



 west virginia department of environmental protection

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

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

Wednesday, February 13, 2019
 WELL WORK PERMIT
 Horizontal 6A / New Drill

ARSENAL RESOURCES LLC
 6031 WALLACE ROAD EXTENSION
 SUITE 603
 WEXFORD, PA 15090

Re: Permit approval for MSTOUT TCP55 202
 47-091-01349-00-00

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

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

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

James A. Martin
 Chief

Operator's Well Number: MSTOUT TCP55 202
 Farm Name: MARK LEWIS STOUT
 U.S. WELL NUMBER: 47-091-01349-00-00
 Horizontal 6A New Drill
 Date Issued: 2/13/2019

PERMIT CONDITIONS

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

CONDITIONS

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

PERMIT CONDITIONS

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



west virginia department of environmental protection

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

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

TO: Arsenal Resources
6031 Wallace Road Extension Suite 603
Wexford, Pa 15090

DATE: January 28, 2019
ORDER NO.: 2019-W-2

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 Arsenal Resources (hereinafter "Arsenal" 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. Arsenal is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as 6031 Wallace Road Extension Suite 603, Wexford, PA 15090.
3. On October 3, 2018 Arsenal submitted a well work permit application identified as API# 47-091-01349. The proposed well is to be located on the M Stout TCP55 Pad in the Court House District of Taylor County, West Virginia.
4. On October 3, 2018 Arsenal requested a waiver for perennial streams Gabe's Fork and UNT-7 along with Wetlands F, G, I and O outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-091-01349.

CONCLUSIONS OF LAW

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

ORDER

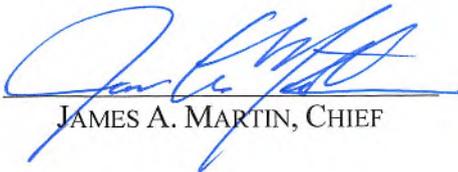
West Virginia Code §22-6A-12(b) requires, in part, that “no well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland. The Office of Oil and Gas grants the request for a waiver for perennial streams Gabe’s Fork and UNT-7 along with Wetlands F, G, I and O from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-091-01349. The Office of Oil and Gas hereby **ORDERS** that Arsenal shall meet the following site construction and operational requirements for the M Stout TCP55 Well Pad:

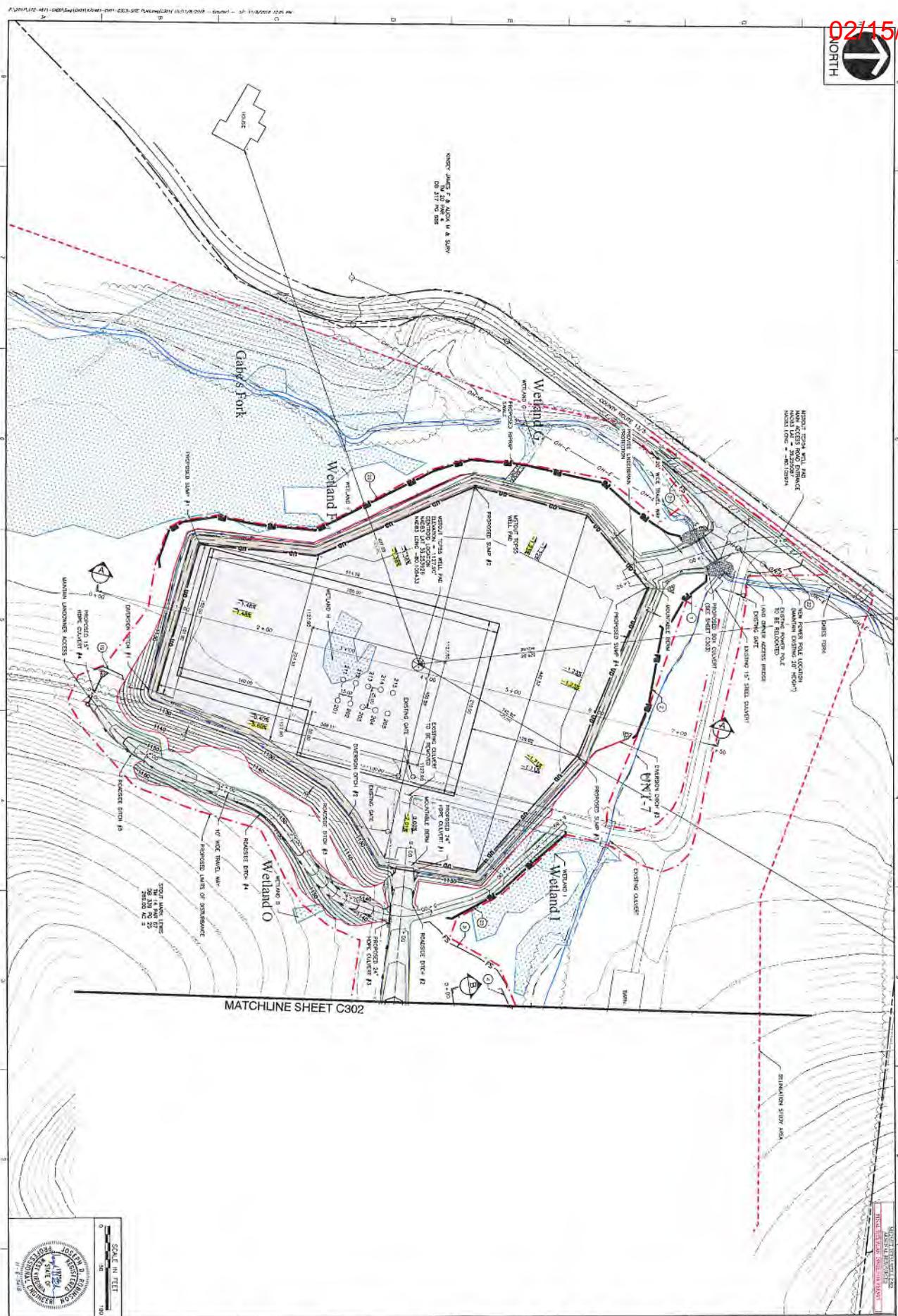
- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs;
- c. Streams Gabe’s Fork and UNT-7 shall be protected by diversion ditches and double twelve inch (12”) compost filter sock. This along with temporary and permanent vegetative cover will prevent sediment from reaching the streams;
- d. Wetland F, G and I shall be protected by diversion ditches and double twelve inch (12”) compost filter sock. This along rip-rap outlets, temporary and permanent vegetative cover will prevent sediment from reaching the wetlands;
- e. Wetland O is located above a cut line and will not be impacted by sediment.
- f. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
- g. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
- h. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
- i. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
- j. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
- k. 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;
- l. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
- m. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 28th day of January, 2019.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By: 
JAMES A. MARTIN, CHIEF



Attachment 1



C301 SHEET 7 OF 24	SITE PLAN			
	DATE:	JULY 2018	DRAWN BY:	NBG
	DESIGNED BY:	AS SHOWN	CHECKED BY:	ZMD
	APPROVED BY:		PROJECT NO.:	172-161

ARSENAL RESOURCES
MSTOUT TCP55 WELL PAD
COURT HOUSE DISTRICT
TAYLOR CO, WEST VIRGINIA



Civil & Environmental Consultants, Inc.
 600 Marketplace Ave. Suite 200 - Bridgeport, WV 26330
 Ph: 304.933.3119 - 855.485.9539 - Fax: 304.933.3327
www.cecinc.com

REVISION RECORD		
NO.	DATE	DESCRIPTION

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned

Operator's Well Number: _____

Well Operator: Arsenal ResourcesWell Number: 201, 202, 203, 204, 205, 211, 212, 213, 214, 215Well Pad Name: MStout TCP55County, District, Quadrangle of Well Location: Taylor County, Court House District, Grafton West Quad

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

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

§22-6A-12(b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows:

- (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir.**
- (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake.**
- (3) For a groundwater source, the distance shall be measured from the wellhead or spring.**

The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary.

§22-6A-12(c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section.

11/3/14
Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned
Operator's Well Number: _____

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

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

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

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

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

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

11/3/14
Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned
Operator's Well Number: _____

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

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

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

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

SETBACK WAIVER REQUEST
MSTOUT TCP55 WELL PAD PROJECT
TAYLOR COUNTY, WEST VIRGINIA

Submitted to:

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

Prepared for:

ARSENAL RESOURCES
65 PROFESSIONAL PLACE, SUITE 200
BRIDGEPORT, WEST VIRGINIA 26330

Prepared by:

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

CEC Project 172-461

September 2018


Civil & Environmental Consultants, Inc.



Civil & Environmental Consultants, Inc.

September 13, 2018

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

Dear Mr. Martin:

Subject: Setback Waiver Request
 Arsenal Resources
 MStout TCP55 Well Pad Project
 Taylor County, West Virginia
 CEC Project 172-461

1.0 INTRODUCTION

On behalf of Arsenal Resources (Arsenal), Civil & Environmental Consultants, Inc., (CEC) is submitting a Setback Waiver Request pursuant to Chapter 22 Article 6A Section 12 of West Virginia Code. Arsenal is requesting a waiver for four wetlands and two perennial streams which lie within 100-feet from the limits of disturbance (LOD) of the proposed MStout TCP55 Well Pad Project located in Taylor County, West Virginia.

Arsenal is proposing to construct a natural gas well pad with attendant facilities and associated access roads. The total LOD for the MStout TCP55 Well Pad Project is 11.26 acres and will support up to 12 horizontal wells. The waiver request form is included as Attachment A and the following sections provide a detailed description as required by the waiver.

2.0 WETLAND WAIVER REQUEST

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

The proposed MStout TCP55 Well Pad Project is located in southern Taylor County, West Virginia near the town of Flemington, as shown on the attached portion of the Grafton, West Virginia USGS quadrangle map (Attachment B). The proposed well pad LOD is within 100-feet of four wetlands and two perennial streams. The two perennial streams requiring a waiver, Gabe's Fork and Unnamed Tributary-7 (UNT-7), are located approximately 55 linear feet to the west and 50 linear feet to the north of the proposed well pad LOD, respectively. Arsenal will be requesting authorization from the U.S Army Corps of Engineers, Pittsburgh District (USACE) for impacts to these features associated with the proposed access road for the project. Wetland G, I, and O lie within the proposed well pad LOD. Arsenal will be requesting authorization from the USACE, for permanent impacts to portions of these features. Wetland F lies within the proposed project LOD and is proposed for temporary impact from placement of erosion and sediment control measures. Wetland F is located approximately 4 linear feet to the west of the proposed well pad LOD.

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Question 2: Justify the proposed activity by describing alternatives to this project that were considered

a. Include a No-Action Alternative as to show "the future without the project".

The No-Action alternative does not represent "no alteration" of the existing environment, as future development could likely occur. However, under this alternative, the MStout TCP55 Well Pad Project would not be constructed and would produce no immediate environmental impacts and, consequently would not require a waiver; however, this option would not fulfill the project's purpose and need.

b. Location alternatives must be shown.

Prior to the currently proposed location of the MStout TCP55 Well Pad, Arsenal considered two off-site alternatives for the development of the project. The PC01 Option 1 and Option 2 Preliminary Site Plans, Attachment D, represented Arsenal's initial design and most efficient facility layout prior to obtaining detailed information regarding the location and types of on-site aquatic resources. CEC biologists subsequently performed detailed wetland and stream delineations, and characterized all potentially jurisdictional areas on the site. The resulting aquatic resource data was then incorporated into the design of the facility to arrive at the proposed design. The wetland and stream delineation map is included as Attachment E.

The first alternative, Option 1, had the well pad located on a ridgetop to the southeast of the currently proposed well pad location. This location would have required an amount of earthwork (over 400,000 CY of cut/fill) that rendered construction of the proposed well pad at this location unfeasible. In addition, the location of the proposed access road for Option 1 would have required impacts to over 1,500 linear feet of ephemeral stream. The second off-site alternative was located on a hilltop to the southeast of the currently proposed well pad location. This option was the design that required the least environmental impacts, however the location was also rendered unfeasible due to the amount of earthwork required to construct the well pad.

Once Arsenal finalized their site selection, the engineering team began extensive studies to determine the most practicable facility layout. The proposed MStout TCP55 Well Pad went through various conceptual designs prior to the proposed design. Another Preliminary Site Plan, PP04 Preliminary Site Plan (Attachment D) represented Arsenal's design that incorporated an impoundment site and access road. The PP04 site plan avoided impacts to Wetland I, however, the decision was made to increase the footprint of the well pad to accommodate for two production pads with five well heads each. This necessitated impacts to Wetland I and is represented in PP05 Preliminary Site Plan.

The final site plan represents a reduction in footprint of the pad size due to a change in arrangement from a two pad arrangement to a one pad arrangement with two rows of proposed well heads. This eliminated the need for permanent impacts to Wetland F. However, the impacts to Wetland I are required due to the implementation of a staging area for use during operation. Additionally, the final site design includes impacts to Wetland O, which are necessary due to landowner constraint. The landowner requested that the existing access road that traverses the

Mr. James Martin
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site from north to south be rerouted around the edge of the proposed well pad. The reroute of the existing road will result in permanent impacts to Wetland O.

The proposed design represents the minimum degradation alternative and Arsenal's commitment to reducing aquatic impacts to the furthest extent practicable while still meeting the projects purpose and need; however, a waiver is now required for these features. The proposed Site Plans are included as Attachment F.

c. Must demonstrate why a one hundred foot buffer cannot be maintained.

Maintaining a 100-foot buffer from all on-site wetlands and streams was not feasible due to topographic restraints, location of the existing features and landowner constraints. To maintain a 100-foot buffer from Wetlands F, G, I, and O, the pad would need to be shifted to the southeast, but this option would be similar to that presented in PC01 Option 2 Preliminary site plans, and would require too large of a cut into the existing hillslope. The current layout is not only the least environmentally damaging taking into account topographic restraints, but also complies with landowner constraints. Additionally, the proposed site layout represents the alternative which allows the site to most closely balance. Shifting the layout would result in excess spoil that would require a larger LOD for an additional material stockpile. The only other alternative to meet the setback requirements would be a reduction in the project's footprint and the proposed design represents the minimum footprint required to meet the projects purpose and need. A reduction in the pad's limits would mean the project could not be developed.

d. Describe how the proposed project is the least environmentally damaging practicable alternative.

The proposed MStout TCP55 design represents the alternative which reduces permanent impacts to the greatest degree. The conceptual designs would have reduced the need to obtain wetland waivers but instead would have resulted in large amounts of earthwork and potentially less stable graded slopes as well as a larger project footprint due to the necessary soil stockpile.

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

As part of their permitting process, Arsenal has prepared an Erosion and Sedimentation Control Plan (E&SCP) specific for this project which stipulates specific seed mix for post-construction soil stabilization. The E&SCP will be implemented to reduce soil erosion, compaction, and sedimentation of receiving streams and wetlands. Proper construction sequencing and implementation of the E&SCP will ensure water quality impacts are minimized throughout the project area. Arsenal will also ensure that any contaminants will be strictly controlled. Furthermore, appropriate stormwater management features and culverts will be installed along the access roads to prevent the damming and funneling of water that might otherwise reach wetland areas.

Mr. James Martin
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Question 4: *Proved mapping, plans, specifications and design analysis for the preferred alternative to the project.*

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

West Virginia Department of Environmental Protection approved erosion and sediment controls will be maintained continuously throughout the project. Specifically, Diversion Ditch 1 will be constructed around the southern and eastern limits of the pad and dissipated into Wetland G, however a riprap swale will be constructed upslope in order to slow the velocity of concentrated water flows to reduce erosion and minimize sediment from leaving the site

The following attachments are included with this waiver request:

- Attachment A: Wetland Waiver Request Form
- Attachment B: Site Location Map
- Attachment C: Preliminary Site Plans
- Attachment D: Wetland and Stream Delineation Map
- Attachment E: Proposed Final Site Plans

3.0 CLOSING

A Nationwide Permit-39 will be prepared and submitted to the U.S. Army Corps of Engineers and the WVDEP, Division of Water and Waste Management will be notified. We appreciate your review of this Wetland Waiver Request. Please contact Eddie Carder at (304) 940-1204, or at ecarder@arsenalresources.com, if you have any questions or require additional information.

Respectfully submitted,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC

Anthony Ludovici
Project Scientist

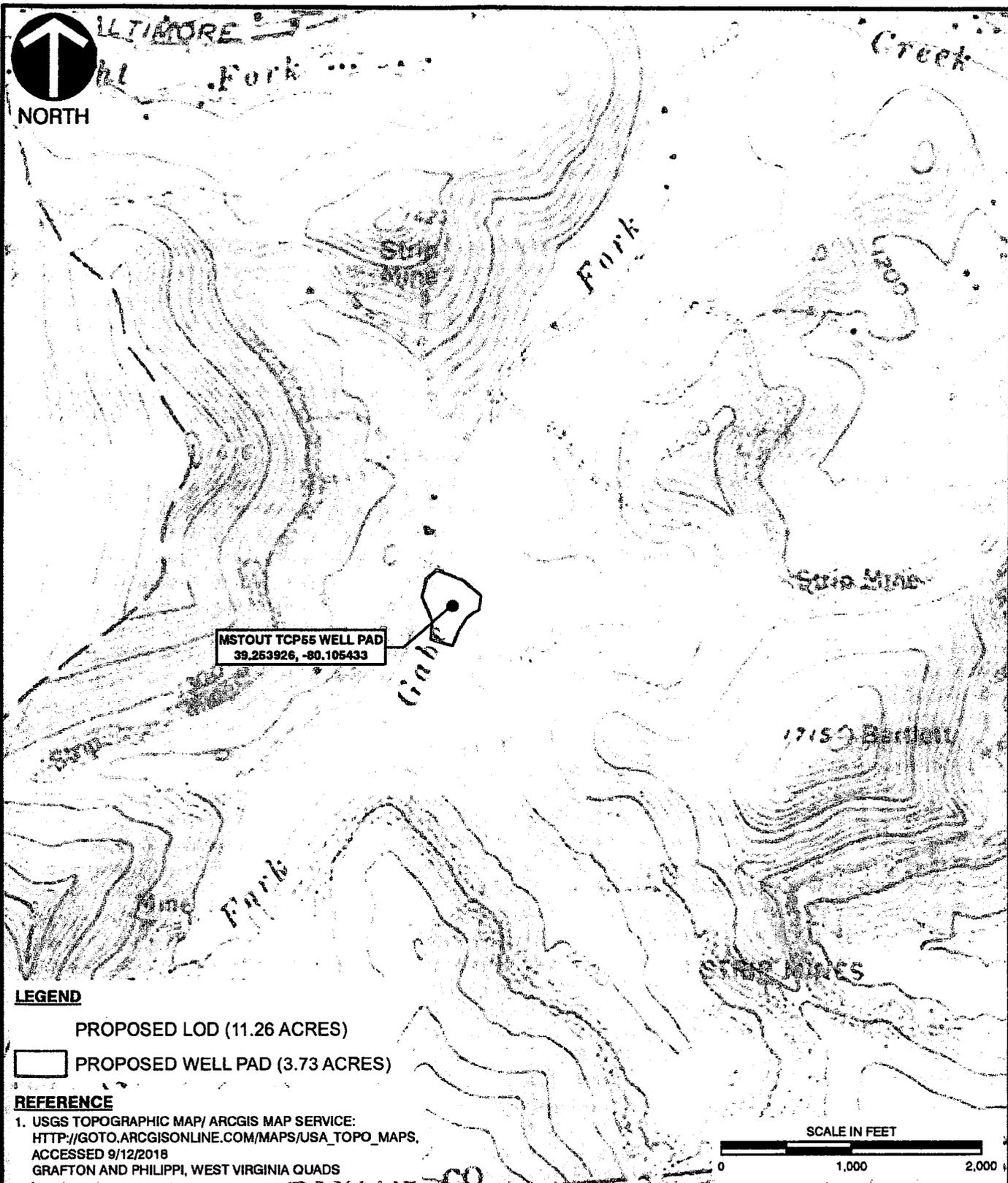
Jacquelyn Kester
Senior Project Manager

Enclosures

cc: Mr. Eddie Carder, Arsenal Resources

ATTACHMENT A
WETLAND WAIVER REQUEST

ATTACHMENT B
SITE LOCATION MAP



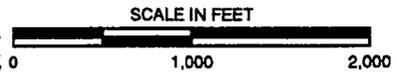
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LEGEND

-  PROPOSED LOD (11.26 ACRES)
-  PROPOSED WELL PAD (3.73 ACRES)

REFERENCE

1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:
[HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA_TOPO_MAPS](http://gto.arcgis.com/maps/usa_topo_maps),
 ACCESSED 9/12/2018
 GRAFTON AND PHILIPPI, WEST VIRGINIA QUADS



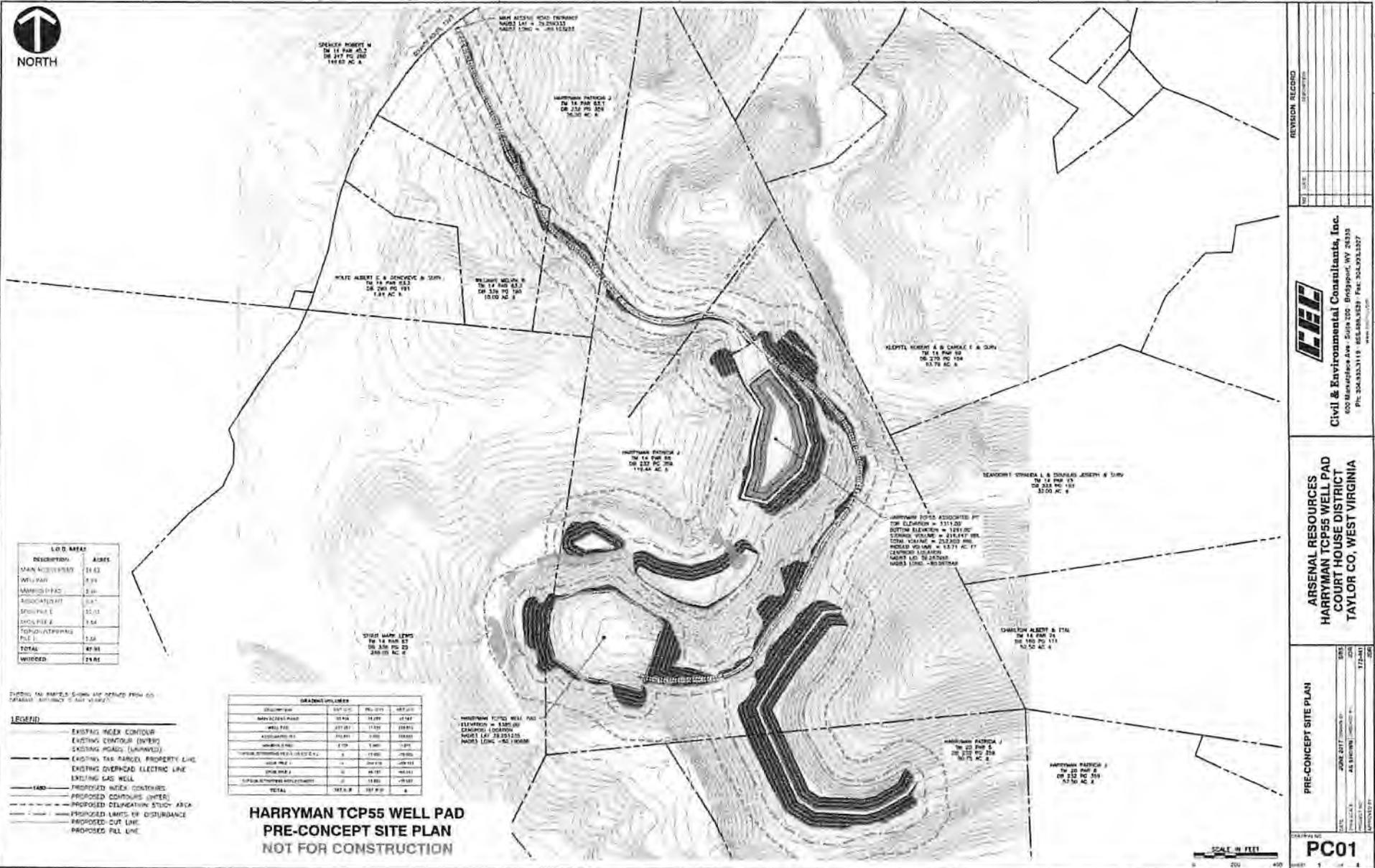

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www.cecinc.com

**ARSENAL RESOURCES
 MSTOUT TCP55 WELL PAD
 TAYLOR COUNTY, WEST VIRGINIA**

USGS SITE LOCATION MAP

DRAWN BY:	MWT	CHECKED BY:	AJL	APPROVED BY:	JDK*	FIGURE NO:	1
DATE:	09/12/2018	SCALE:	1" = 1,000'	PROJECT NO:	172-461.2104		

ATTACHMENT C
PRELIMINARY SITE PLANS



DESCRIPTION	ACRES
MAIN ACQUISITION	21.62
WELL PAD	2.79
MANHOLE PAD	2.24
ASSOCIATION	0.41
SPILLWAY E	22.02
SPILLWAY F	2.54
TOTAL (PROPOSED)	52.62
TOTAL	87.91
WOODS	21.84

DESCRIPTION	307.07	762.07	487.07
MANHOLE PAD	22.64	14.09	11.97
WELL PAD	277.03	17.00	138.81
ASSOCIATION	249.81	2.00	100.00
SPILLWAY F	1.00	1.00	1.00
SPILLWAY E	2	17.00	17.00
WELL PAD	1	104.10	104.10
SPILLWAY E	0	66.93	66.93
SPILLWAY F	2	15.00	15.00
TOTAL	582.8	217.02	4

**HARRYMAN TCP55 WELL PAD
PRE-CONCEPT SITE PLAN
NOT FOR CONSTRUCTION**

DATE: 01/15/2015 10:00 AM

- LEGEND**
- EXISTING INDEX CONTOUR
 - EXISTING CONTOUR (INTER)
 - EXISTING ROADS (LAUNDED)
 - EXISTING TAX PARCEL PROPERTY LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING GAS WELL
 - PROPOSED INDEX CONTOURS
 - PROPOSED CONTOUR (INTER)
 - PROPOSED DELINEATION STUDY AREA
 - PROPOSED LIMIT OF DISTURBANCE
 - PROPOSED CUT LINE
 - PROPOSED FILL LINE



REVISION RECORD

NO.	DATE	DESCRIPTION

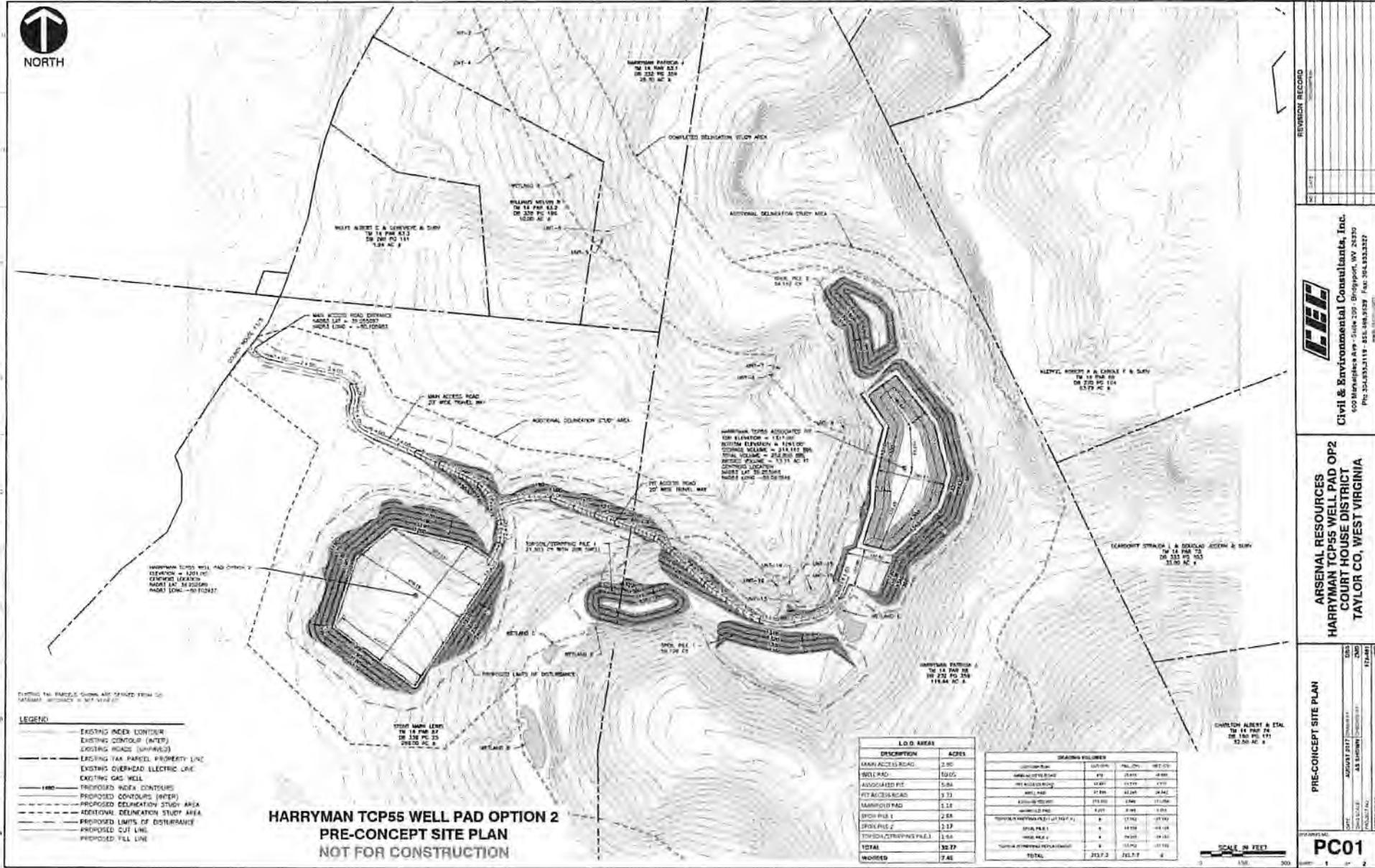
PRE-CONCEPT SITE PLAN

PC01

ARSENAL RESOURCES
HARRYMAN TCP55 WELL PAD
COURT HOUSE DISTRICT
TAYLOR CO. WEST VIRGINIA

REC

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 PH: 304.333.1115 | 855.588.3829 | FAX: 304.333.1327
 www.arsenal.com



**HARRYMAN TCP55 WELL PAD OPTION 2
PRE-CONCEPT SITE PLAN
NOT FOR CONSTRUCTION**

PLACING THE BENCH MARK AT 20 FEET FROM THE
NORTHWEST CORNER OF THE WELL PAD

- LEGEND:**
- EXISTING INDEX CONTOUR
 - EXISTING CONTOUR (INTER)
 - EXISTING ROADS (UNPAVED)
 - EXISTING TAX PARCEL PROPERTY LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING GAS WELL
 - PROPOSED INDEX CONTOUR
 - PROPOSED CONTOUR (INTER)
 - PROPOSED DELINEATION STUDY AREA
 - PROPOSED LIMITS OF DISTURBANCE
 - PROPOSED CUT LINE
 - PROPOSED FILL LINE

L.O.D. AREAS	
DESCRIPTION	ACRES
ADMIN ACCESS ROAD	2.95
WELL PAD	10.05
ASSOCIATED PILE	5.84
FEED ACCESS ROAD	3.33
MATERIAL PAD	5.14
SPILLWILE E	2.84
SPILLWILE F	2.33
SPILLWILE G	3.55
TOTAL	32.07
UNDEVELOPED	7.46

DRAINAGE VOLUMES			
CONTRIBUTOR	AREA	PERCENT	DRAINAGE
ADMIN ACCESS ROAD	2.95	9.24%	48,000
WELL PAD	10.05	31.44%	1,700,000
ASSOCIATED PILE	5.84	18.24%	970,000
FEED ACCESS ROAD	3.33	10.34%	540,000
MATERIAL PAD	5.14	15.74%	290,000
SPILLWILE E	2.84	8.84%	470,000
SPILLWILE F	2.33	7.24%	390,000
SPILLWILE G	3.55	10.94%	580,000
TOTAL	32.07	100.00%	4,720,000

SCALE IN FEET
1" = 100'

REVISION RECORD

NO.	DATE	DESCRIPTION

PRE-CONCEPT SITE PLAN

**ARSENAL RESOURCES
HARRYMAN TCP55 WELL PAD OP2
COURT HOUSE DISTRICT
TAYLOR CO, WEST VIRGINIA**

PC01

AREAL

Civil & Environmental Consultants, Inc.
600 Maryland Ave - Suite 200 - Springfield, WV 26250
PH: 304.833.1119 - 815.988.9227 - FAX: 304.833.3327
www.areal.com

ATTACHMENT D

WETLAND AND STREAM DELINEATION MAP



LEGEND

- EXISTING ROAD
- DELINEATION AREA
- WETLAND-FEM
- EPHEMERAL STREAM
- PERMANENT STREAM
- QUANTIFIED CHANNEL
- WY SASSY STREAM
- WY PLANTING
- BRIDGE
- TEST SITE

NOTES

1. THE AERIAL PHOTOGRAPH AND THE WETLAND DELINEATION BY CEC ARE APPROXIMATELY CONCURRENT WITH THE DATE OF THE AERIAL PHOTOGRAPH.

2. THIS DELINEATION WAS CONDUCTED IN ACCORDANCE WITH THE DELINEATION MANUAL FOR WETLANDS AND STREAMS, 3RD EDITION, 2001, PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, WASHINGTON, DC. THE DELINEATION WAS CONDUCTED IN ACCORDANCE WITH THE DELINEATION MANUAL FOR WETLANDS AND STREAMS, 3RD EDITION, 2001, PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, WASHINGTON, DC. THE DELINEATION WAS CONDUCTED IN ACCORDANCE WITH THE DELINEATION MANUAL FOR WETLANDS AND STREAMS, 3RD EDITION, 2001, PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, WASHINGTON, DC.



REFERENCES

- 1. AERIAL PHOTOGRAPH WAS OBTAINED FROM BLUE MOUNTAIN, INC.
- 2. U.S. COAST AND GEODETIC SURVEY DATA FROM WEST VIRGINIA TECHNICAL CENTER, CHARLESTON, WV.
- 3. GAGE STATION DATA WAS OBTAINED FROM WEST VIRGINIA TECHNICAL CENTER, CHARLESTON, WV.

Civil & Environmental Consultants, Inc.
 401 Mountain Avenue, Suite 202 • Morgantown, WV 26501
 Ph: 304.293.1111 Fax: 304.293.1022
www.cecinc.com

**ARSENAL RESOURCES
 HARRYMAN TCPSS WELL PAD
 TAYLOR COUNTY, WEST VIRGINIA**

PROJECT NO.	DATE	SCALE	SHEET NO.
11-18-2017	1:1	1" = 175'	4

**WETLAND AND STREAM
 DELINEATION MAP**

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

1) Well Operator: Arsenal Resources 494519412 Taylor Court House Grafton
Operator ID County District Quadrangle

2) Operator's Well Number: MStout TCP55 202 Well Pad Name: MStout TCP55

3) Farm Name/Surface Owner: Mark Lewis Stout Public Road Access: CR 13/5 (Bosely/Gabes Fork Road)

4) Elevation, current ground: 1127.17 Elevation, proposed post-construction: 1128'

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus Shale, Top- 7,550.0ft, Bottom- 7,639.0ft, Anticipated Thickness- 89ft, Associated Pressure- 0.5 psi/ft

8) Proposed Total Vertical Depth: 7,625.0 ft.

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 21,219.24 ft.

11) Proposed Horizontal Leg Length: 13,143.35 ft.

12) Approximate Fresh Water Strata Depths: 6', 51', 57', 730'

13) Method to Determine Fresh Water Depths: Offsetting wells reported water depths (091-00732, 091-01094, 091-01099)

14) Approximate Saltwater Depths: None Expected

15) Approximate Coal Seam Depths: Harlem - 258', Bakerstown - 338', Brush Creek - 438', Upper Freeport - 518', Lower Freeport - 565', Upper Kittanning - 636', Middle Kittanning - 686', Lower Kittanning - 712', Clarion - 715'

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

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

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No None Known

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

WV Department of
Environmental Protection

WW-6B
(04/15)

API NO. 47- 091 - 02/15/2019
 OPERATOR WELL NO. MStout TCP55 202
 Well Pad Name: MStout TCP55

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	26	Used		102.7	80 ?	80	CTS
Fresh Water	13.375	New	J-55	54.5	800	800	CTS
Coal							
Intermediate	9.625	New	J-55	40	1,600	1,600	CTS
Production	5.5	New	P-110	23	21,219	21,219	TOC @ 1,450
Tubing							
Liners							

Ernest Reynolds
9-6-18

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	26	36			0	Class A, 3% CaCl2	1.2
Fresh Water	13.375	17.5	0.38	2,730	900	Class A, 3% CaCl2	1.2
Coal							
Intermediate	9.625	12.25	0.395	3,950	1,500	Class A, 3% CaCl2	1.29
Production	5.5	8.5-8.75	0.415	14,520	9,500	Class A/50:50 Poz	1.29/1.34
Tubing					5,000		
Liners					N/A		

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Kind:				
Sizes:				
Depths Set:				

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

The well will be started with a conductor rig drilling a 36" hole to Conductor programmed depth then running 26" casing and circulate cement back to surface. The conductor rig will move out and the drilling rig will move in and rig up. The drilling rig will then spud a 17 1/2" hole and drill to fresh water casing (Surface) to the programmed depth, Run 13- 3/8" casing and cement to surface. The rig will continue drilling a 12- 1/4" intermediate hole to the programmed depth, run 9- 5/8" casing and cement to surface. The rig will then continue to drill an 8- 3/4" hole to a designed KOP. We will then start drilling the curve and lateral section to the programmed total measured depth, run 5 1/2" casing and cement according to the program.

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

The well will be completed using a plug and perforation method and stimulated with a slickwater and sand slurry. The anticipated maximum rate will be 90 bpm and the maximum pressure will be 9,500 psi.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 11.26

22) Area to be disturbed for well pad only, less access road (acres): 5.41

23) Describe centralizer placement for each casing string:

26"- No centralizers 13 3/8" – one bow spring centralizer on every other joint 9 5/8" – one bow spring centralizer every third joint from TD to surface 5 1/2" – one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 1,700'; there will be no centralizers from 1,700 to surface.

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

26" will be circulated to surface. The 13 3/8" casing will be cemented to surface with Class A cement and no greater than 3% CaCl (calcium chloride). The 9 5/8" casing will be cemented to surface with Class A cement, & no greater than 3% calcium chloride. The 5 1/2" production string will be cemented back to 1,450' (+/- 150' above the casing shoe for the 9 5/8") with Class A and 50/50 Poz cement retarded (to extend pumpability) cellophane flaked for fluid loss, Bentonite gel as an extender (increased pumpability and fluid loss), a defoaming agent to decrease cement foaming during mixing to insure the cement is of proper weight to placement and possibly gypsum gas blocking additive to aid in blocking/gas migration (in combination with other additive mentioned here, helps cement achieve a "right angle" set) during the plastic phase of the cement set-up.

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25) Proposed borehole conditioning procedures:

Top holes will be drilled with fresh water KOP. At KOP, the wellbore will be loaded with synthetic oil based mud, barite-weighted mud system with such properties as to build a filter-cake on the face of the bore-hole. This will provide lubricity as well as stabilizing the well bore. We will begin rotating the drill string and mud will be circulated upon reaching TD until no further cuttings are observed coming across the shaker screens. Once clean mud is circulated back to surface, we will pull three stands of drill pipe, load the hole, pull three strands and load the hole. The weight indicator on the rig will be monitored for any occurrences of drag and if any are noticed, we will re-run the previous stand of pipe pulled across and circulate 2x bottoms up while watching shakers for signs of cuttings. Once at the base curve, the string will be continuously rotated while pumping 2x bottoms up. We will pull three stands and fill the hole until we reach the vertical section of the well.

*Note: Attach additional sheets as needed.

Mstout TCP55 Well #202		
CEMENT ADDITIVES		
	Name	Purpose
Additive #1:	Bentonite	Helping fluid loss, reducing free water
Additive #2:	Calcium Chloride	Accelerator for low temp application
Additive #3:	Celloflake	Loss circulation additive
Additive #4:	Gypsum	Used for thixotropic properties
Additive #5:	Lignosulfonate	Low temp cement retarder
Additive #6:	Naphthalene Based Dispersant	Used to improve rheological properties of cement
Additive #7:	Cellulose	Help with fluid loss

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Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near Arsenal Resources hydraulic fracturing in Taylor County, WV prior to hydraulic fracturing at M Stout TCP55 202.

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Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 7,700' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formations (approximately 5,000' TVD).

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The plan is being implemented as an additional safety measure to be utilized in conjunction with best management practices and emergency action plans for this site. These additional measures include pre-notification of conventional well operators of the timing and location of the hydraulic fracturing, establishment of measures conventional well operators should implement, and assurance that the Division of Oil and Gas is notified of the timeline, as well as any issues that may arise during fracturing.

1. Communications with Conventional Operators.

Arsenal Resources, using available data (WV Geological Survey, WVDEP Website, and IHS data service), has identified all known conventional wells and well operators within 500 feet of this pad and the lateral sections. A map showing these wells along with a list of the wells and operators is included in Attachment A.

Upon approval of this plan, Arsenal Resources will notify these operators, via letter, of the hydraulic fracturing schedule for these wells. A copy of this letter is included in Attachment B.

The letter provides recommendations to these conventional operators to 1) increase their monitoring of their wells during that time period, 2) ensure that their well head equipment is sound, and 3) provide immediate notification to Arsenal Resources and the OOG in the event of any changes in their well conditions.

Specifically, the letter recommends that conventional well operators conduct the following activities during and after fracturing operations:

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



2. Reporting

Arsenal Resources will provide information relating to the hydraulic fracturing schedule, communication with conventional operators, and ongoing monitoring of the work upon request of OOG or immediately after any event of any noted abnormalities.

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Latitude: 39°17'30"

SURFACE HOLE 6212'

02/15/2019



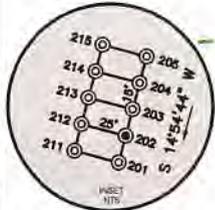
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
500 MARKETPLACE AVENUE, SUITE 200
BRIDGEPORT, WV 26330
304-933-3119

Latitude: 39°15'00" BOTTOM HOLE 2196'

Table with 3 rows: SURFACE HOLE LOCATION (SHL), LANDING POINT (LPL), BOTTOM HOLE LOCATION (BHL). Includes UTM and Geographic coordinates.

Table with 3 rows: SURFACE HOLE LOCATION (SHL), LANDING POINT (LPL), BOTTOM HOLE LOCATION (BHL). Includes SPC, Geographic, and Dec. coordinates.

Table with 2 rows: TAX MAP PARCEL SURVEYED LINE COORDINATES. Includes Northing, Easting, Latitude, and Longitude.



- WELL RESTRICTIONS
1. NO OCCUPIED DWELLINGS > 2500 SQ FT WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT WITHIN 625 FEET OF CENTER OF PAD.
3. NO EXISTING WELLS OR DEVELOPED SPRINGS ARE WITHIN 500 FEET OF PROPOSED WELLS.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS ARE WITHIN 800 FEET OF THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO CROPPED WILDLIFE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD. LIMITS OF DISTURBANCE E & S CONTROLS.

- NOTES ON SURVEY
1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 991 [Signature]



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF SURVEY GRADE GPS ELEVATION: (NAVD 88, US FT)

COMPANY: ARSENAL RESOURCES

MSTOUT TCP55
OPERATOR'S WELL #: 202
API WELL #: 47 091
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
WATERSHED: GABE FORK
DISTRICT: COURTHOUSE DISTRICT COUNTY: TAYLOR
SURFACE OWNER: MARK LEWIS STOUT
OIL & GAS ROYALTY OWNER: MARK LEWIS STOUT
DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,625 TWD 21,219.24 TMD

WELL OPERATOR: ARSENAL RESOURCES
ADDRESS: 6031 WALLACE RD, EXT. SUITE 300
CITY: WEXFORD STATE: PA ZIP CODE: 15090
DESIGNATED AGENT: WILLIAM VEIGEL
ADDRESS: 65 PROFESSIONAL PLACE, SUITE 200
CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330

Table with 2 columns: LEGEND (SURVEYED BOUNDARY, PROPOSED PATH, EXISTING PRODUCING WELLHEAD, LPL, EXISTING WATER WELL, EXISTING SPRING) and REVISIONS (DATE: 09-11-2018, DRAWN BY: K.E.S., SCALE: 1" = 2000', DRAWING NO: 172-461, WELL LOCATION PLAT)

AOR - Attachment "A"

02/15/2019



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

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WELL BORE TABLE FOR SURFACE OWNERS		
TRACT	SURFACE OWNER	TAX PARCEL
1	MARK LEWIS STOUT	05-14-67
2	WILLIAM I. AND CAROLYN HAMMARSTROM	09-08-08
3	DANIEL J. ESSIG	09-08-09
4	DANIEL J. ESSIG	09-08-10
5	RICHARD L. CLEVINGER, ET AL	09-13-32

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ROBERT M. SPENCER	05-14-45.2
B	MARK LEWIS STOUT	05-14-66
C	ALBERT C. AND GENEVIEVE WOLFE	05-14-63.3
D	KENNETH AND SARAH REED	05-14-63.4
E	MELVIN R. WILLIAMS	05-14-63.2
F	PATRICIA J. HARRYMAN	05-14-63.1
G	PATRICIA J. HARRYMAN	05-14-68
H	BECKWITH LUMBER COMPANY INC.	05-20-05
I	WILLIAM R. AND CRYSTAL D. MOSS, ET AL	09-08-11
J	CLEO EARL COFFMAN	09-08-10.1
K	TYSON E. AND TERI LYNN BUDNAR	09-08-12
L	TYSON E. AND TERI LYNN BUDNAR	09-08-13
M	CLEMENTA PROUDFOOT HRS	09-13-33
N	ROBERT R. AND MINDI J. JACOBS	09-14-17
O	ROBERT R. AND MINDI J. JACOBS	09-13-34.2
P	JASON P. AND BRENDA J. CORDER	09-13-35.7
Q	SUZAN AND GLEN MIMLITSCH	09-13-31
R	BECKWITH LUMBER COMPANY INC.	09-13-23
S	LEE SWIGER AND SHIRLEY SWIGER	09-08-10.2
T	DANIEL J. ESSIG	09-08-9.2
U	DANIEL J. ESSIG	09-08-9.1
V	JIM L. MALLOW	09-08-8.1
W	WILLIAM R. HAMMARSTROM	09-08-8.2
X	WILLIAM I. AND CAROLYN HAMMARSTROM	09-08-07
Y	WILLIAM R. AND ANNE V. HAMMARSTROM	09-08-06
Z	BECKWITH LUMBER COMPANY INC.	09-08-01
AA	BECKWITH LUMBER COMPANY INC.	05-20-10
BB	JAMES F. AND ALICIA M. KINSEY	05-20-04

REVISIONS:	COMPANY:				DATE: 09-11-2018		
	OPERATOR'S				MSTOUT TCP55	DRAWN BY: K.E.S.	
	WELL #:				202	SCALE: N/A	
	DISTRICT:	COUNTY:	STATE:		COURTHOUSE DISTRICT	TAYLOR	WV
						DRAWING NO: 172-461	
				WELL LOCATION PLAT 2			

Area of Review Report - **M Stout TCP55** Pad, **202** Lateral, **Taylor** County, WV

Well Name	API Number	Operator Name / Address	Well Type	Latitude	Longitude	Total Depth	Perforated Formation(s)	Producing Zones not Perforated
339-CH	001-00702	Alliance Petroleum Corporation	Existing	39.217336	-80.091488	4650	Benson	NA
329-CH	001-00675	Alliance Petroleum Corporation	Existing	39.235364	-80.09934	4562	Riley, Benson	NA
2187	001-02267	Alliance Petroleum Corporation	Existing	39.224427	-80.092832	4967	Riley, Benson	NA

AOR- Attachment "A"



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Office of Oil and Gas
02/15/2019

OCT 03 2018

WV Department of
Environmental Protection

Click or tap to enter a date.

Alliance Petroleum Corporation
Address
State

RE: Click or tap here to enter text.

Dear Sir/Madam,

Arsenal Resources has developed a Marcellus pad, M Stout TCP55, well #202, located in Taylor County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 7,700 TVD) and existing conventional natural gas wells included in the attached well list for which you are believed to be the operator.

Arsenal Resources anticipates conducting hydraulic fracturing at the M Stout TCP55, well #202, during the Quarter of 2019. We have identified conventional natural gas wells operated by your company within 500' (lateral distance) of our newly planned wells. Plats for each well on this pad are attached.

We recommend that conventional well operators conduct the following activities before, during and after fracturing operations:

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

Please feel free to contact me at 724-940-1218 with any questions or comments. You may also contact the WV Office of Oil and Gas at 304-926-0499.

Sincerely,

Kelly Davis
Permitting Specialist

AOR - Attachment 'B'

WW-9
(4/16)

API Number 47 - 091 -
Operator's Well No. MStout TCP55 202

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Arsenal Resources OP Code 494519412

Watershed (HUC 10) Gabe Fork Quadrangle Grafton

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: _____

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

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? If so, describe: Yes, the closed loop system will contain all of the drilling medium and drill cuttings on location and then be taken to a landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Vertical, Freshwater, Horizontal, Oil Based Mud

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

Additives to be used in drilling medium? Bentonite, Soap & Polymer Sticks, Soda Ash, Sodium Bicarbonate, Defoamer, Base Oil, Emulsifiers, Lime, Barite

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) N/A

-Landfill or offsite name/permit number? Meadowfill Landfill/Wastemanagement, Westmoreland Sanitary Landfill, Apex Landfill

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

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Office of Oil and Gas

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 *William Veigel*

Company Official (Typed Name) William Veigel

Company Official Title Designated Agent

Subscribed and sworn before me this 6 day of September, 2018

Amy R Miller

Notary Public

My commission expires July 3, 2022



Arsenal Resources

Proposed Revegetation Treatment: Acres Disturbed 11.26 Prevegetation pH 6.8 Average

Lime 2.67 Tons/acre or to correct to pH 6.4

Fertilizer type 10-20-20

Fertilizer amount 1000 lbs/acre

Mulch 3-4 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	129	Orchard Grass	129
Rye	93	Rye	93
Clover	24	Clover	24
Timothy	45	Timothy	45

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Thomas A. Reynolds*

Comments: Re-seed and mulch all disturbed areas as soon as reasonably possible per regulation. Upgrade erosion and sediment control measures where needed per the West Virginia Erosion and Sediment Control Field Manual

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Title: OIL & GAS INSPECTOR Date: 9-6-18

Field Reviewed? (V) Yes () No



ARSENAL

R E S O U R C E S

SITE SAFETY PLAN

MSTOUT TCP55 PAD, Well #202

911 Address:

991 Bosley Hollow Rd

Flemington, WV 26347

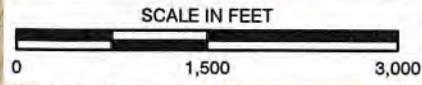
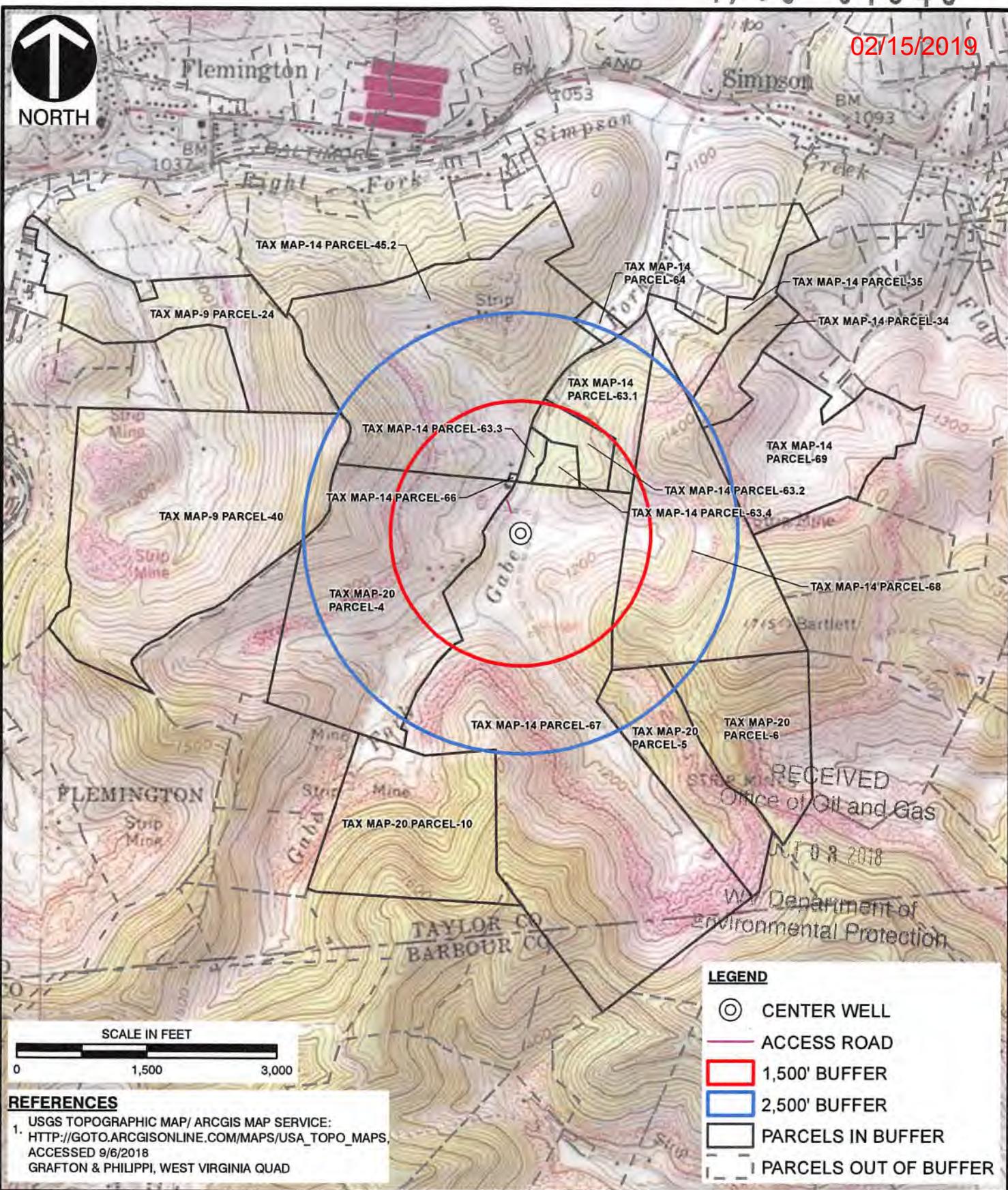
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Environmental Protection

[Handwritten Signature]

9-6-18



REFERENCES

1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:
[HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA_TOPO_MAPS](http://gto.arcgis.com/maps/usa_topo_maps),
 ACCESSED 9/6/2018
 GRAFTON & PHILIPPI, WEST VIRGINIA QUAD

LEGEND

- CENTER WELL
- ACCESS ROAD
- 1,500' BUFFER
- 2,500' BUFFER
- PARCELS IN BUFFER
- PARCELS OUT OF BUFFER

\\svr-bridgeport\projects\2017\172-461-GIS\Maps\Task_2104\WATER_PURVEYOR\172461_2104_FIG_1_SITE_LOC.mxd - 9/6/2018 - 11:10:31 AM (mwtturner)



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

ARSENAL RESOURCES
 MSTOUT TCP 55
 TAYLOR COUNTY, WEST VIRGINIA

USGS SITE LOCATION MAP

DRAWN BY:	MWT	CHECKED BY:	JDR	APPROVED BY: *Hand signature on file	JDR*	FIGURE NO:	1
DATE:	09/06/2018	SCALE:	1" = 1,500'	PROJECT NO:	172-461.2104		

02/15/2019

4709101349

M Stout TCP 55 Water Purveyor Information:

Land Owners	Tax Map and Parcel	Address
Beckwith Lumber Company Inc.	5-20-5	PO Box 39 Slatyfork, WV 26291
Beckwith Lumber Company Inc.	5-20-10	PO Box 39 Slatyfork, WV 26291
E&L Land Management LLC	5-14-34	3691 George Washington HWY Tunnelton, WV 26444
Greathouse Eleanor D	4-9-24	486 Substation Rd Flemington, WV 26347
Harryman Patricia J	5-14-63.1	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Harryman Patricia J	5-14-68	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Harryman Patricia J	5-20-6	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Kinsey James F	5-20-4	1152 Boselt Hollow Rd Flemington, WV 26347
Klepfel Robert A	5-14-69	101 E Washington St Grafton, WV 26354
Reed Kenneth	5-14-63.4	911 Bosler Hollow Rd Flemington, WV 26347
Saltis William P	5-14-35	PO Box 61 Flemington, WV 26347
Smith A J - Heirs	4-9-40	6108 Ambassador Dr Orlando, FL 32808
Spencer Robert M	5-14-45.2	904 Bosley Hollow Rd Flemington, WV 26347
Stout Mark L	5-14-66	629 Berry Run Rd Flemington, WV 26347
Stout Mark L	5-14-67	629 Berry Run Rd Flemington, WV 26347
Taylor Denver Leeman Jr	5-14-64	550 Bosley Hollow Rd Flemington, WV 26347
Williams Melvin R	5-14-63.2	795 Bosley Hollow Rd Flemington, WV 26347
Wolfe Albert C	5-14-63.3	853 Bosley Hollow Rd Flemington, WV 26347

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WW-6A1
(5/13)

Operator's Well No. MStout TCP55 202

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

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

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

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

See Attached

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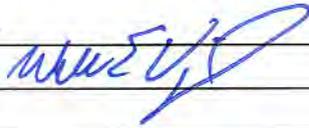
WV Department of
Environmental Protection

**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: Arsenal Resources
 By: William Veigel 
 Its: Designated Agent

Latitude: 39°17'30"

SURFACE HOLE 6212'

Latitude: 39°15'00" BOTTOM HOLE 2196'



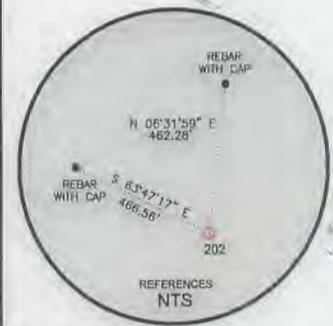
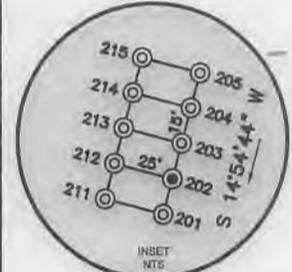
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
600 MARKETPLACE AVENUE, SUITE 200
BRIDGEPORT, WV 26330
304-933-3119

Table with 2 columns: Location Type (SHL, LPL, BHL) and UTM Coordinates (NORTHING, EASTING).

02/15/2019

Table with 2 columns: Location Type (SHL, LPL, BHL) and Geographic Coordinates (LAT, LONG, DEC).

Table with 4 columns: TAX MAP PARCEL SURVEYED LINE COORDINATES (NORTHING, EASTING, LATITUDE, LONGITUDE).

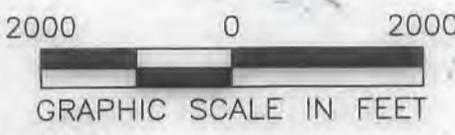


- WELL RESTRICTIONS: 1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD. 2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD. 3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 989 FEET OF PROPOSED WELL. 4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS ARE WITHIN 800 FEET OF THE LIMITS OF DISTURBANCE. 5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE. 6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS.

- NOTES ON SURVEY: 1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS. 2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON. 3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 991



COMPANY: ARSENAL RESOURCES

Table with 3 columns: State/Agency info, Accuracy/Elevation info, and Well/Operator info.

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION X DEEP GAS X LIQUID INJECTION STORAGE SHALLOW X
WATERSHED: GABE FORK DISTRICT: COURTHOUSE DISTRICT COUNTY: TAYLOR SURFACE OWNER: MARK LEWIS STOUT
OIL & GAS ROYALTY OWNER: MARK LEWIS STOUT
DRILL X DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,625 TVD 21,219.24 TMD

Table with 2 columns: WELL OPERATOR (ARSENAL RESOURCES) and DESIGNATED AGENT (WILLIAM VEIGEL) with addresses and contact info.

Table with 2 columns: LEGEND (PROPOSED SURFACE HOLE, EXISTING WELLHEAD, LPL, etc.) and REVISIONS/DATE.



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE, SUITE 200
 BRIDGEPORT, WV 26330
 304-933-3119

02/15/2019

WELL BORE TABLE FOR SURFACE OWNERS		
TRACT	SURFACE OWNER	TAX PARCEL
1	MARK LEWIS STOUT	05-14-67
2	WILLIAM I. AND CAROLYN HAMMARSTROM	09-08-08
3	DANIEL J. ESSIG	09-08-09
4	DANIEL J. ESSIG	09-08-10
5	RICHARD L. CLEAVINGER, ET AL	09-13-32

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ROBERT M. SPENCER	05-14-45.2
B	MARK LEWIS STOUT	05-14-66
C	ALBERT C. AND GENEVIEVE WOLFE	05-14-63.3
D	KENNETH AND SARAH REED	05-14-63.4
E	MELVIN R. WILLIAMS	05-14-63.2
F	PATRICIA J. HARRYMAN	05-14-63.1
G	PATRICIA J. HARRYMAN	05-14-68
H	BECKWITH LUMBER COMPANY INC.	05-20-05
I	WILLIAM R. AND CRYSTAL D. MOSS, ET AL	09-08-11
J	CLEO EARL COFFMAN	09-08-10.1
K	TYSON E. AND TERI LYNN BUDNAR	09-08-12
L	TYSON E. AND TERI LYNN BUDNAR	09-08-13
M	CLEMENTA PROUDFOOT HRS	09-13-33
N	ROBERT R. AND MINDI J. JACOBS	09-14-17
O	ROBERT R. AND MINDI J. JACOBS	09-13-34.2
P	JASON P. AND BRENDA J. CORDER	09-13-35.7
Q	SUZAN AND GLEN MIMLITSCH	09-13-31
R	BECKWITH LUMBER COMPANY INC.	09-13-23
S	LEE SWIGER AND SHIRLEY SWIGER	09-08-10.2
T	DANIEL J. ESSIG	09-08-9.2
U	DANIEL J. ESSIG	09-08-9.1
V	JIM L. MALLOW	09-08-8.1
W	WILLIAM R. HAMMARSTROM	09-08-8.2
X	WILLIAM I. AND CAROLYN HAMMARSTROM	09-08-07
Y	WILLIAM R. AND ANNE V. HAMMARSTROM	09-08-06
Z	BECKWITH LUMBER COMPANY INC.	09-08-01
AA	BECKWITH LUMBER COMPANY INC.	05-20-10
BB	JAMES F. AND ALICIA M. KINSEY	05-20-04

REVISIONS:

COMPANY:



OPERATOR'S

MSTOUT TCP55

DATE: 09-11-2018

WELL #:

202

DRAWN BY: K.E.S.

DISTRICT:
COURTHOUSE DISTRICT

COUNTY:
TAYLOR

STATE:
WV

SCALE: N/A
 DRAWING NO: 172-461
 WELL LOCATION PLAT 2

Attachment to WW-6A1, M Stout TCP 55 202

Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
1 (00005165)	Mark Lewis Stout and Lisa Vincent Stout	PDC Mountaineer	16.50%	64/51	269
	PDC Mountaineer	River Ridge Energy, LLC		8/544	
2 (00005921)	Sallie Paugh and C.W. Paugh, her husband	Union Drilling Inc. and Allerton Miller	12.50%	70/5	156
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company, Inc.		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (also 139/48)	
Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)		
3 (00005960)	A.I. Swiger and Valarie A. Swiger, his wife	Union Drilling Inc. and Allerton Miller	12.50%	70/17	61
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company, Inc.		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (also 139/48)	
Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)		

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Attachment to WW-6A1, M Stout TCP 55 202

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4 (00005923)	Esther Cole and Ingaba Cole, his wife; Clay Stout and Dois Stout, his wife	Cumberland and Allegheny Gas Company		46/56	145
	Cumberland and Allegheny Gas Company	Union Drilling Inc. and Allerton Miller		46/347	
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company, Inc.		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (also 139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)	
4 (00005770)	Clay Stout and Doris Stout, his wife	Union Drilling Inc. and Allerton Miller	12.50%	70/11	95
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company, Inc.		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (also 139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)	

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5 (00005810)	O. Benny Cleavenger and Ruth Cleavenger, his wife, Johnnie E. Cleavenger and Sheila Cleavenger, his wife, Richard L. Cleavenger and Patricia Irene Cleavenger, his wife, Betty Lou Stiltner and Charles Stiltner, her husband, Betty Lou Stiltner as Guardian for Allen Cleavenger, an infant, Betty Lou Cleavenger as Guardian for Ronald Cleavenger, Edward Cleavenger and Michael Cleavenger, infants	Union Drilling, Inc.	12.50%	69/437	175
	Union Drilling, Inc	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company, Inc.		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (also 139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)	

✓

West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

NOTICE: The West Virginia Secretary of State's Office makes every reasonable effort to ensure the accuracy of information. However, we make no representation or warranty as to the correctness or completeness of the information. If information is missing from this page, it is not in the The West Virginia Secretary of State's database.

SENECA-UPSHUR PETROLEUM, LLC

Organization Information								
Org Type	Effective Date	Established Date	Filing Date	Charter	Class	Sec Type	Termination Date	Termination Reason
LLC Limited Liability Company	2/12/1973		2/12/1973	Domestic	Profit			

Organization Information			
		RECEIVED Office of Oil and Gas OCT 03 2018	
Business Purpose	2111 - Mining, Quarrying, Oil & Gas Extraction - Oil and Gas Extraction - Crude Oil and Natural Gas Extraction		Capital Stock WV Department of Environmental Protection
Charter County			Control Number 0
Charter State	WV		Excess Acres 0
At Will Term	A		Member Managed MBR
At Will Term Years	Par Value		
Authorized Shares			

Addresses

Type	Address
Designated Office Address	65 PROFESSIONAL PLACE SUITE 200 BRIDGEPORT, WV, 26330
Mailing Address	6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090 USA
Notice of Process Address	CORPORATION SERVICE COMPANY 209 WEST WASHINGTON STREET CHARLESTON, WV, 25302
Principal Office Address	6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090 USA
Type	Address

Officers

Type	Name/Address	
Member	RIVER RIDGE ENERGY, LLC 6031 WALLACE ROAD EXTENSION, SUITE 300 WEXFORD, PA, 15090	RECEIVED Office of Oil and Gas OCT 03 2018
Organizer	TAMMY J OWEN 300 SUMMERS STREET, STE 1500 PO BOX 2107 CHARLESTON, WV, 25328 USA	WV Department of Environmental Protection
Type	Name/Address	

DBA

DBA Name	Description	Effective Date	Termination Date
KEYSPAN PRODUCTION & DEVELOPMENT COMPANY	TRADENAME	6/11/2004	
NATIONAL GRID	TRADENAME	8/17/2007	
NATIONAL GRID PRODUCTION AND DEVELOPMENT	TRADENAME	12/5/2008	5/9/2012
DBA Name	Description	Effective Date	Termination Date

Name Changes

4709 01349

Date	Old Name
3/28/2011	SENECA-UPSHUR PETROLEUM, INC.
Date	Old Name

Date	Amendment
6/15/2016	AMENDMENT FILED CHANGING FROM A MANAGER-MANAGED CO. TO A MEMBER-MANAGED CO. >> REMOVED ROBERT KOZEL & STEPHEN A. BISHOP AS MANAGERS & ADDED SOLE MEMBER (C IMAGE).
3/28/2011	CONVERSION: FROM SENECA-UPSHUR PETROLEUM, INC. TO SENECA-UPSHUR PETROLEUM, LLC
7/25/1997	MERGER; MERGING LITTLE SWISS DRILLING COMPANY, A QUAL WV CORP AND PALACE VALLEY PETROLEUM COMPANY, A QUAL WV CORP WITH AND INTO SENECA-UPSHUR PETROLEUM, INC., A QUAL WV CORP, THE SURVIVOR.
Date	Amendment

Annual Reports	
Filed For	
2018	
2017	
2016	
2015	
2014	
2013	
2012	
2011	
2010	
2009	
2008	
2007	
2006	
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1999
1998
Date filed

For more information, please contact the Secretary of State's Office at 304-558-8000.

Wednesday, July 18, 2018 — 1:13 PM

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OCT 03 2018
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Agreement to Drill, Complete and Operate Oil & Gas Wells

This Agreement to Drill, Complete and Operate Oil & Gas Wells (this "Agreement"), by and among Mountaineer Keystone LLC, a West Virginia limited liability company ("Mountaineer Keystone"), PDC Mountaineer, LLC, a Delaware limited liability company ("PDC"), and PDC Mountaineer Holdings, LLC, a Delaware limited liability company ("PDC Holdings"), is effective as of October 15, 2014. (the "Effective Date") and sets forth the terms pursuant to which Mountaineer Keystone will drill, complete and operate the Wells (as defined below) on behalf of PDC and PDC Holdings. Mountaineer Keystone, PDC, and PDC Holdings are each a "Party" and are collectively the "Parties". In consideration of the foregoing and the respective agreements hereinafter set forth and the mutual benefits to be derived therefrom, the Parties, intending to be legally bound, hereby agree as follows:

1. **Term:** This Agreement is effective from the Effective Date until terminated by Mountaineer Keystone on the one hand or PDC and PDC Holdings on the other hand with 30 days' written notice to the other Party or Parties, as applicable (the "Term").
2. **Authorization to Operate:** PDC and PDC Holdings authorize Mountaineer Keystone to undertake and perform, on PDC and PDC Holdings behalf, all operations, including without limitation permit applications, well pad preparation, drilling and completing wells, and marketing gas, oil and other hydrocarbons therefrom with respect to all oil and gas wells to be drilled on oil and gas leasehold acreage held by PDC or PDC Holdings. PDC, PDC Holdings and Mountaineer Keystone are affiliates with a common parent. Mountaineer Keystone was formed to operate oil and gas leasehold acreage held by PDC, PDC Holdings and certain other affiliates. Mountaineer Keystone agrees that it shall, in a good and workmanlike manner and in accordance with industry standards as they prevail in the area, drill, complete and operate oil and gas wells on leasehold acreage owned by PDC or PDC Holdings from time to time as directed by PDC or PDC Holdings (collectively, the "Wells").
3. **No Third Party Beneficiary:** This Agreement is for the benefit of the Parties and is not for the benefit of any third party.
4. **Counterparts:** This Agreement may be simultaneously executed in several counterparts and via facsimile or similar electronic transmittal, each of which shall be deemed to be an original and taken together shall constitute one and the same instrument.

[Signature Page Follows]

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IN WITNESS WHEREOF, Mountaineer Keystone, PDC, and PDC Holdings have caused their duly authorized representatives to execute this Agreement as of the Effective Date.

MOUNTAINEER KEYSTONE LLC

By: 
Name: Robert Keel
Title: CEO

PDC MOUNTAINEER, LLC

By: 
Name: Robert Keel
Title: CEO

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WV Department of
Environmental Protection

PDC MOUNTAINEER HOLDINGS, LLC

By: 
Name: Robert Keel
Title: CEO

Agreement to Drill, Complete and Operate Oil & Gas Wells

This Agreement to Drill, Complete and Operate Oil & Gas Wells (this "Agreement"), by and among Arsenal Resources LLC, a West Virginia limited liability company ("Arsenal"), River Ridge Energy, LLC, a Delaware limited liability company ("River Ridge"), and River Ridge Energy, Holdings, LLC, a Delaware limited liability company ("River Ridge Holdings"), is effective as of March 1, 2017. (the "Effective Date") and sets forth the terms pursuant to which Arsenal will drill, complete and operate the Wells (as defined below) on behalf of River Ridge and River Ridge Holdings. Arsenal, River Ridge, and River Ridge Holdings are each a "Party" and are collectively the "Parties". In consideration of the foregoing and the respective agreements hereinafter set forth and the mutual benefits to be derived therefrom, the Parties, intending to be legally bound, hereby agree as follows:

1. **Term:** This Agreement is effective from the Effective Date until terminated by Arsenal on the one hand or River Ridge and River Ridge Holdings on the other hand with 30 days' written notice to the other Party or Parties, as applicable (the "Term").
2. **Authorization to Operate:** River Ridge and River Holdings authorize Arsenal to undertake and perform, on River Ridge and River Ridge Holdings behalf, all operations, including without limitation permit applications, well pad preparation, drilling and completing wells, and marketing gas, oil and other hydrocarbons therefrom with respect to all oil and gas wells to be drilled on oil and gas leasehold acreage held by River Ridge or River Ridge Holdings. River Ridge, River Ridge Holdings and Arsenal are affiliates with a common parent. Arsenal was formed to operate oil and gas leasehold acreage held by River Ridge, River Ridge Holdings and certain other affiliates. Arsenal agrees that it shall, in a good and workmanlike manner and in accordance with industry standards as they prevail in the area, drill, complete and operate oil and gas wells on leasehold acreage owned by River Ridge or River Ridge Holdings from time to time as directed by River Ridge or River Ridge Holdings (collectively, the "Wells").
3. **No Third Party Beneficiary:** This Agreement is for the benefit of the Parties and is not for the benefit of any third party.
4. **Counterparts:** This Agreement may be simultaneously executed in several counterparts and via facsimile or similar electronic transmittal, each of which shall be deemed to be an original and taken together shall constitute one and the same instrument.

[Signature Page Follows]

RECEIVED
Office of Oil and Gas
OCT 03 2018
WV Department of Environmental Protection

IN WITNESS WHEREOF, Arsenal, River Ridge, and River Ridge Holdings have caused their duly authorized representatives to execute this Agreement as of the Effective Date.

ARSENAL RESOURCES LLC

By: Joel E. Symonds
Name: Joel E. Symonds
Title: Vice President - Land

RIVER RIDGE ENERGY, LLC

By: Joel E. Symonds
Name: Joel E. Symonds
Title: Vice President - Land

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OCT 03 2018

RIVER RIDGE HOLDINGS, LLC

By: Joel E. Symonds
Name: Joel E. Symonds
Title: Vice President - Land

WV Department of
Environmental Protection



People Powered. Asset Strong.

August 1, 2018

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

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OCT 03 2018

WV Department of
Environmental Protection

RE: Ownership of Roadways; MStout TCP55

Dear Mr. Martin:

In preparation of filing a permit application for the above referenced well, the Title Department of Arsenal Resources has conducted a thorough title examination in order to determine the ownership of the oil and gas underlying all roadways crossed by the proposed well(s). The findings of the title examination show that some of the roadways crossed by the proposed well(s) are owned in fee by the West Virginia Department of Transportation, Division of Highways and that some are only right of ways. If owned in fee by the West Virginia Department of Transportation, Division of Highways, a lease covering its interest in the roadway or roadways has been properly obtained and provided in the application materials. If a right of way only, the oil and gas underlying such roadway or roadways is owned by the adjoining landowners and is also covered by the leaseholds provided in the application materials.

If you have any questions, concerns or need further information, please do not hesitate to contact me at the address listed below.

Sincerely,

A handwritten signature in blue ink that reads 'Coty Brandon'.

Coty Brandon
Title Manager

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

Date of Notice Certification: 9-12-18

API No. 47- 091 - 01349
Operator's Well No. MStout TCP55 202
Well Pad Name: MStout TCP55

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>577,199.512</u>
County:	<u>Taylor</u>		Northing:	<u>4,345,312.872</u>
District:	<u>Court House</u>	Public Road Access:	<u>CR 13/5 (Bosely/Gabes Fork Road)</u>	
Quadrangle:	<u>Grafton</u>	Generally used farm name:	<u>M Stout</u>	
Watershed:	<u>Gabe Fork</u>			

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

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

*PLEASE CHECK ALL THAT APPLY

- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
- 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- 4. NOTICE OF PLANNED OPERATION
- 5. PUBLIC NOTICE
- 6. NOTICE OF APPLICATION

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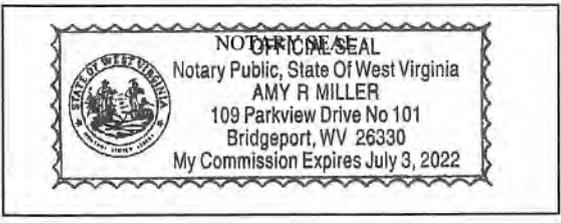
Required Attachments:

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.

Certification of Notice is hereby given:

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

Well Operator:	<u>Arsenal Resources</u>	Address:	<u>6031 Wallace Road Extension, Suite 300</u>
By:	<u>William Veigel</u>		<u>Wexford, PA 15090</u>
Its:	<u>Designated Agent</u>	Facsimile:	<u>304-848-9134</u>
Telephone:	<u>724-940-1218</u>	Email:	<u>kdavis@arsenalresources.com</u>



Subscribed and sworn before me this 12 day of September
Amy R Miller Notary Public
 My Commission Expires July 3, 2022

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 9-12-18 **Date Permit Application Filed:** 10-1-18

Notice of:

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

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

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

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

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WV Department of Environmental Protection

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

SURFACE OWNER(s)

Name: Mark Lewis Stout
Address: 629 Berry Run Road
Flemington, WV 26347

Name: _____
Address: _____

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

Name: Mark Lewis Stout
Address: 629 Berry Run Road
Flemington, WV 26347

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: See Attached
Address: _____

COAL OPERATOR

Name: _____
Address: _____

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

Name: See Attached
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

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Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

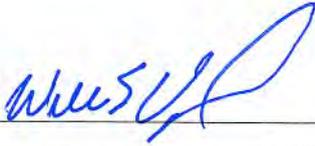
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Environmental Protection

WW-6A
(8-13)

API NO. ~~4709~~ ^{02/15/2019}
OPERATOR WELL NO. ~~01349~~
Well Pad Name: MStout TCP55

Notice is hereby given by:

Well Operator: Arsenal Resources
Telephone: 724-940-1218
Email: kdavis@arsenalresources.com



Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090
Facsimile: 304-848-9134

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 12 day of September
Amy R Miller Notary Public
My Commission Expires July 3, 2022

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Environmental Protection

Arsenal Resources
M Stout TCP55

WW-6A Notice of Application, Attachment (Page 1 of 2)

Water Purveyors (Continued):

Robert A. Klepfel
101 E Washington Street
Grafton, WV 26354

Kenneth Reed
911 Bosler Hollow Rd
Flemington, WV 26347

William P. Saltis
PO Box 61
Flemington, WV 26347

A J Smith Heirs
6108 Ambassador Dr
Orlando, FL 32808

Robert M. Spencer
904 Bosley Hollow Rd
Flemington, WV 26347

Mark L. Stout
629 Berry Run Rd
Flemington, WV 26347

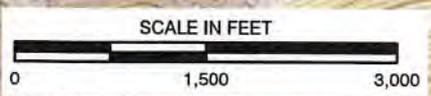
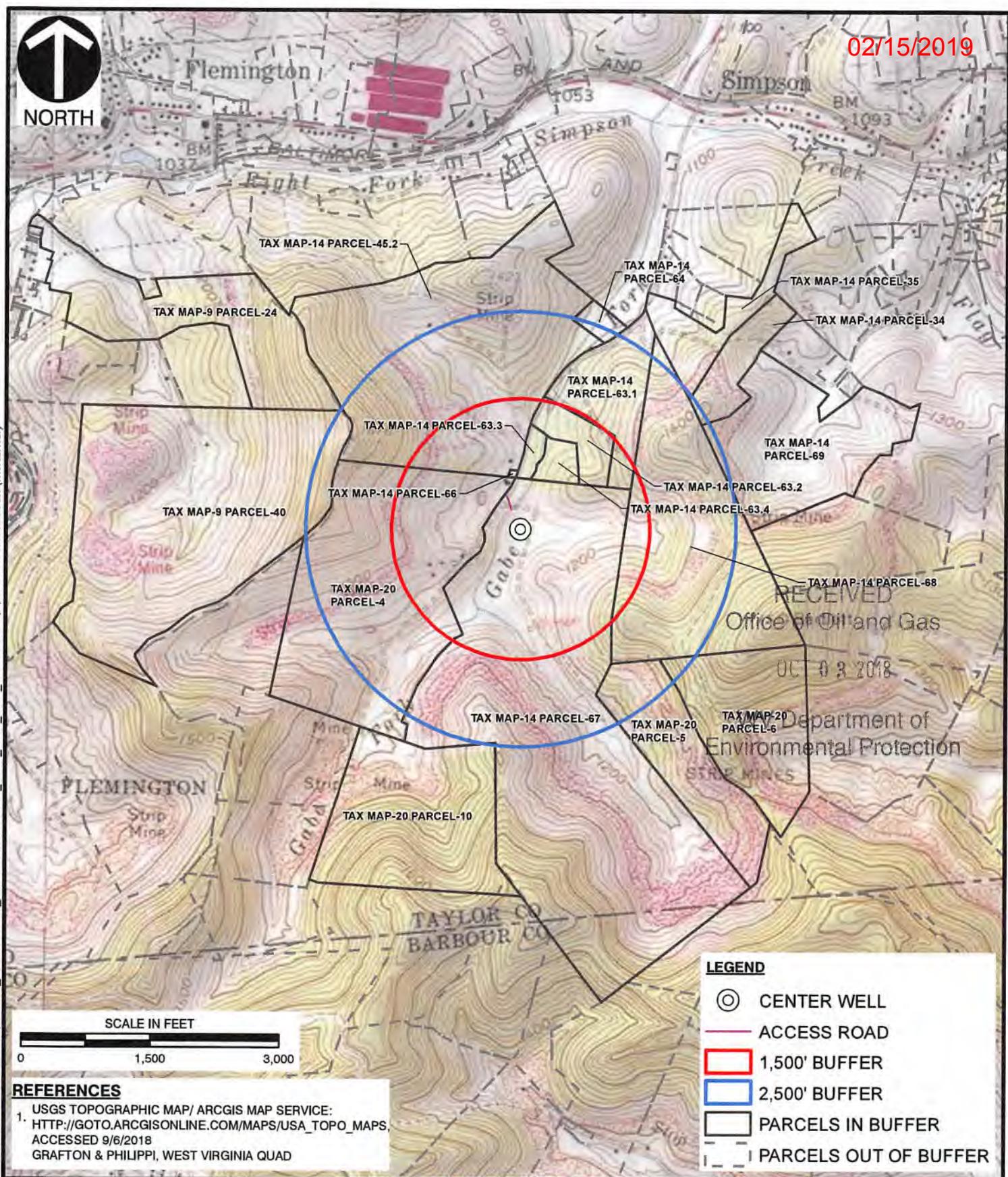
Denver Leeman Taylor Jr.
550 Bosley Hollow Rd
Flemington, WV 26347

Melvin R. Williams
795 Bosley Hollow Rd
Flemington, WV 26347

Albert C. Wolfe
853 Bosley Hollow Rd
Flemington, WV 26347

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02/15/2019



LEGEND

- CENTER WELL
- ACCESS ROAD
- 1,500' BUFFER
- 2,500' BUFFER
- PARCELS IN BUFFER
- PARCELS OUT OF BUFFER

REFERENCES

1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:
[HTTP://GTO.ARCGISONLINE.COM/MAPS/USA_TOPO_MAPS](http://gto.arcgis.com/maps/usa_topo_maps),
 ACCESSED 9/6/2018
 GRAFTON & PHILIPPI, WEST VIRGINIA QUAD



Civil & Environmental Consultants, Inc.
 600 Marketplace Avenue, Suite 200 - Bridgeport, WV 26330-9121
 Ph: 304-933-3119 · Toll: 855-488-9539 · Fax: 304-933-3327
www.cecinc.com

ARSENAL RESOURCES
 MSTOUT TCP 55
 TAYLOR COUNTY, WEST VIRGINIA

USGS SITE LOCATION MAP

DRAWN BY: MWT	CHECKED BY: JDR	APPROVED BY: *Hand signature on file JDR*	FIGURE NO: 1
DATE: 09/06/2018	SCALE: 1" = 1,500'	PROJECT NO: 172-461.2104	

\\sfr-bridgeport\projects\2017172-461-GIS\Map\Task_2104\WATER_PURVEYOR\172461_2104_FIG1_SITE_LOC.mxd - 9/6/2018 - 11:10:31 AM (mwtturner)

02/15/2019

M Stout TCP 55 Water Purveyor Information:

Land Owners	Tax Map and Parcel	Address
Beckwith Lumber Company Inc.	5-20-5	PO Box 39 Slatyfork, WV 26291
Beckwith Lumber Company Inc.	5-20-10	PO Box 39 Slatyfork, WV 26291
E&L Land Management LLC	5-14-34	3691 George Washington HWY Tunnelton, WV 26444
Greathouse Eleanor D	4-9-24	486 Substation Rd Flemington, WV 26347
Harryman Patricia J	5-14-63.1	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Harryman Patricia J	5-14-68	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Harryman Patricia J	5-20-6	655 Mulberry Ave. - Apt A, Clarksburg, WV 26301
Kinsey James F	5-20-4	1152 Boselt Hollow Rd Flemington, WV 26347
Klepfel Robert A	5-14-69	101 E Washington St Grafton, WV 26354
Reed Kenneth	5-14-63.4	911 Bosler Hollow Rd Flemington, WV 26347
Saltis William P	5-14-35	PO Box 61 Flemington, WV 26347
Smith A J - Heirs	4-9-40	6108 Ambassador Dr Orlando, FL 32808
Spencer Robert M	5-14-45.2	904 Bosley Hollow Rd Flemington, WV 26347
Stout Mark L	5-14-66	629 Berry Run Rd Flemington, WV 26347
Stout Mark L	5-14-67	629 Berry Run Rd Flemington, WV 26347
Taylor Denver Leeman Jr	5-14-64	550 Bosley Hollow Rd Flemington, WV 26347
Williams Melvin R	5-14-63.2	795 Bosley Hollow Rd Flemington, WV 26347
Wolfe Albert C	5-14-63.3	853 Bosley Hollow Rd Flemington, WV 26347

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WV Department of
Environmental Protection

Arsenal Resources
M Stout TCP55
WW-6A Notice of Application, Attachment (Page 1 of 2)

Coal Owner or Lessee:

Glenville State College Foundation, Inc.
200 High Street
Glenville, WV 26351

CoalQuest Development, LL
C/O Ark Land Company
Attn: Charles Duckworth
100 Tygart Drive
Grafton, WV 26354

Mark Lewis Stout
629 Berry Run Road
Flemington, WV 26347

Water Purveyors:

Beckwith Lumber Company Inc.
P.O. Box 39
Slatyfork WV 26291

E&L Land Management LLC
3691 George Washington HWY
Tunnelton, WV 26444

Eleanor D. Greathouse
486 Substation Rd
Flemington, WV 26347

Patricia J. Harryman
655 Mulberry Ave – Apt A
Clarksburg, WV 26301

James F. Kinsey
1152 Boselt Hollow Road
Flemington, WV 26347

RECEIVED
Office of Oil and Gas
OCT 03 2018
WV Department of
Environmental Protection

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

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

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

Date of Notice: 9-12-18 Date Permit Application Filed: 10-1-18

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

- HAND DELIVERY CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

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

Name: Mark Lewis Stout
Address: 629 Berry Run Road
Flemington, WV 26347

Name: _____
Address: _____

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JUL 03 2018
WV Department of Environmental Protection

Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 577,199.512
County: Taylor Northing: 4,345,312.872
District: Court House Public Road Access: CR 13/5 (Bosely/Gabes Fork Road)
Quadrangle: Grafton Generally used farm name: M Stout
Watershed: Gabe Fork

This Notice Shall Include:

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

Notice is hereby given by:

Well Operator: Arsenal Resources
Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090
Telephone: 724-940-1218
Email: kdavis@arsenalresources.com
Facsimile: 304-848-9134

Authorized Representative: William Veigel
Address: 65 Professional Place, Suite 200
Bridgeport, WV 26330
Telephone: 724-940-1218
Email: kdavis@arsenalresources.com
Facsimile: 304-848-9134

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 9-12-18 **Date Permit Application Filed:** 10-1-18

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

- CERTIFIED MAIL** **HAND**
RETURN RECEIPT REQUESTED **DELIVERY**

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

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Office of Oil and Gas
OCT 03 2018

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: Mark Lewis Stout
Address: 629 Berry Run Road
Flemington, WV 26347

Name: _____
Address: _____

WV Department of
Environmental Protection

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>577,199.512</u>
County:	<u>Taylor</u>	Northing:	<u>4,345,312.872</u>
District:	<u>Court House</u>	Public Road Access:	<u>CR 13/5 (Bosely/Gabes Fork Road)</u>
Quadrangle:	<u>Grafton</u>	Generally used farm name:	<u>M Stout</u>
Watershed:	<u>Gabe Fork</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: Arsenal Resources
Telephone: 724-940-1218
Email: kdavis@arsenalresources.com

Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090
Facsimile: 304-848-9134

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.

12-513

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL LOCATION RESTRICTION WAIVER

The well operator, Arsenal Resources is applying for a permit from the State of West Virginia to conduct oil or gas well work. Please be advised that well work permits are valid for twenty-four (24) months.

Well Location Restrictions

Pursuant to West Virginia Code § 22-6A-12(a), 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.

WAIVER

I, James F. & Alicia M. Kinsey, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through _____, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>577175.100</u>
County: <u>Taylor</u>	UTM NAD 83 Northing: <u>4345332.137</u>
District: <u>Court house</u>	Public Road Access: <u>CR 13/5</u>
Quadrangle: <u>Grafton</u>	Generally used farm name: <u>Mark Stout</u>
Watershed: <u>Gabes Fork</u>	

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

- *Please check all that apply
- EXISTING WATER WELLS
 - DEVELOPED SPRINGS
 - DWELLINGS
 - AGRICULTURAL BUILDINGS

FOR EXECUTION BY A NATURAL PERSON

Signature: James F. Kinsey Alicia M. Kinsey
 Print Name: James F. Kinsey Alicia M. Kinsey
 Date: 3/8/18

FOR EXECUTION BY A CORPORATION, ETC.
 Company: Arsenal Resources
 By: William Veigel
 Its: Designated Agent
 Signature: William Veigel
 Date: 3/13/18

Well Operator: Arsenal Resources Signature: William Veigel
 By: William Veigel Telephone: 724-940-1218
 Its: Designated Agent



Subscribed and sworn before me this 8th day of March 2018
Nicholas Shamblin Notary Public
 My Commission Expires April 30, 2024

Oil and Gas Privacy Notice:

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

02/15/2019

4709 01349

MStout TCP55 Well #202			
FRACTURING ADDITIVES			
	PURPOSE	TRADE NAME	CAS #
Additive #1:	Friction Reducer	WFRA-405	Proprietary
Additive #2:	Scale Inhibitor	SI-1000	7440-21-3
Additive #3:	Biocide	BIOCLEAR 2000	25314-61-8
Additive #4:	Gelling Agent	LGC-15	9000-30-0
Additive #5:	Corrosion Inhibitor	AI-300	111-76-2
Additive #6:	Gel Breaker	AP-One	7727-54-0
Additive #7:	Acid	HCl - 7.5%	7647-01-0

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OCT 03 2018

WV Department of
Environmental Protection

02/15/2019



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

February 13, 2019

Jill M. Newman
Deputy Commissioner

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

Subject: DOH Permit for the M Stout TCP 55 Pad, Taylor County

M Stout TCP 55 202 Well Site

RECEIVED
Office of Oil and Gas

FEB 13 2019

WV Department of
Environmental Protection

Dear Mr. Martin,

The West Virginia Division of Highways has received application #04-2018-1101 for the subject site from ARSENAL Resources for access to the State Road for the well site located off of Taylor County 13/5 SLS. Division is working with Company on an agreement for needed road upgrades. No construction on the road access is to begin until the approved MM-109 is received by Company.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT for DOH District 4 and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated October 1, 2018.

Very Truly Yours,

A handwritten signature in blue ink that reads "Gary K. Clayton".

Gary K. Clayton
Regional Maintenance Engineer
Central Office Oil & Gas Coordinator

Cc: Kelly Davis
ARSENAL Resources
CH, OM, D-4
File

APPROVED
WVDEP OOG
2/1/2019

MSTOUT TCP55 WELL PAD SITE PLAN ARSENAL RESOURCES

LAT./LONG: N 39.253973° W -80.105438°
(APPROXIMATE CENTER OF PROJECT)

LOCAL EMERGENCY SERVICES		
AWIS LANCE	NAME	TELEPHONE NO.
		911
HOSPITAL EMERGENCY ROOM	UNITED HOSPITAL CENTER	(801) 942-1000
FIRE DEPARTMENT		911
POLICE DEPARTMENT		911
POISON CONTROL CENTER	WEST VIRGINIA POISON CENTER	(800) 222-1222

FLOOD PLAN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN	NO
PERMIT REQUIRED FROM COUNTY FLOODPLAIN COORDINATOR	NO
HEADAS STUDY COMPLETED	NA
FLOODPLAIN SHOWN ON DRAWINGS	NA
FIRM MAP NUMBER(S) FOR SITE	3408C0215C
ACRES OF CONSTRUCTION IN A FLOODPLAIN	0.00 AC

PROJECT OWNER/APPPLICANT
ARSENAL RESOURCES
95 PROFESSIONAL PLACE, SUITE 200
BRIDGEPORT, WV 26337
PH: (724) 948-1204
CONTACT: EDDIE CARDER

CONTACT ENGINEER
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
609 MARKETPLACE AVENUE, SUITE 201
BRIDGEPORT, WV 26330
PH: (304) 933-3119
CONTACT: JOSEPH D. ROBINSON, P.E.

WVCOE
DISTRICT FOUR
PH: (304) 842-1550
CONTACT: DISTRICT ENGINEER
DONALD L. WILLIAMS, P.E.

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

NATIONAL RESPONSE CENTER
PH: (800) 452-8862



LOCATION MAP
GRAFTON USGS 7.5' QUAD
SCALE: IN FEET
0 1000 2000
1 INCH = 1000 FEET



VICINITY MAP
TAYLOR COUNTY ROAD MAP
SCALE: IN FEET
0 1 MILE 2 MILES
1 INCH = 1 MILE

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

SHEET INDEX

1. COVER SHEET	10. GULVERT PROFILES	16. DETAILS
2. GENERAL NOTES	11. PROFILES AND SECTIONS	20. DETAILS
3. MATERIAL QUANTITIES	12. PROFILES AND SECTIONS	21. DETAILS
4. MASTER LEGEND	13. PROFILES AND SECTIONS	22. RECLAMATION PLAN
5. EXISTING CONDITIONS	14. PROFILES AND SECTIONS	23. RECLAMATION PLAN
6. SITE PLAN	15. PROFILES AND SECTIONS	24. RECLAMATION PLAN
7. SITE PLAN	16. PROFILES AND SECTIONS	
8. SITE PLAN	17. DETAILS	
9. BOX GULVERT PLAN	18. DETAILS	

LOCATION COORDINATES

SITE LOCATIONS	W83-RF (NORTH ZONE)		UTM83-17	
	LATITUDE	LONGITUDE	NORTHING	EASTING
MAIN ACCESS ROAD ENTRANCE	39.255087	-80.105974	4345465.287	577137.1852
CENTROID OF WELL PAD	39.253926	-80.105433	4345336.902	577185.1382
CENTROID OF TANK ON AST PAD	39.254064	-80.101946	4345325.166	577485.8827

GRADING VOLUMES

DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
MAIN ACCESS ROAD	113	782	-669
AST ACCESS ROAD	457	3825	-3368
LAND OWNER ACCESS ROAD	778	367	411
WELL PAD	16,202	8,235	7,967
AST PAD	2,554	13,977	-11,423
SPILL-1	0	577	-577
TOTAL	27,867	27,867	0
TOPSOIL / STRIPPING WITH 20% SWELL	(9,730 C.Y.)	8,108 C.Y.	
TOTAL EXCAVATION	35,976	35,976	0

LIMITS OF DISTURBANCE PARCEL BREAK UPS - MSTOUT TCP 55 PAD

TAYLOR COUNTY, WEST VIRGINIA					
OWNER	TAX PARCEL	DEED PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACERAGE
STOUT MARK LEWIS	14-07	333-28	299.00	MAIN ACCESS ROAD	0.65
				AST PAD	2.41
				WELL PAD	5.41
				LAND OWNER ACCESS	0.28
				AST ACCESS	1.62
				SPILL FILE 1	0.37
				TOPSOIL/STRIPPING FILE 1	0.72
				PARCEL TOTAL	11.26
				TOTAL	11.26

STREAM IMPACTS (LINEAL FEET)

STREAM AND IMPACT CAUSE	TYPE OF STREAM	CULVERT	INLET/OUTLETS STRUCTURES (LF)	CONSTRUCTION DISTURBANCE TO LOO (LF)	TOTAL IMPACT (FT)
GAGES FORK	PERENNIAL	YES	0	132	132
TOTAL					132

L.O.D. AREAS

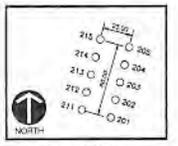
DESCRIPTION	ACRES
MAIN ACCESS ROAD	0.65
AST PAD	2.41
WELL PAD	5.41
LAND OWNER ACCESS	0.28
AST ACCESS	1.62
SPILL FILE 1	0.37
TOPSOIL/STRIPPING FILE 1	0.72
TOTAL	11.26
WOODED	0.92

WETLAND IMPACTS (SF/AC)

WETLAND (IMPACT AND CAUSE)	AREA (SF/AC)	CONSTRUCTION DISTURBANCE DESCRIPTION
WETLAND H - ENGINEERED FILL	2,958 / 0.068	WELL PAD FILL
WETLAND F - ENGINEERED FILL	434 / 0.010	WELL PAD FILL
WETLAND G - ENGINEERED FILL	254 / 0.006	WELL PAD FILL
WETLAND I - ENGINEERED FILL	6,167 / 0.142	WELL PAD CUT
WETLAND O - ENGINEERED FILL	166 / 0.004	LANDOWNER ACCESS ROAD
TOTAL	9,939 / 0.230	

WELL RESTRICTIONS CHECKLIST (HORIZONTAL 6A WELL)

RESTRICTION	YES	NO
AT LEAST 100 FEET FROM PAD AND CENTERLINE INCLUDING ANY EAS CONTROL FEATURE TO ANY PERENNIAL STREAM LAKE, POND, RESERVOIR OR WETLAND	YES	NO
AT LEAST 300 FEET FROM PAD AND LEO INCLUDING ANY EAS CONTROL FEATURE TO ANY SHALLOW PRODUCING TRIGHT STREAM	YES	NO
AT LEAST 1025 FEET FROM PAD AND LEO INCLUDING ANY EAS CONTROL FEATURE TO ANY SHALLOW WATER INTAKE OR PUBLIC WATER SUPPLY	YES	NO
AT LEAST 200 FEET FROM AN EXISTING WATER WELL OR DEVELOPED SPRING TO WELL BEING DRILLED	YES	NO
AT LEAST 200 FEET FROM AN OCCUPIED DWELLING STRUCTURE TO CENTER OF PAD	YES	NO
AT LEAST 200 FEET FROM AN AGRICULTURAL BUILDING LARGER THAN 2000 SQUARE FEET TO THE CENTER OF THE PAD	YES	NO



WELL HEAD LAYOUTS
NOT TO SCALE



REVISION RECORD

NO.	DATE	DESCRIPTION
1		

Civil & Environmental Consultants, Inc.
609 Marketplace Ave. Suite 200 - Bridgeport, WV 26330
PH: 304.933.3119 - 855.484.9539 - Fax: 304.933.3327
www.ceconline.com

ARSENAL RESOURCES
MSTOUT TCP55 WELL PAD
COURT HOUSE DISTRICT
TAYLOR CO., WEST VIRGINIA

COVER SHEET

DATE: JULY 2018
DRAWN BY: JDR
AS SHOWN UNLESS NOTED OTHERWISE
APPROVED BY: JDR

PROJECT NO: **C000**
SHEET: 1 OF 24

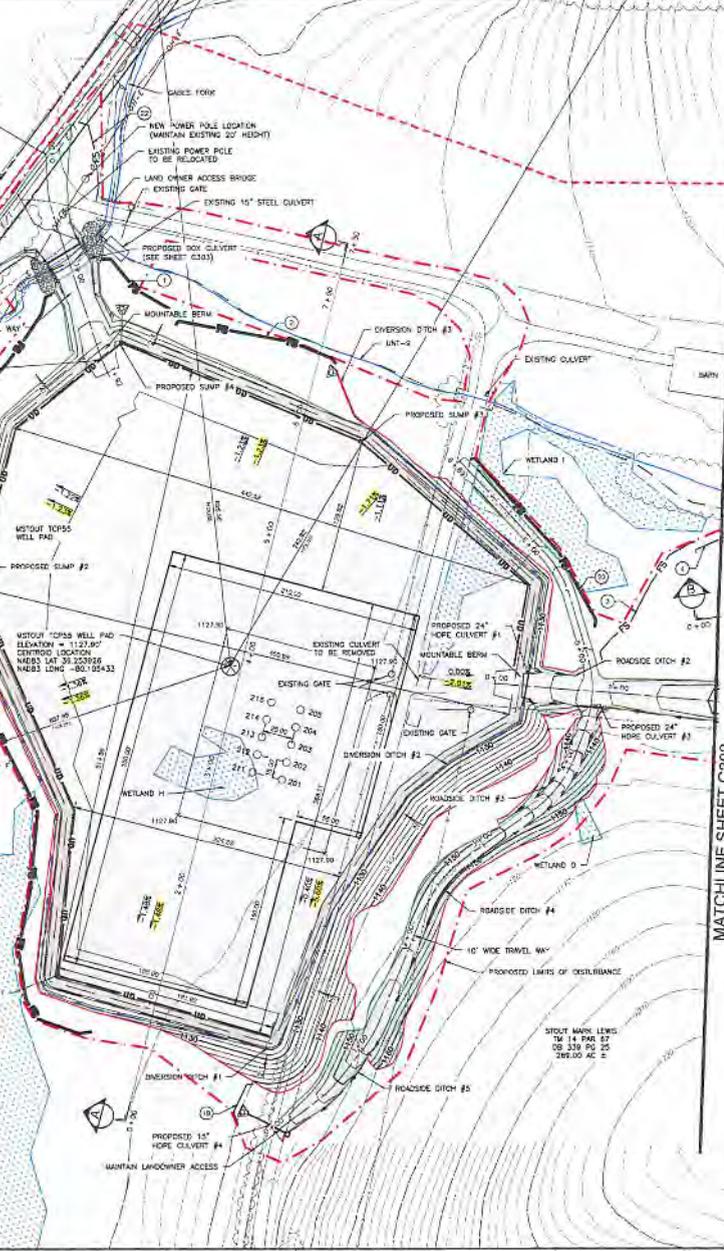


APPROVED
WVDEP OOG

130 2-1-2019

WESTOUT TOP54 WELL PAD
MAIN ACCESS ROAD ENTRANCE
NAD83 LAT = 38.265067
NAD83 LONG = -80.103974

KINSEY JAMES F & ALICIA M & SURV
TM 22 PAK 4
DP 317 PG 508



MATCHLINE SHEET C302

STOCK MARK LEGEND
TM 14 PAK 57
OS 339 PG 25
285.00 AC ±

STATION TOP WILL BE
TYPICAL FOR THIS
FINAL CITY PLAN 10/21/2018

NO.	DATE	BY	DESCRIPTION

CEE
Civil & Environmental Consultants, Inc.
 600 Marketplace Ave - Suite 200 - Bridgport, WV 26230
 Ph: 304.933.3119 • Fax: 304.933.3327
 www.ceecinc.com

ARSENAL RESOURCES
MSTOUT TCP65 WELL PAD
COURT HOUSE DISTRICT
TAYLOR CO, WEST VIRGINIA

SITE PLAN	
DATE:	JULY 2018 (REVISED)
BY:	AS SHOWN / CLOONEY
PROJECT NO.:	17248
APPROVED BY:	JPH



PROJECT NO:
C301
 SHEET 7 OF 24