (NAD27)

TOP HOLE (UTM NAD 83)
 N) 4370067.3
 E) 526125.4
 BOTTOM HOLE (UTM NAD 83)
 N) 4368518.2
 E) 527134.7

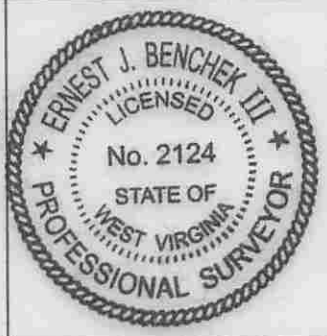


REFERENCE NOTES
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Wetzel County, West Virginia JANUARY 2015
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: EAM

NO DWELLINGS FOUND WITHIN 650' OF THE CENTER OF THE WELL PAD
 NO WATER WELLS FOUND WITHIN 250' OF THE CENTER OF WELL PAD

FILE #: AE004
 DRAWING #: 2516
 SCALE: PLAT - 1" = 1400'
 TICK MARK - 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 Signed:
 L.L.S. #2124: Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow
 WATERSHED: FISHING CREEK
 COUNTY/DISTRICT: WETZEL / GREEN
 SURFACE OWNER: STATE OF WV PUBLIC LD CORP. DEPT. OF COMM. LBR & ENVIR. DNR
 OIL & GAS ROYALTY OWNER: STATE OF WV PUBLIC LD CORP. DEPT. OF COMM. LBR & ENVIR. DNR
 LEASE NUMBERS:

DATE: MAY 19, 2015
 OPERATOR'S WELL #: HOGE S GRN WZ 6H
 API WELL #: 47 103 03126 H6A
 STATE COUNTY PERMIT
 ELEVATION: 1,380' = Current
 1,372.40' = Proposed
 QUADRANGLE: CENTER POINT, WV
 ACREAGE: 100.00 +/-
 713.31 +/-

07/24/2015

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):
 TARGET FORMATION: MARCELLUS
 ESTIMATED DEPTH: TVD: 7,352' TMD: 13,550'
 WELL OPERATOR: American Energy - Marcellus LLC
 DESIGNATED AGENT: Eric B. Gillespie
 ADDRESS: 3501 NW 63rd Street
 ADDRESS: 103 Taryn Lane
 CITY: Oklahoma City STATE: OK ZIP CODE: 73116
 CITY: Cross Lanes STATE: WV ZIP CODE: 25313

10303126

WW-6A1
(5/13)

Operator's Well No. Hoge S GRN WZ 6H

**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
----------------------	-----------------------	-----------------------	---------	-----------

Please see attached.

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Office of Oil and Gas

JUN 12 2015


WV Department of
Environmental Protection

**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: American Energy - Marcellus, LLC
 By: 
 Its: Regulatory Technician

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-
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 (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:

American Energy - Marcellus, LLC is the record title owner of the leases identified herein. Listed below each lease is the applicable chain of title by which American Energy - Marcellus, LLC was vested with title thereto. Please note, throughout the chain of title, various mergers and name changes occurred between the referenced companies. In several instances, no documentation was filed in the county records evidencing such a merger or name change. In those cases, we've directed your attention to the records of the West Virginia Secretary of State, where said documentation can be found.

Tax Map & Parcel	Fee/Lease No.	Lessor/Assignor	Lessee/Assignee	Royalty/Instrument	Book/Page
05-26-07	15687-50 ✓	M. H. Penick and C. C. Penick South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	47/214 33A/455 215/478 WV Sec. of State records 246/491 WV Sec. of State records 319/397 & 322/577 363/384 12/177 12/278 370/580 118A/253 153A/238
05-26-14	15548-50 ✓	F. L. Hoge South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	47/26 33A/455 215/478 WV Sec. of State records 246/491 WV Sec. of State records 319/397 & 322/577 363/384 12/177 12/278 370/580 118A/253 153A/238
05-26-13	57196-00 ✓	Kernit McIntyre et al Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	67A/87 319/397 & 322/577 363/384 12/177 12/278 370/580 118A/253 153A/238
05-08-09	12958-50 ✓	A. D. Lemasters and Mary Lemasters, husband and wife South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	231/00 114/16 151/516 WV Sec. of State records 178/221 WV Sec. of State records 265/258 & 269/417 325/178 8/516 8/576 332/146 370/480 451/404
05-08-10.1	12958-50 ✓	A. D. Lemasters and Mary Lemasters, husband and wife South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	231/00 114/16 151/516 WV Sec. of State records 178/221 WV Sec. of State records 265/258 & 269/417 325/178 8/516 8/576 332/146 370/480 451/404
05-08-22	12958-50 ✓	A. D. Lemasters and Mary Lemasters, husband and wife South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	231/00 114/16 151/516 WV Sec. of State records 178/221 WV Sec. of State records 265/258 & 269/417 325/178 8/516 8/576 332/146 370/480 451/404
05-08-23	77811-50 ✓	S. P. Lemasters South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. East Resources, Inc. and HG Energy, LLC	South Penn Oil Company South Penn Natural Gas Company South Penn Oil Company Pennzoll Company Pennzoll United, Inc. Pennzoll Company Pennzoll Products Company Pennzoll Exploration and Production Company PennzEnergy Exploration and Production, L.L.C. Devon Energy Production Company, L.P. East Resources, Inc. HG Energy, LLC American Energy - Marcellus, LLC	1/8 Assignment Assignment Cert. of Name Change Assignment Cert. of Name Change Assn. & Supp. Assn. Assignment Cert. of Merger Cert. of Merger Assignment Assignment	98/587 114/16 151/516 WV Sec. of State records 178/221 WV Sec. of State records 265/258 & 269/417 325/178 8/516 8/576 332/146 370/480 451/404

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WV Department of
Environmental Protection

07/24/2015



AMERICAN ENERGY
UTICA

March 31, 2015

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JUN 12 2015
WV Department of
Environmental Protection

West Virginia Department of Environmental Protection
Chief, Office of Oil & Gas
Attn: Mr. James Martin
601 57th Street
Charleston, West Virginia 25304

Re: Application for a Permit to Drill
Hoge S GRN WZ 6H

Dear Mr. Martin,

American Energy – Marcellus, LLC has the right to drill, extract and produce the minerals from any roads crossed by the proposed laterals for the Hoge S GRN WZ 6H well by virtue of the lease identified on page WW-6A1 of the accompanying permit application.

No action on your part is required. If you have any questions or concerns, please feel free to contact me.

Best Regards,

Ariel Bravo
Regulatory Technician
ariel.bravo@aep-lp.com
Cell 405-403-4803
Office 405-607-5529

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Office of Oil and Gas

JUN 12 2015

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WV Department of Environmental Protection
NOTICE CERTIFICATION

10303126

Date of Notice Certification: 06/02/2015

API No. 47- _____
Operator's Well No. Hoge S GRN WZ 6H
Well Pad Name: Hoge GRN WZ

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>526125.3</u>
County: <u>Wetzel</u>	Northing: <u>4370067.3</u>
District: <u>Green</u>	Public Road Access: <u>County Route 13/8</u>
Quadrangle: <u>Center Point</u>	Generally used farm name: _____
Watershed: <u>Fishing 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.

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input checked="" type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

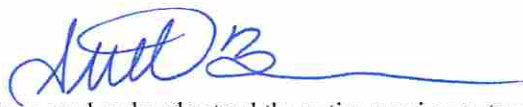
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

JUN 12 2015

WV Department of Environmental Protection

07/24/2015

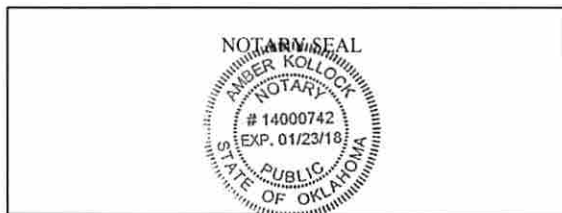
Certification of Notice is hereby given:



THEREFORE, I Ariel Bravo, 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: American Energy - Marcellus, LLC
By: Ariel Bravo
Its: Regulatory Technician
Telephone: 405-607-5529

Address: 301 NW 63rd, Suite 600
Oklahoma City, OK 73105
Facsimile: 405-607-5868
Email: ariel.bravo@aep-lp.com



Subscribed and sworn before me this 6 day of April, 2015.

Amber Kollock Notary Public

My Commission Expires 01/23/2018

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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WV Department of
Environmental Protection

WW-6A
(9-13)

10303126
API NO. 47-
OPERATOR WELL NO. Hoge S GRZ WZ 6H
Well Pad Name: Hoge GRN WZ

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: 06/02/2015 Date Permit Application Filed: 6/2/15

Notice of:

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

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

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

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WV Department of
Environmental Protection

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: Please see attached
Address: _____

Name: _____
Address: _____

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

Name: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Please see attached
Address: _____

COAL OPERATOR

Name: _____
Address: _____

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

Name: Please see attached
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

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WW-6A
(8-13)

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Office of Oil and Gas

API NO. 47- _____ - _____
OPERATOR WELL NO. Hoge S GRN WZ 6H
Well Pad Name: Hoge GRN WZ

JUN 12 2015

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.

WV Department of
Environmental Protection

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)

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10303126
API NO. 47- -
OPERATOR WELL NO. Hoge S GRN WZ 6H
Well Pad Name: Hoge GRN WZ

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.

WV Department of
Environmental Protection

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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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.**

07/24/2015

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

07/24/2015

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(8-13)

10303126
API NO. 47- _____
OPERATOR WELL NO. Hoge S GRN WZ 6H
Well Pad Name: Hoge GRN WZ



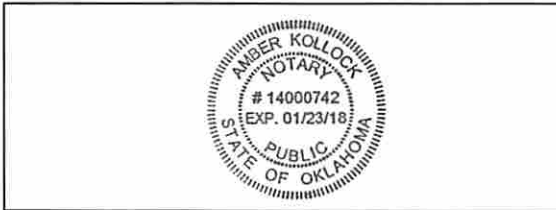
Notice is hereby given by:

Well Operator: American Energy - Marcellus, LLC
Telephone: 405-607-5529
Email: ariel.bravo@aep-lp.com


Address: 301 NW 63rd, Suite 600
Oklahoma City, OK 73116
Facsimile: 405-607-5868

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 6 day of April, 2015.

 Notary Public

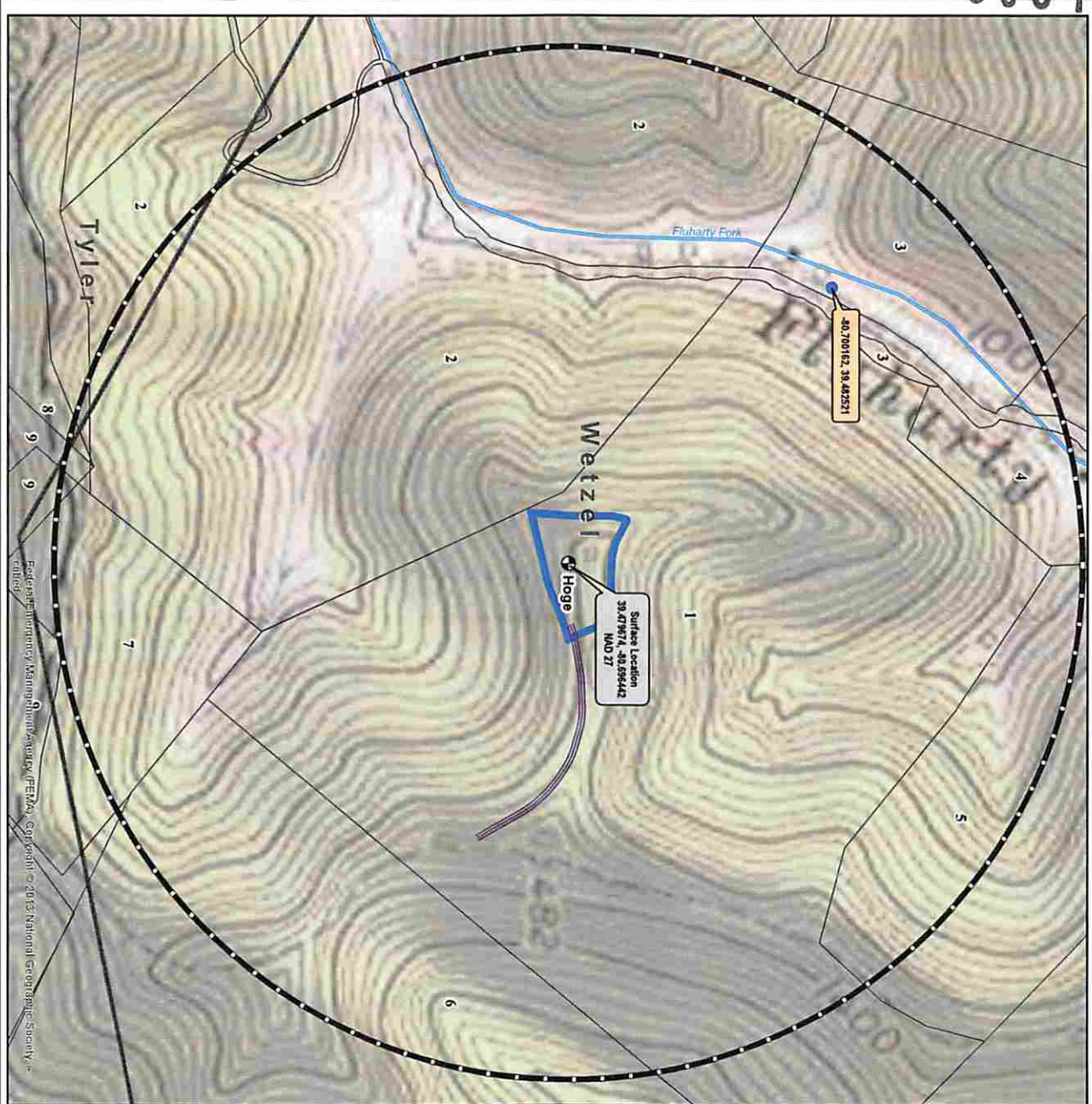
My Commission Expires 01/23/2018

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- Water Well Location WV
- Well Surface Location
- Hoge Road and Pad 3 NA027
- Hoge Road and Pad 5 NA027
- AEM Listing Radius (2000')
- Wetzel County Parcel Line
- Tyler County Parcel Line
- WV Easement Lines
- Straddles
- 100 Year Flood Zones

WEST VIRGINIA REGISTERED WATER WELLS*			
WELL ID	PARCEL #	ORIGINAL OWNER	ADDRESS
3	05-25-11	Wilcox Mutual Sportsman Club	1522 North St. Wells of West VA Chapman, OH 43915
4	05-25-07	Richard Hunsicker	3948354 -80.597558 Chapman, OH 43915

PROPERTY DATA			
PARCEL ID	PARCEL NO.	OWNER	OWNER ADDRESS
1	05 2000770000	STATE OF WV PUBLIC CO CORP & PART OF CONRAD RR & N	PAID RR
2	05 2000170000	WEST VIRGINIA DIVISION OF & NATURAL RESOURCES	PAID RR
3	05 2100180000	WILSON MUTUAL SPORTSMAN CLUB INC	MOON TOWN
4	05 2100070000	REC-AND-RECREATION	MOON TOWN
5	05 2000000000	WV STATE OF CONSUMERS MATERIALS OR NATL RESOURCES IN	MOON TOWN
6	05 2000180000	STATE OF WV PUBLIC CO CORP & PART OF CONRAD RR & N	MOON TOWN
7	05 2000180000	CONRAD LUMBER COMPANY	MOON TOWN
8	05 2000180000	WILSON MUTUAL SPORTSMAN CLUB INC	MOON TOWN
9	05 2000000000	WEST VIRGINIA STATE OF CONSUMERS MATERIALS OR NATL RESOURCES IN	MOON TOWN

10303126

WW-6A Notice of Application
Hoge N MCY TY 1H, 3H, 5H, 7H and 9H
Hoge S MCY TY 2H, 4H, 6H, 8H and 10H

Surface Ownership				
Name	Address	City	ST	ZIP
Coastal Lumber Company Coast Forest Resources Co.	PO Box 709	Buckhannon	WV	26201
James & Betty McCoy	HC 62 BOX 80C	Jacksonburg	WV	26377
State of WV Public Land Corp. Dept. Of Comm. LBR. & Envir. DNR	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301
WV Dept. of Natural Resources Commerce Division	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301

Coal Ownership				
Name	Address	City	ST	ZIP
Helen M. Dallison	28907 Shortline Hwy	Folsom	WV	26348
The State of West Virginia, Public Land Corporation, for the use and benefit of the Department of Commerce, Labor and Environmental Resources, Division of Natural Resources	Capitol Complex, Bldg 6, Room 525	Charleston	WV	25301

Water Ownership				
Name	Address	City	ST	ZIP
Richard Heimbrod	PO Box 25	Clarington	OH	43915
Russel, Paul & Carol Stackpole	PO Box 423 Dodd St	Middlebourne	WV	26149
Coastal Forest Resources	PO Box 709	Buckhannon	WV	26201
William Carl Thompson	3412 S. Weymouth Road	Medina	OH	44256
WV Division of Natural Resources	324 4th Ave	S. Charleston	WV	25303
Yellow House Sportsman Club	1522 Main St	Wellsburg	WV	26070

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

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

Date of Notice: 3/5/2015 Date of Planned Entry: 3/16/2015

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: Please see attached.
Address: _____
Name: _____
Address: _____
Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: Please see attached.
Address: _____

MINERAL OWNER(s)

Name: Please see attached.
Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia Approx. Latitude & Longitude: N 4370063.7/E 526119.3
County: Welzel Public Road Access: CR 13/8
District: Green Watershed: Fishing Creek
Quadrangle: Center Point Generally used farm name: _____

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

Notice is hereby given by:

Well Operator: American Energy - Marcellus, LLC Address: 301 NW 63rd, Suite 600
Telephone: 405-607-5529 Oklahoma City, OK 73116
Email: ariel.bravo@aep-lp.com Facsimile: 405-607-5868

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-6A3 Notice of Entry for Plat Survey Ownership List				
Hoge N MCY TY 1H, 3H, 5H, 7H and 9H				
Hoge S MCY TY 2H, 4H, 6H, 8H and 10H				
Surface Ownership				
Name	Address	City	ST	ZIP
Coastal Lumber Company Coast Forest Resources Co.	P.O. BOX 709	Buckhannon	WV	26201
James & Betty McCoy	HC 62 BOX 80C	Jacksonburg	WV	26377
State of WV Public Land Corp. Dept. Of Comm. LBR. & Envir. DNR	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301
WV Dept. of Natural Resources Commerce Division	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301
Coal Ownership				
Name	Address	City	ST	ZIP
Helen M. Dallison	28907 Shortline Hwy	Folsom	WV	26348
The State of West Virginia, Public Land Corporation, for the use and benefit of the Department of Commerce, Labor and Environmental Resources, Division of Natural Resources	Capitol Complex, Bldg 6, Room 525	Charleston	WV	25301
Mineral Ownership				
Name	Address	City	ST	ZIP
Brian M. Weigle	4789 Middle Island Rd.	Middlesbourne	WV	26149
Donald L. McCoy	1290 Left Hand Fork Rd	Jacksonburg	WV	26377
Douglas Broome	HC 62 Box 80B	Glenville	WV	26351
Ed Broome, Inc.	P.O. Box 186	GLENVILLE	WV	26351
Garnet Gas Corporation	4622 WV HWY 5 E	GLENVILLE	WV	26351
George Lee Lemasters c/o Kathy Weigle Seago	P.O. Box 133	Creston	WV	26141
Grace Stackpole	444 Richardsonville Rd	Middlesbourne	WV	26149
Helen M. Dallison	1018 Frew Dr.	Middlesbourne	WV	26149
John S. Knight	28907 Shortline Hwy	Folsom	WV	26348
Kathy Ann Seago	1688 Hillside Terrace	Akron	OH	44305
Linda Coen	1018 Frew Dr.	Middlesbourne	WV	26149
Mark and Melinda Talkington	PO Box 392	Beech Bottom	WV	26030
Mary F. Mutschelknaus	1210 Lefthand Fork Road	Jacksonburg	WV	26377
Richard Heimbrod	P.O. Box 351	Salem	WV	26426
Ridgewood Development, LLC	PO Box 25	Clarington	OH	43915
Russell P. Stackpole	955 Bull Creek Rd.	Waverly	WV	26184
Sandra Brown	PO BOX 423	Middlesbourne	WV	26149
Steven C. Weigle, II	422 Dodd Street	Middlesbourne	WV	26149
The State of West Virginia, Public Land Corporation, for the use and benefit of the Department of Commerce, Labor and Environmental Resources, Division of Natural Resources	7688 S. Union Road	Miamisburg	OH	45342
Waco Oil & Gas Co., Inc.	6473 Middle Island Rd	Middlesbourne	WV	26149
William M. Stackpole	Capitol Complex, Bldg 6, Room 525	Charleston	WV	25301
William Russell Lemasters c/o Kathy Weigle Seago	P.O. Box 397	Glenville	WV	26351
Yellow House Sportsman Club	1819 Maxwell AVE	Parkersburg	WV	26101
	1018 Frew Dr.	Middlesbourne	WV	26149
	1522 Main Street	Wellsburg	WV	26070

RECEIVED
Office of Oil and Gas
JUN 12 2015
WV Department of
Environmental Protection

07/24/2015

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

RECEIVED
Office of Oil and Gas

JUN 12 2015

WV Department of
Environmental Protection

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.
Date of Notice: 06/02/2015 **Date Permit Application Filed:** 6/2/15

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

- CERTIFIED MAIL RETURN RECEIPT REQUESTED
- HAND DELIVERY

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

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

Name: <u>Please see attached.</u>	Name: _____
Address: _____	Address: _____
_____	_____

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	Eastings: <u>526119.3</u>
County: <u>Wetzel</u>		Northing: <u>4370063.7</u>
District: <u>Green</u>	Public Road Access: <u>CR 13/8</u>	
Quadrangle: <u>Center Point</u>	Generally used farm name: _____	
Watershed: <u>Fishing 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>American Energy - Marcellus</u>	Address: <u>301 NW 63rd, Suite 600</u>
Telephone: <u>405-607-5529</u>	<u>Oklahoma City, OK 73116</u>
Email: <u>ariel.bravo@aep-lp.com</u>	Facsimile: <u>405-607-5868</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.

10303126

WW-6A5 Notice of Planned Operations
Hoge N MCY TY 1H, 3H, 5H, 7H and 9H
Hoge S MCY TY 2H, 4H, 6H, 8H and 10H

Surface Ownership				
Name	Address	City	ST	ZIP
Coastal Lumber Company Coast Forest Resources Co.	P.O. BOX 979 701	Buckhannon	WV	26201
James & Betty McCoy	HC 62 BOX 80C	Jacksonburg	WV	26377
State of WV Public Land Corp. Dept. Of Comm. LBR. & Envir. DNR	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301
WV Dept. of Natural Resources Commerce Division	Capitol Complex, Bldg. 6, Room 525	Charleston	WV	25301

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Office of Oil and Gas

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WV Department of
Environmental Protection

07/24/2015

10303126

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Office of Oil and Gas

JUN 12 2015



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION WV Department of
Division of Highways Environmental Protection

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

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

February 17, 2015

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

Subject: DOH Permit for the site Hoge South (503) Pad, Tyler County

Hoge S GRN WZ 2H
Hoge S GRN WZ 8H

Hoge S GRN WZ 4H
Hoge S GRN WZ 10H

Hoge S GRN WZ 6H

Dear Mr. Martin,

This well site will be accessed from a DOH permit 06-2014-0834 which has been applied for by American Energy – Marcellus, LLC for access to the State Road. The well site is located off of Tyler County Route 13/8.

This operator has signed a Statewide Oil and Gas Road Maintenance Bonding Agreement and provided the required bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

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

Cc: Eric Bruckman
American Energy - Marcellus, LLC.
CH, OM, D-6
File

RECEIVED
Office of Oil and Gas

JUN 12 2015

WV Department of
Environmental Protection

Additive	Specific Gravity	Additive Quantity	Mass (lbs)
Water	1.00	8,553,174	7,137,623.7
Sand (Proppant)	2.65	8,135,200	8,135,200
Hydrochloric Acid (15%)	1.07	43,500	36,818
Hydrochloric Acid (7.5%)	1.04	0	0
PROHIB II	0.97	44	356
FRA 407	1.05	9,505	85,323
BIO-CLEAR 2000	1.24	0	0
PRO SCALE CLEAR 112	1.19	0	0
PRO FLO 102 M	0.94	3,695	26,285
PRO GEL 4.0L	1.02	6,216	52,166
PRO BREAKER 4	1.26	30	312
EXL-10C	1.27	0	0
PRO DRILL-T	1.81	0	0
BUFFER 1	2.13	0	0
POLY BREAK	1.20	0	0

Total Slurry Mass (Lbs)
80,070,697



CELLS WITH BLUE BACKGROUND ARE THE ONLY CELLS TO BE EDITED

Fracture Start Date/Time:	
Fracture End Date/Time:	
State:	WV
County:	Wetzel
API Number:	
Operator Name:	Hoge GRN WZ
Well Name:	No
Federal Well:	
Longitude:	
Latitude:	
Long/Lat Projection:	NAD27
True Vertical Depth (TVD):	
Total Clean Fluid Volume* (gal):	8,553,174

Ingredients Section:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Mass per Component (LBS)	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Company 1	Carrier Base Fluid	Water	7732-18-5	100.00%	71,376,237	89.1452%	
Sand (Proppant)	PSC	Proppant	Silica Substrate		100.00%	8,135,200	10.1665%	
Hydrochloric Acid (15%)	Producers Service Corp	Acidizing	Hydrochloric Acid	7647-01-0	100.00%	38,842	0.0483%	
PROHIB II	Producers Service Corp	Inhibitor	Dimethylacetamide, bis(chloroethyl) ether, diguimetal 2-Butoxyethanol Ethylene Glycol Methyl Alcohol	68607-28-3 111-76-2 107-21-1 67-56-1	40.00% 20.00% 20.00% 20.00%	142 71 71 71	0.0018% 0.0009% 0.0009% 0.0007%	
FRA 407	Producers Service Corp	Friction Reducer	Nonyl Phenol Ethoxylates, Branched Propargyl Alcohol Coos 1K3-Dimethylamines Water	127087-87-0 107-19-7 6788-91-0 7732-18-5	15.00% 15.00% 2.50% Proprietary	53 53 9 #VALUE!	0.0007% 0.0007% 0.0001% #VALUE!	
PRO FLO 102 M	Producers Service Corp	Surfactant	Petroleum Distillates Polysulfamide salt Sodium Chloride Ammonium Chloride Ethoxylate Alcohol Tall oil Proprietary Ingredient Water	64742-47-8 Proprietary 7647-01-0 121-50-9 Proprietary Proprietary Proprietary 7732-18-5	30.00% 5.00% 5.00% 5.00% 2.00% 1.00% Proprietary 60.00%	25,057 4,176 4,176 4,176 1,670 835 #VALUE! 17,391	0.0313% 0.0522% 0.0522% 0.0522% 0.0209% 0.0104% #VALUE! 0.0217%	
PRO BREAKER 4	Producers Service Corp	Breaker	Methoxy-1,2-pyrrolidone Water Ethoxylate Alcohol Ethylene Glycol Sucrose Polyether Polyol Sodium Bicarbonate Hexamethylenetetramine Proprietary Ingredient Proprietary Ingredient Water	26857-96-9 7732-18-5 107-21-1 57-50-1 9003-11-6 144-55-8 100-97-0 Proprietary Proprietary Proprietary 7732-18-5	5.00% Proprietary 40.00% 1.00% 1.00% 1.00% 1.00% 1.00% 1.00% 1.00% Proprietary Proprietary Proprietary	1,449 #VALUE! #VALUE! 125 125 3 3 3 3 3 #VALUE! #VALUE! #VALUE!	0.0038% #VALUE! #VALUE! 0.0016% 0.0001% 0.0000% 0.0000% 0.0000% 0.0000% 0.0000% 0.0000% #VALUE! #VALUE! #VALUE!	
PRO GEL 4.0L	Producers Service Corp	Gelling Agent	Distillate (Petroleum), Hydrotreated Light Nonylphenol Ethoxylate Guar Gum Nonionic Surfactant	64742-47-8 9000-30-0 60383-76-6	65.00% 5.00% 5.00%	37,158 2,858 2,858	0.0641% 0.0057% 0.0357%	

*Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(f) and Appendix D.

**WZ WELL PAD
LEWIS DISTRICTS,
GREENBRIER COUNTIES, WV
MAY 2015**

CONTENTS INDEX

THIS SHEET

ROUTE/PREVAILING WIND

LAYOUT OVERVIEW

CONTROL LAYOUT

FIELD SITE PLAN OVERVIEW

CONTROL AND SITE PLAN

ROADS AND PROFILES C-C', AND D-D'

ROAD & ACCESS ROAD #1 & #2

PROFILES

ROAD CROSS-SECTIONS

ROAD #1 CROSS-SECTIONS

ROAD #2 CROSS-SECTIONS

DETAIL SHEETS

GENERAL PLAN OVERVIEW

INFORMATION PLAN

ROAD CROSS-SECTIONS

GENERAL SITE FEATURES

ROAD & VOLUME PLAN

PROJECT SUMMARY

UNDISTURBED AREA: 50.7 AC.

DISTURBED AREA: 32.5 AC.

ROAD DISTURBED AREA: 3.5 AC.

ROAD DISTURBED AREA: 1.1 AC.

ROAD BED AREA: 13.6 AC.

PLANS PREPARED BY:
BOORD BENCHEK & ASSOCIATES, INC.
ENGINEERING, SURVEYING, CONSTRUCTION AND MINING SERVICES
SOUTHPOINTE, PA 15317 PHONE: 724-746-1055



Received

JUL 17 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

5-29-15

ANDREW BENCHEK
P.E.

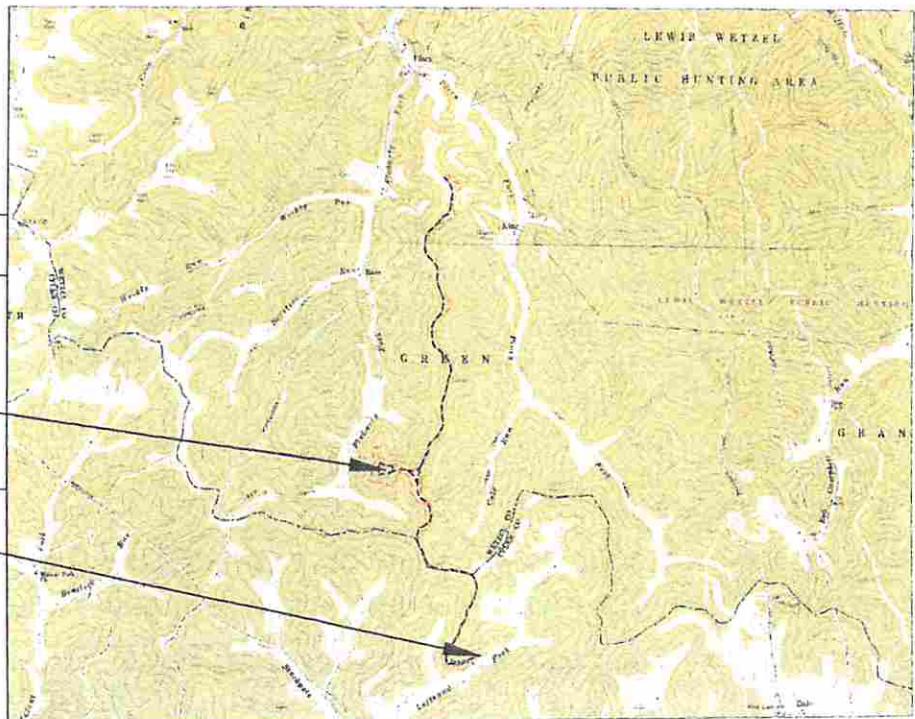
ACREAGE

PARCEL #	ACRES
VISION 5-8-22	2.3
VISION 5-8-8	0.4
VISION 5-8-9	4.4
5-25-17	2.4
5-8-10.1	0.6
5-26-13	1.2
IR. DNR 5-26-14	1.4
IR. DNR 5-26-7	19.8
IR. DNR 5-26-2	0.5
IR. DNR 5-26-1	3.3
S DIV. 5-26-6	0.03
5-23-37	0.5
5-23-33	0.8
5-23-38	0.7
5-23-32	0.3
5-23-26	3.4
5-23-25.1	0.3
5-23-21.1	0.2
5-23-23	0.1
5-23-12	0.51
5-23-18	1.1
5-23-8	2.9

COORDINATES

CENTER OF WELLS
(NAD 83)
LAT: 39.479837°
LONG: 80.696237°
(NAD 27)
LAT: 39.479755°
LONG: 80.696413°

SITE ENTRANCE
(NAD 83)
LAT: 39.463195°
LONG: 80.684883°
(NAD 27)
LAT: 39.463112°
LONG: 80.685060°



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SHEET

1
OF
70

*DMH
7-15-15*

1"=3000'



HOGO GRN WZ WELL PAD GREEN & McELROY DISTRICTS, WETZEL & TYLER COUNTIES, WV MAY 2015

PLANS PREPARED BY:
BOORD BENCHEK & ASSOCIATES, INC.
ENGINEERING, SURVEYING, CONSTRUCTION AND MINING SERVICES
SOUTHPOINTE, PA 15337 PHONE: 724-746-1055



Andrew Benchek
ANDREW BENCHEK
P.E.
5-29-15

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 - 2-3. EVACUATION ROUTE/PREVAILING WIND
 - 4. E&S CONTROL LAYOUT OVERVIEW
 - 5-18. E&S CONTROL LAYOUT
 - 19. E&S CONTROL AND SITE PLAN OVERVIEW
 - 20-32. E&S CONTROL AND SITE PLAN
 - 34. WELL PAD CROSS-SECTIONS AND PROFILES C-C', AND D-D'
 - 35-38. PRIMARY ACCESS ROAD & ACCESS ROAD #1 & #2 PROFILES
 - 39-42. PRIMARY ACCESS ROAD CROSS-SECTIONS
 - 43-44. ACCESS ROAD #1 CROSS-SECTIONS
 - 45. ACCESS ROAD #2 CROSS-SECTIONS
 - 46-48. DETAIL SHEETS
 - 49. RECLAMATION PLAN OVERVIEW
 - 50-63. RECLAMATION PLAN
 - 64-65. TEST BORE CROSS-SECTIONS
 - 66-67. EXISTING SITE FEATURES
 - 68-69. GRADING & VOLUME PLAN
 - 70. QUANTITY SUMMARY
- TOTAL DISTURBED AREA: 50.7 AC.
PRIMARY ACCESS ROAD DISTURBED AREA: 32.5 AC.
ACCESS ROAD #1 DISTURBED AREA: 3.5 AC.
ACCESS ROAD #2 DISTURBED AREA: 1.1 AC.
WELL PAD DISTURBED AREA: 13.6 AC.



PROPERTY OWNER PROJECT BOUNDARY ACREAGE

PROPERTY OWNER	PARCELS	ACRES
WEST VIRGINIA UNIVERSITY	1-2-3-4	0.4
WEST VIRGINIA UNIVERSITY	5-6-7	0.4
WEST VIRGINIA UNIVERSITY	8-9-10	0.4
WEST VIRGINIA UNIVERSITY	11-12	0.4
WEST VIRGINIA UNIVERSITY	13-14	0.4
WEST VIRGINIA UNIVERSITY	15-16	0.4
WEST VIRGINIA UNIVERSITY	17-18	0.4
WEST VIRGINIA UNIVERSITY	19-20	0.4
WEST VIRGINIA UNIVERSITY	21-22	0.4
WEST VIRGINIA UNIVERSITY	23-24	0.4
WEST VIRGINIA UNIVERSITY	25-26	0.4
WEST VIRGINIA UNIVERSITY	27-28	0.4
WEST VIRGINIA UNIVERSITY	29-30	0.4
WEST VIRGINIA UNIVERSITY	31-32	0.4
WEST VIRGINIA UNIVERSITY	33-34	0.4
WEST VIRGINIA UNIVERSITY	35-36	0.4
WEST VIRGINIA UNIVERSITY	37-38	0.4
WEST VIRGINIA UNIVERSITY	39-40	0.4
WEST VIRGINIA UNIVERSITY	41-42	0.4
WEST VIRGINIA UNIVERSITY	43-44	0.4
WEST VIRGINIA UNIVERSITY	45-46	0.4
WEST VIRGINIA UNIVERSITY	47-48	0.4
WEST VIRGINIA UNIVERSITY	49-50	0.4
WEST VIRGINIA UNIVERSITY	51-52	0.4
WEST VIRGINIA UNIVERSITY	53-54	0.4
WEST VIRGINIA UNIVERSITY	55-56	0.4
WEST VIRGINIA UNIVERSITY	57-58	0.4
WEST VIRGINIA UNIVERSITY	59-60	0.4
WEST VIRGINIA UNIVERSITY	61-62	0.4
WEST VIRGINIA UNIVERSITY	63-64	0.4
WEST VIRGINIA UNIVERSITY	65-66	0.4
WEST VIRGINIA UNIVERSITY	67-68	0.4
WEST VIRGINIA UNIVERSITY	69-70	0.4
WEST VIRGINIA UNIVERSITY	71-72	0.4
WEST VIRGINIA UNIVERSITY	73-74	0.4
WEST VIRGINIA UNIVERSITY	75-76	0.4
WEST VIRGINIA UNIVERSITY	77-78	0.4
WEST VIRGINIA UNIVERSITY	79-80	0.4
WEST VIRGINIA UNIVERSITY	81-82	0.4
WEST VIRGINIA UNIVERSITY	83-84	0.4
WEST VIRGINIA UNIVERSITY	85-86	0.4
WEST VIRGINIA UNIVERSITY	87-88	0.4
WEST VIRGINIA UNIVERSITY	89-90	0.4
WEST VIRGINIA UNIVERSITY	91-92	0.4
WEST VIRGINIA UNIVERSITY	93-94	0.4
WEST VIRGINIA UNIVERSITY	95-96	0.4
WEST VIRGINIA UNIVERSITY	97-98	0.4
WEST VIRGINIA UNIVERSITY	99-100	0.4

COORDINATES

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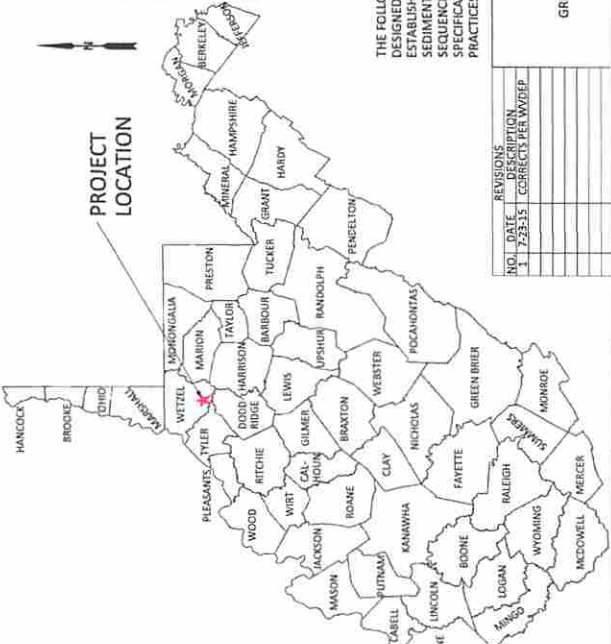


WEST VIRGINIA 811

TWO WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE WV ONE CALL SYSTEM, INC., 1-800-245-4848
TICKET NUMBER: 1503002460

OWNER

AMERICAN ENERGY MARCELLUS, LLC
1000 UTICA WAY
CAMBRIDGE, OH 43725



IN ACCORDANCE WITH WV CSR 8 THE FOLLOWING EROSION & SEDIMENT CONTROL PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES ESTABLISHED BY THE CHIEF AND PROVIDED IN THE OFFICE'S EROSION AND SEDIMENT CONTROL FIELD MANUAL A GENERAL CONSTRUCTION SEQUENCE, DESCRIPTION OF STABILIZATION METHODS, AND DETAILS & SPECIFICATIONS FOR EROSION & SEDIMENT BEST MANAGEMENT PRACTICES HAVE BEEN INCLUDED IN THE PROVIDED DETAIL SHEETS.

TITLE SHEET

HOGO GRN WZ WELL PAD
GREEN & McELROY DISTRICT, WETZEL & TYLER COUNTIES, WV

NO.	DATE	REVISIONS
1	7/23/15	CORRECTS PER WV DEP

07/24/2015

