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 west virginia department of environmental protection
 

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, February 12, 2019  
 WELL WORK PERMIT  
 Horizontal 6A / New Drill

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

Re: Permit approval for JOHNSON TFP40 206  
 47-091-01351-00-00

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: JOHNSON TFP40 206  
 Farm Name: RENEE JOHNSON  
 U.S. WELL NUMBER: 47-091-01351-00-00  
 Horizontal 6A New Drill  
 Date Issued: 2/12/2019

# 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

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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](mailto:DEPOOGNotify@wv.gov).



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west virginia department of environmental protection

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

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: February 12, 2019  
ORDER NO.: 2019-W-3

**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 25, 2018 Arsenal submitted a well work permit applications identified as API# 47-091-01351, 47-091-01352, 47-091-01353, 47-091-01354, 47-091-01355 and 47-091-01356. The proposed wells are to be located on the Johnson TFP40 Pad in the Rosemount District of Taylor County, West Virginia.
4. On October 25, 2018 Arsenal requested a waiver for Wetlands W, X, Y and BB as outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit applications identified as API# 47-091-01351, 47-091-01352, 47-091-01353, 47-091-01354, 47-091-01355 and 47-091-01356. The perennial stream Beards Run is more than 100’ from the LOD of the well pad so it will not be included in this order.

## 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**

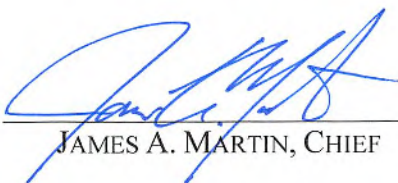
West Virginia Code §22-6A-12(b) requires, in part, that “no well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland. The Office of Oil and Gas grants the request for a waiver for Wetlands W, X, Y and BB well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-091-01351, 47-091-01352, 47-091-01353, 47-091-01354, 47-091-01355 and 47-091-01356. The Office of Oil and Gas hereby **ORDERS** that Arsenal shall meet the following site construction and operational requirements for the Johnson TFP40 Well Pad:

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

Thus ORDERED, the 12th day of February, 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



**LEGEND**

EXISTING TREE LINE	STARTING INDEX CONTOURLINE (10'
EXISTING RIGHT-OF-WAY	EXISTING INTERMEDIATE CONTOUR LINE
PROPERTY LINE	PROPOSED INTERMEDIATE CONTOUR LINE
SAFETY FENCE	EXISTING DITCH
EXISTING POWER	DRAINAGE FLOW DIRECTION
EXISTING ELECTRIC LINE	STREAM
EXISTING GAS LINE	DELIMITED STREAM
PROPOSED GAS LINE	DELIMITED WETLAND BOUNDARY
EXISTING WATER LINE	ROADWAY RIGHT-OF-WAY
FILL LIMITS	12" COMPOST FILTER SOCK (0.5')
OUT LIMITS	16" COMPOST FILTER SOCK (0.5')
TOE BEACH WITH DEAM	24" COMPOST FILTER SOCK (0.5')
ROADWAY CENTERLINE	SUBSBUILT FENCE (SBF)
SAFETY BENCH	EXISTING SPOT ELEVATION
LIMITS OF DISTURBANCE	PROPOSED SPOT ELEVATION
EXISTING UTILITY POLE	EXISTING STRUCTURE
PROPOSED SUMP	PROPOSED DRAIN
PROPOSED UNDERDRY PIPE	ROCKED BED DAM

- NOTES:**
1. TOPOGRAPHIC INFORMATION OBTAINED FROM BUREAU OF LAND MANAGEMENT (BLM) MAPS.
  2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPS SHOULD BE USED AS REFERENCE ONLY.
  3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON BLM MAP NUMBER SWS00000102000000 AND FROM MAP NUMBER SWS00000102000000. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE IV AS DEFINED BY THE BLM.
  4. RECEIVING STREAMS - BEARDS RUN AND UNMANNED TRIBUTARIES TO BEARDS RUN.

5. NO GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED AS PART OF THIS DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON SUBSURFACE CONDITIONS AND MATERIAL ENCOUNTERED.
6. PROPOSED CUT AND FILL SLOPES ARE TO BE GRAGED AT 2:1 UNLESS OTHERWISE NOTED.
7. FILLER EROSION CONTROL IS TO BE INSTALLED UP-DRAIN AND DOWN-DRAIN.
8. ALL DELIMITED WETLANDS WITHIN THE FIELD OF VIEW OF THE GRADING LIMITS WILL HAVE SAFETY FENCE INSTALLED. REFERENCE PLANS FOR LOCATIONS.



PROJECT: JOHNSON TFP40 WELL SITE  
 CLIENT: ARSENAL  
 DATE: 10/20/2016  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 SCALE: AS SHOWN  
 SHEET: 18 OF 18



02/15/2019

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: 47-091- 01352 01352

Operator's Well Number: Johnson TFP40 201 01253

01354

01355

01356

Well Operator: Arsenal Resources

Well Number: Johnson TFP40 201

Well Pad Name: Johnson TFP40

County, District, Quadrangle of Well Location: Harrison / Taylor Co, Districts 12 / 4, Rosemount WV 7.5 min Quad

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

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

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

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

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

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

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WV Department of  
Environmental Protection

02/15/2019

11/3/14  
Wetland and Perennial Stream Waiver Request

API Number: 47-091-  
Operator's Well Number: Johnson TFP40 201

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.

See the attached Stream and Wetland Report for stream/wetland names and locations. Waivers are being sought for Wetland X, Wetland BB, Wetland Y, Wetland W.

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

a. A No-Action Alternative would eliminate this multi-well pad for Arsenal Resources and the reserves underground for the company in this area. Thus ultimately lowering the company's overall reserves, borrowing based ability and revenue stream, along with the landowners royalties and revenue.

b. There is no feasible alternatives for this site due to topographic and environmental constraints. The current design layout maximizes distance from streams & wetlands while maintaining minimum operation dimensions.

c. Due to topographic, land owner, and environmental constraints the Excess Material Stockpiles and Topsoil Stockpiles could not be moved to another location that was flat enough to provide the necessary soil capacity. Therefore they must be located closer than 100' to all the before mentioned water resources. The current access road profile is a 15.0% grade and making it more steep would cause it to be unsafe for truck traffic.

d. The current design configuration is the least environmentally damaging, practicable alternative. Alternative pad configurations & locations explored result in more disturbance, more tree clearing and further the encroachments to streams & wetlands

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Environmental Protection

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: 47-091-

Operator's Well Number: Johnson TFP40 201

- 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.**

The Johnson TFP40 limits of disturbance will be protected by Erosion & Sediment Control covering the entire perimeter of the site. E&S measures will be in place prior to commencement of construction and remain in place until greater than 70% vegetative cover is established. The streams, ponds, and wetlands located within 100 feet of the LOD will be protected by utilizing the following controls.

For individual resource protections see attached sheets.

- 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.

Additional E&S Controls that may be used during the construction of this site include:

Silt Fence  
Super Silt Fence  
Rip-Rap Lined Channels  
Rip-Rap Aprons  
Stone Construction Entrance  
Roadway Ditches  
Roadway Culverts  
Temporary and Permanent Seeding & Mulching  
All disturbed areas are to be seeded as soon as possible.

Specific implementation of these controls can be found in the Erosion and Sedimentation Control Plan submitted with the permit application.

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02/15/2019

Response to question #3

Beards Run: Stone Construction Entrance sloping to roadside ditches and culverts Silt Fence, Super Silt Fence, and Temporary and Permanent Vegetative Cover will be located above the upstream tributaries of the stream and main stream channel.

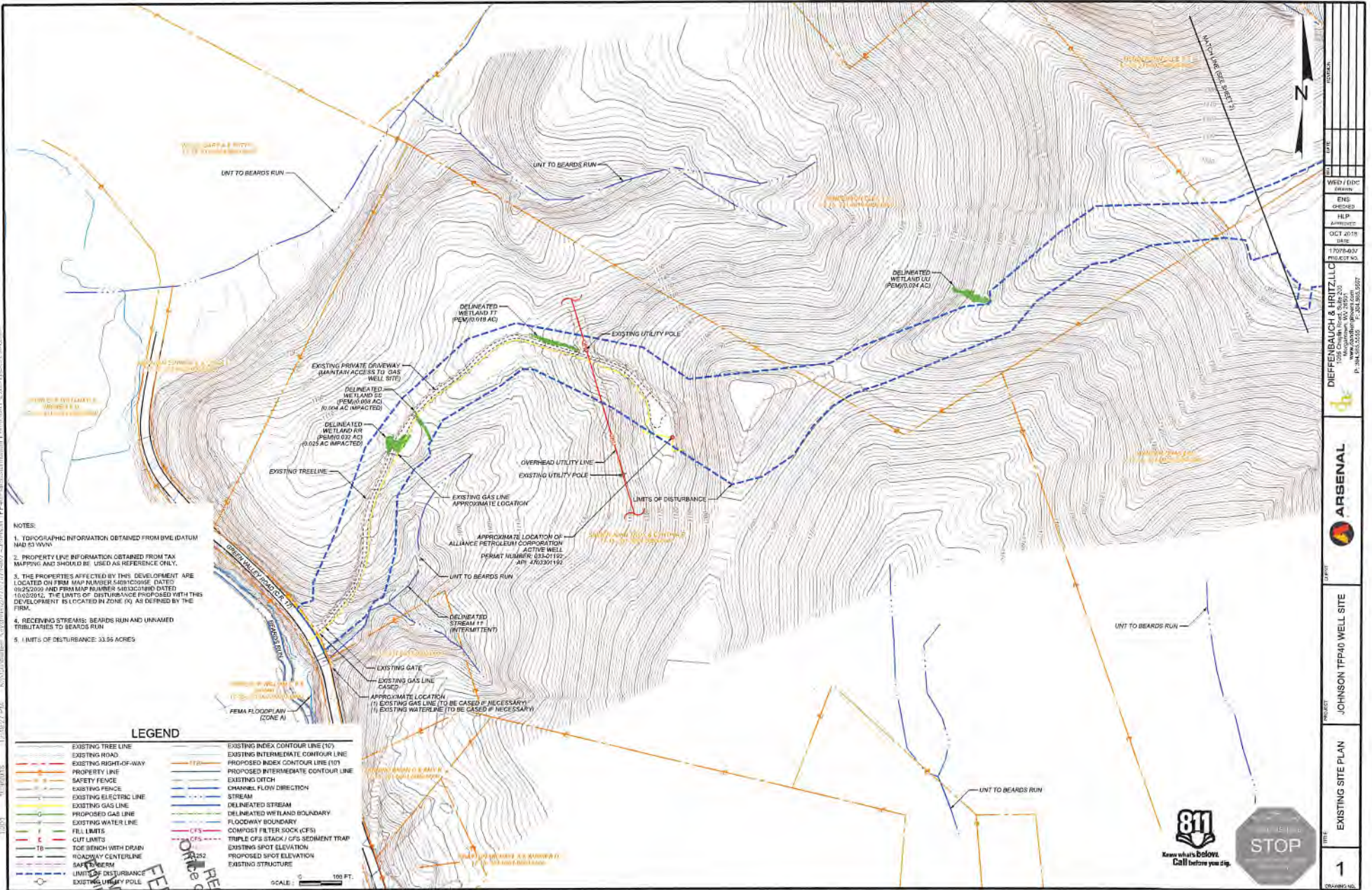
Wetland W: Safety Fence, Doubled Compost Filter Sock, and Permanent Vegetative Cover will be located above the wetland.

Wetland X: Safety Fence, Doubled Compost Filter Sock, and Permanent Vegetative Cover will be located above the wetland.

Wetland Y: Safety Fence, Doubled Compost Filter Sock, and Permanent Vegetative Cover will be located above the wetland.

Wetland BB: Doubled Super Silt Fence, and Permanent Vegetative Cover will be located above the wetland.

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WV Department of  
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- NOTES:
1. TOPOGRAPHIC INFORMATION OBTAINED FROM BME DATUM AND 53 WVA.
  2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPS AND SHOULD BE USED AS REFERENCE ONLY.
  3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON FPM MAP NUMBER 540120095E DATED 09/25/09 AND FPM MAP NUMBER 540320095E DATED 10/02/12. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE 10, AS DEFINED BY THE FIRM.
  4. RECEIVING STREAMS: BEARDS RUN AND UNNAMED TRIBUTARIES TO BEARDS RUN
  5. LIMITS OF DISTURBANCE: 33.95 ACRES

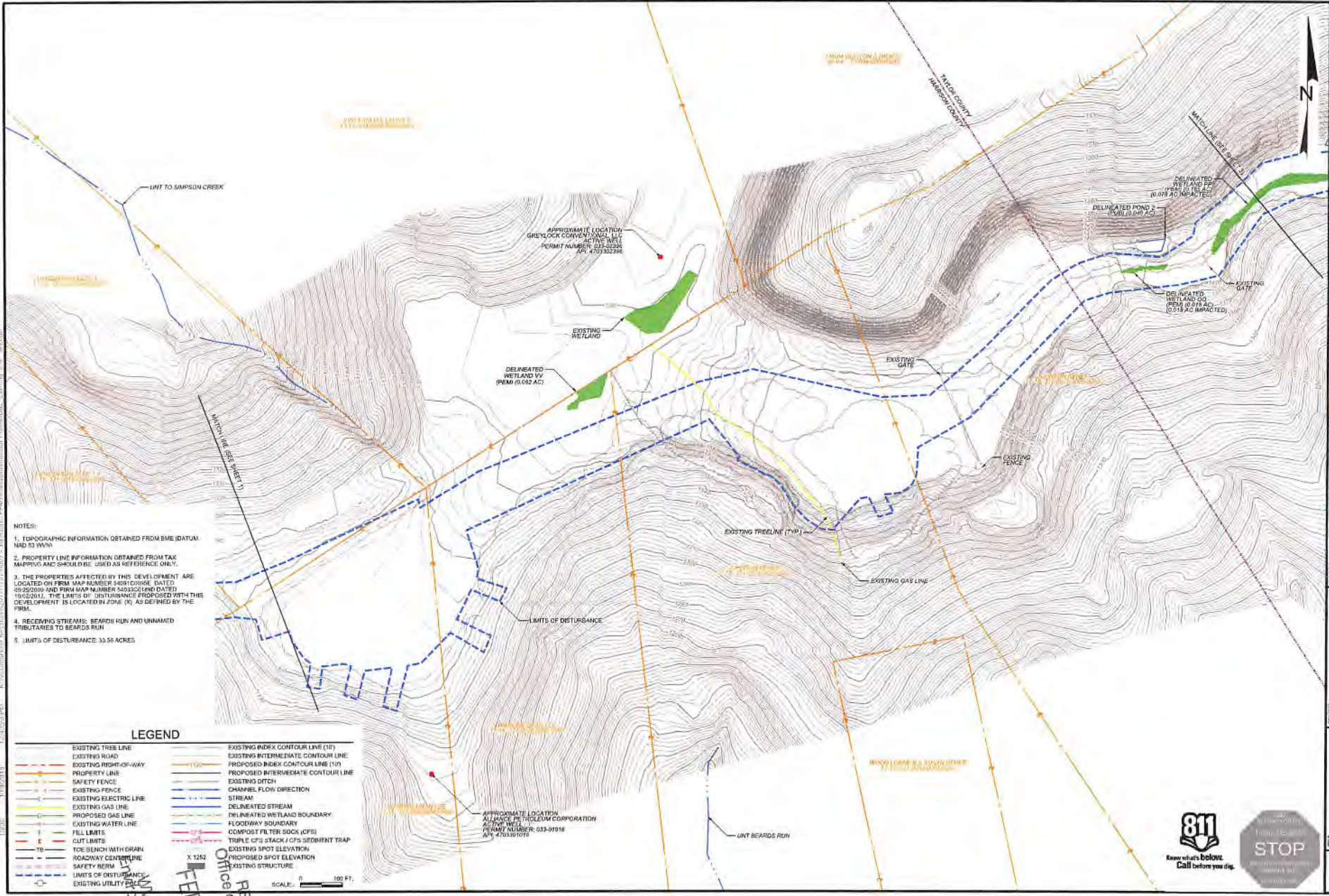
**LEGEND**

—	EXISTING TREE LINE	—	EXISTING INDEX CONTOUR LINE (10)
—	EXISTING ROAD	—	EXISTING INTERMEDIATE CONTOUR LINE
—	EXISTING RIGHT-OF-WAY	—	PROPOSED INDEX CONTOUR LINE (10)
—	PROPERTY LINE	—	PROPOSED INTERMEDIATE CONTOUR LINE
—	SAFETY FENCE	—	EXISTING DITCH
—	EXISTING FENCE	—	CHANNELS FLOW DIRECTION
—	EXISTING ELECTRIC LINE	—	STREAM
—	EXISTING GAS LINE	—	DELINEATED STREAM
—	PROPOSED GAS LINE	—	DELINEATED WETLAND BOUNDARY
—	EXISTING WATER LINE	—	FLOODWAY BOUNDARY
—	FILL LIMITS	—	COMPOST FILTER SOCK (CFS)
—	CUT LIMITS	—	TRIPLE CFS STACK / CFS SEDIMENT TRAP
—	TOE BENCH WITH DEBRIS	—	EXISTING SPOT ELEVATION
—	ROADWAY CENTERLINE	—	PROPOSED SPOT ELEVATION
—	SAFETY BERM	—	EXISTING STRUCTURE
—	LIMITS OF DISTURBANCE		
—	EXISTING UTILITY POLE		

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U.S. Department of  
Environmental Protection



DATE	
BY	
WED / EDC	
ENR	
CHESD	
H.P.	
APPROVED	
OCT 2018	
DATE	
17078-037	
PROJECT NO.	
<b>DIFFENBAUGH &amp; HRTZ LLC</b> 15000 W. 20th Street Frederick, MD 21704 P: 301.955.0200 F: 301.955.0207	
CLIENT	JOHNSON TFP4D WELL SITE
PROJECT	EXISTING SITE PLAN
SHEET	1
DRAWING NO.	



- NOTES:**
1. TOPOGRAPHIC INFORMATION OBTAINED FROM BME (DATUM NAD 83 (NAD83)).
  2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPS AND SHOULD BE USED AS REFERENCE ONLY.
  3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON FRM MAP NUMBER 3409100096, DATED 09/26/2009 AND FRM MAP NUMBER 3403021100 DATED 10/02/2012. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE (Z), AS DEFINED BY THE FRM.
  4. RECEIVING STREAMS: BEARDS RUN AND UNNAMED TRIBUTARIES TO BEARDS RUN
  5. LIMITS OF DISTURBANCE: 33.95 ACRES

**LEGEND**

	EXISTING TREE LINE		EXISTING INDEX CONTOUR LINE (10')
	EXISTING ROAD		EXISTING INTERMEDIATE CONTOUR LINE
	EXISTING RIGHT-OF-WAY		PROPOSED INDEX CONTOUR LINE (10')
	PROPERTY LINE		PROPOSED INTERMEDIATE CONTOUR LINE
	SAFETY FENCE		EXISTING DITCH
	EXISTING FENCE		CHANNEL FLOW DIRECTION
	EXISTING ELECTRIC LINE		STREAM
	EXISTING GAS LINE		DELAMINATED STREAM
	PROPOSED GAS LINE		DELINEATED WETLAND BOUNDARY
	EXISTING WATER LINE		FLOODWAY BOUNDARY
	FILL LIMITS		COMPOST FILTER SOCK (CFS)
	CUT LIMITS		TRIPLE CFS STACK J/CFS SEDIMENT TRAP
	TOE BENCH WITH DRAIN		EXISTING SPOT ELEVATION
	ROADWAY CENTERLINE		PROPOSED SPOT ELEVATION
	SAFETY BERM		EXISTING STRUCTURE
	LIMITS OF DISTURBANCE		
	EXISTING UTILITY LINE		

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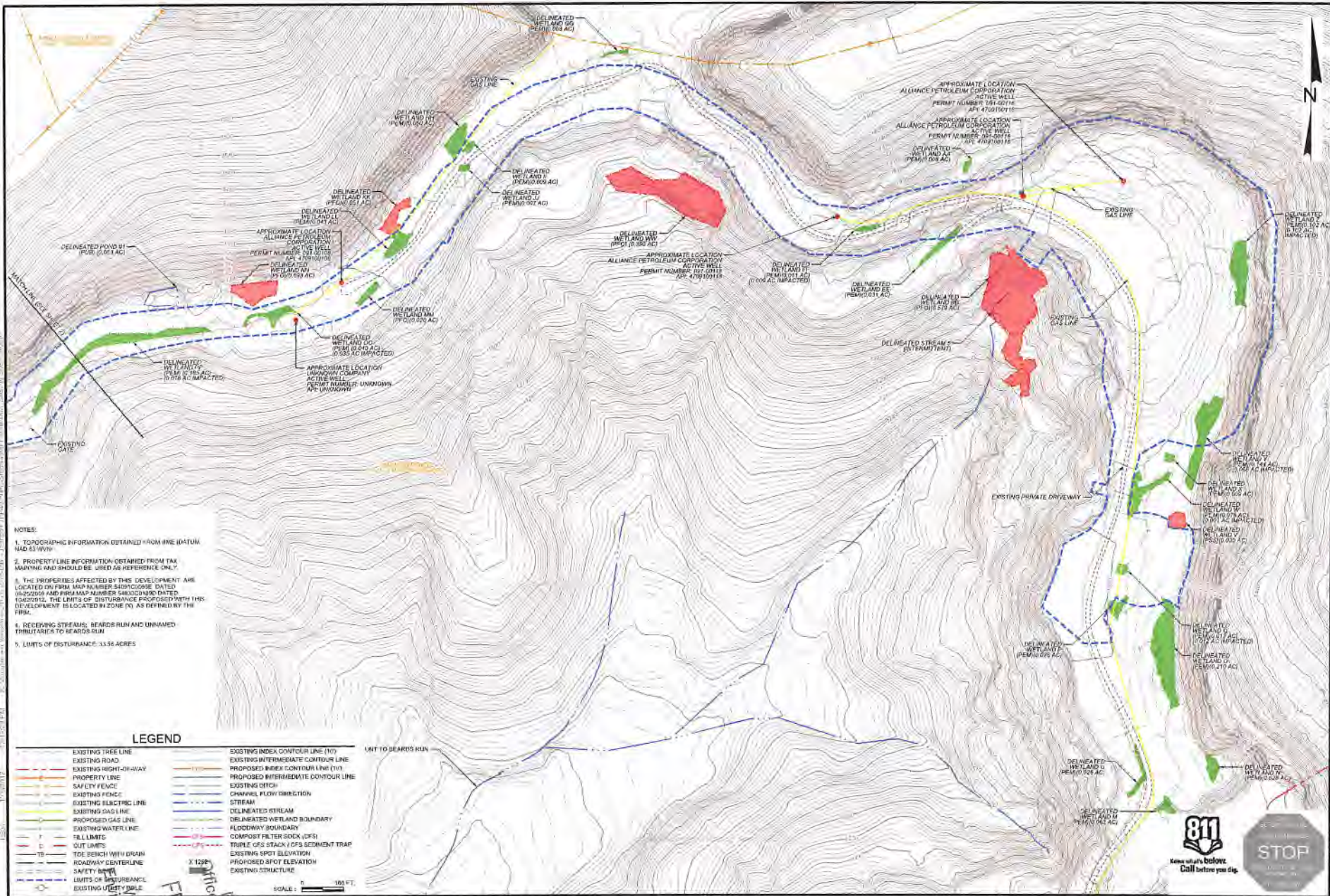


PROJECT NO.	17078-007
DATE	OCT 2018
DESIGNED BY	WED J DIC
CHECKED BY	ENS
APPROVED BY	HLP
PROJECT NO.	17078-007
PROJECT NAME	JOHNSON TFF-10 WELL SITE
CLIENT	EXISTING SITE PLAN
SCALE	2
DATE	
BY	
CHECKED BY	
APPROVED BY	
PROJECT NO.	
DATE	
BY	
CHECKED BY	
APPROVED BY	



DIEFFENBAUGH & HRTZ, LLC  
 1000 W. WASHINGTON AVENUE  
 SUITE 100  
 MINNEAPOLIS, MN 55401  
 P: 612.666.8558 F: 612.666.8527

11/16/2018 12:43:03 PM C:\Users\johnc\OneDrive\Documents\Johnson TFF-10 Well Site\17078-007-Existing Site Plan\17078-007-Existing Site Plan.dwg



DATE	
WFO / DDC	
ENR	
DRIVER	
HLP	
APPROVED	
OCT 2018	
DATE	
1707497	
PROJECT NO.	
DIFFENBAUGH & HRTZ LLC	
1000 Columbia Road, Suite 200	
www.dhars.com	
PH: 303.440.0200	
FAX: 303.440.0202	
PROJECT	JOHNSON TFP40 WELL SITE
DATE	
WFO	
DRIVER	
HLP	
APPROVED	
DATE	
3	
DATE	

- NOTES:
1. TOPOGRAPHIC INFORMATION OBTAINED FROM LIDAR (DATUM: NAD 83) WITH.
  2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPS AND SHOULD BE USED AS REFERENCE ONLY.
  3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON FIRM MAP NUMBER S401000000 DATED 09-2009 AND FIRM MAP NUMBER S401000000 DATED 04-2012. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED BY ZONE (N) AS DERIVED BY THE FIRM.
  4. RECEIVING STREAMS: BEARDS RUN AND UNNAMED TRIBUTARIES TO BEARDS RUN
  5. LIMITS OF DISTURBANCE: 33.56 ACRES

**LEGEND**

EXISTING TREE LINE	EXISTING INDEX CONTOUR LINE (10')	UNIT TO BEARDS RUN
EXISTING ROAD	EXISTING INTERMEDIATE CONTOUR LINE	
EXISTING HIGH-OFF-WAY	PROPOSED INDEX CONTOUR LINE (10')	
PROPERTY LINE	PROPOSED INTERMEDIATE CONTOUR LINE	
SALTY FENCE	EXISTING BRCH	
EXISTING FENCE	CHANNEL FLOW DIRECTION	
EXISTING ELECTRIC LINE	STREAM	
EXISTING GAS LINE	DELIMITED STREAM	
PROPOSED GAS LINE	DELIMITED WETLAND BOUNDARY	
EXISTING WATER LINE	FLOODWAY BOUNDARY	
T-LLIMITS	COMPOST FILTER SOCK (CFS)	
OUT LIMITS	TRIPLE CFS STACK / CFS SEDIMENT TRAP	
TOE BENCH WITH DRAIN	EXISTING SPOT ELEVATION	
ROADWAY CENTERLINE	PROPOSED SPOT ELEVATION	
SAFETY BAY	EXISTING STRUCTURE	
LIMITS OF DISTURBANCE		
EXISTING UTILITY LINE		

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SCALE: 1" = 100 FT.



**FIGURE 5. STREAM & WETLAND INVESTIGATION MAP**  
LIMITS OF INVESTIGATION TOTAL 124.94 AC

**Legend**

- Data Point
- Culvert
- Stream Outside LOI
- Roadway
- 10' Contour Line
- ▨ Wetland Outside LOI
- ▭ Limits of Investigation
- Delineated Water Features**
- Ephemeral Stream
- Intermittent Stream
- Non-Jurisdictional Water Feature
- PEM Wetland
- PSS Wetland
- PFO Wetland
- PUB Pond

Absolute Scale: 1:9,000  
Text Scale: 1 inch = 800 feet



NOTE: TOPOGRAHIC DATA FROM NATIONAL ELEVATION DATASET; MASSCH/FRCA/NATIONAL AGRICULTURE INVENTORY PROGRAM 2014

No.	Date	Revision

MVV	Drawn
ZTF	Checked
VJA	Approved
3/25/2018	Date
17078-007	Project No.

DIFFENBAUGH & HIRTZ  
1111  
Martinsburg, WV 26101  
P. 304.266.8262 F. 304.266.8882



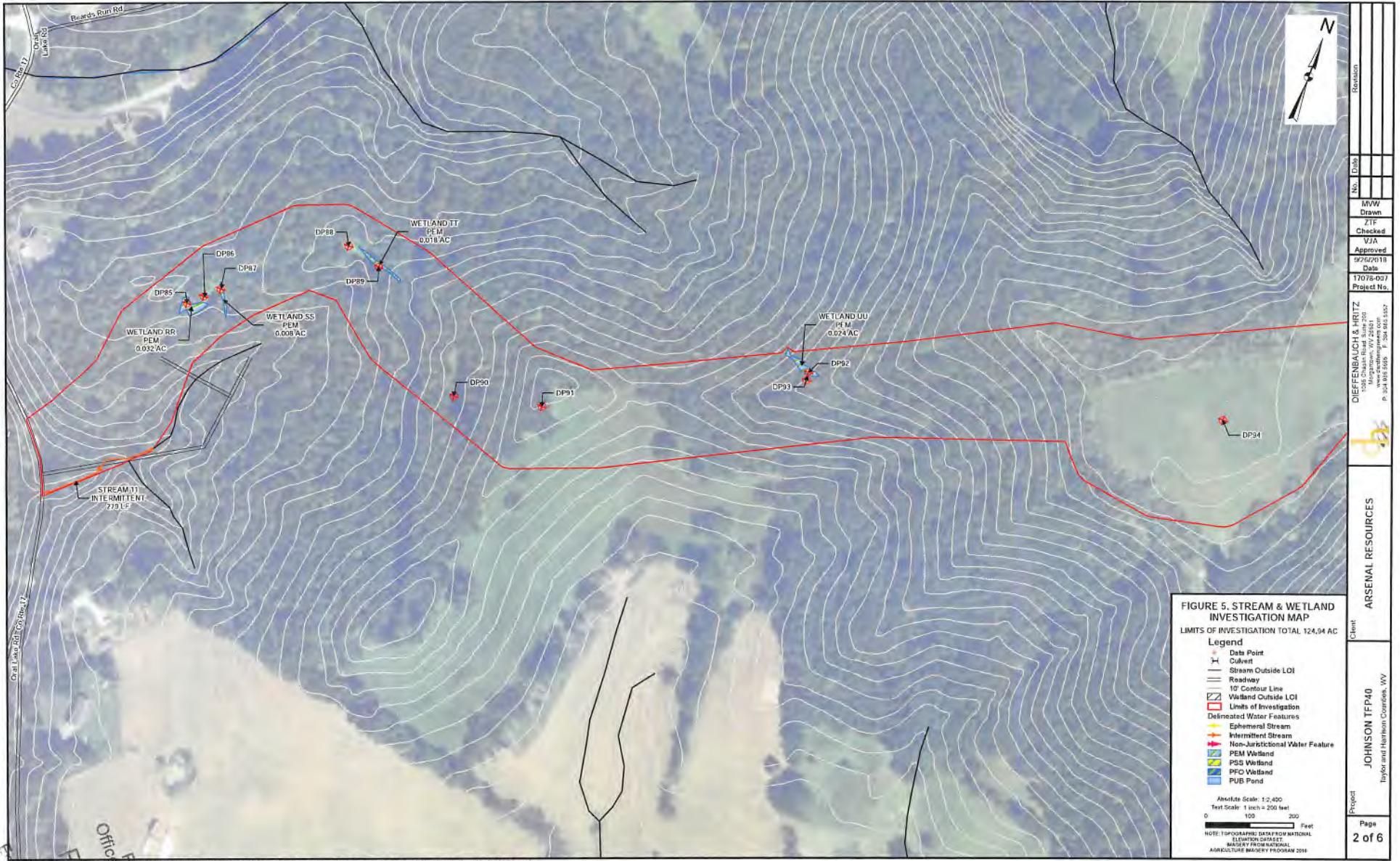
**Client**  
**JOHNSON TFP40**  
Taylor and Hanson Counties, WV

**Project**

**Page**  
1 of 6

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**FIGURE 5. STREAM & WETLAND INVESTIGATION MAP**  
 LIMITS OF INVESTIGATION TOTAL 124.94 AC

**Legend**

- Data Point
- Culvert
- Stream Outside LOI
- Roadway
- 10' Contour Line
- Wetland Outside LOI
- Limits of Investigation
- Delineated Water Features
- Ephemeral Stream
- Intermittent Stream
- Non-Jurisdictional Water Feature
- PEM Wetland
- PSS Wetland
- PFO Wetland
- PUB Pond

Annotate Scale: 1:2,420  
 Text Scale: 1 inch = 200 feet

0 100 200 Feet

NOTE: TOPOGRAPHIC DATA FROM NATIONAL ELEVATION DATASET  
 BASED ON NATIONAL AGRICULTURE INVENTORY PROGRAM 2011

Revision	
No.	
Date	
MWW	
Drawn	
Checked	VJA
Approved	
Date	9/26/2018
Project No.	17078-007
DIEFENBAUGH & HIRTZ 1000 Morgantown, WV 26501 P. 304.895.5500 F. 304.895.5507	
<b>ARSENAL RESOURCES</b> Client:	
<b>JOHNSON TFP40</b> Taylor and Harrison Counties, WV	
Project:	
Page <b>2 of 6</b>	

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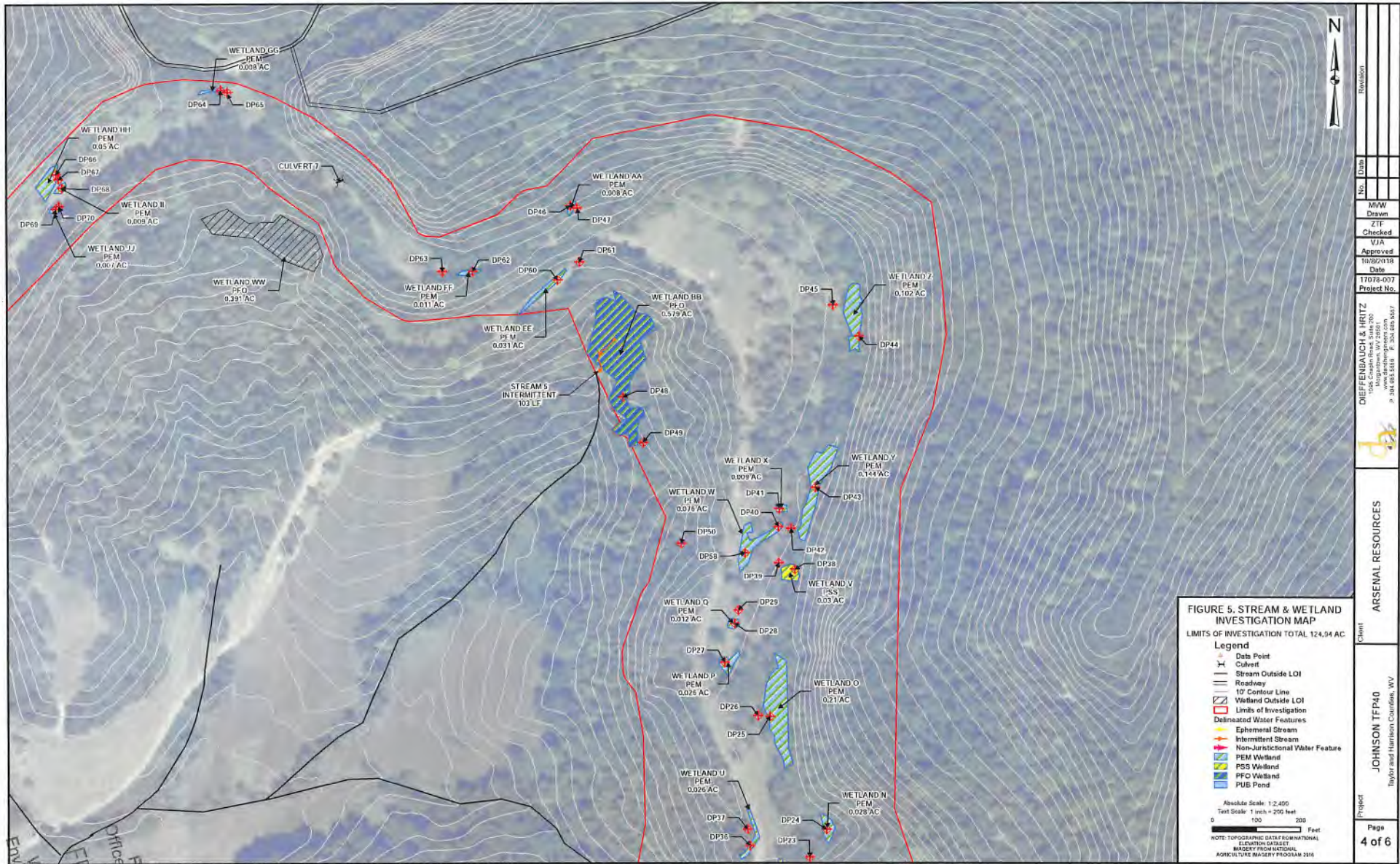
Document Path: \\snp\mountain\k\key\2017\17078-007 - Johnson TFP40\Mapping\FIG5\_JohnsonTFP40\_Stream&Wetland\_NewRoute\_Sep12018\_MAP2.mxd



No.	Date	Revision
M/VW		
Drawn		
ZTR		
Checked		
VJA		
Approved		
Date	9/26/2018	
Project No.	17078-037	
DIEFENBAUGH & HIRTZ 1000 Mountain View Blvd. Bloomington, WV 25801 P. 304.968.5585 F. 304.968.9097		
<b>ARSENAL RESOURCES</b>		
Client	JOHNSON TFP40 Taylor and Harrison Counties, WV	
Project		
Page	3 of 6	

Document Path: K:\Mountains\KeySystem\17078-037 - Johnson TFP40\Mapping\FIG5\_JohnsonTFP40\_Stream&Wetland\_NewRoute\_Sept2018\_MAP3.mxd

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**FIGURE 5. STREAM & WETLAND INVESTIGATION MAP**  
 LIMITS OF INVESTIGATION TOTAL 124.94 AC

**Legend**

- Data Point
- Culvert
- Stream Outside LOI
- Roadway
- 10' Contour Line
- Wetland Outside LOI
- Limits of Investigation
- Delineated Water Features
- Ephemeral Stream
- Intermittent Stream
- Non-Jurisdictional Water Feature
- PEM Wetland
- PSS Wetland
- PFO Wetland
- PUB Pond

Absolute Scale: 1:2,400  
 Text Scale: 1 inch = 200 feet

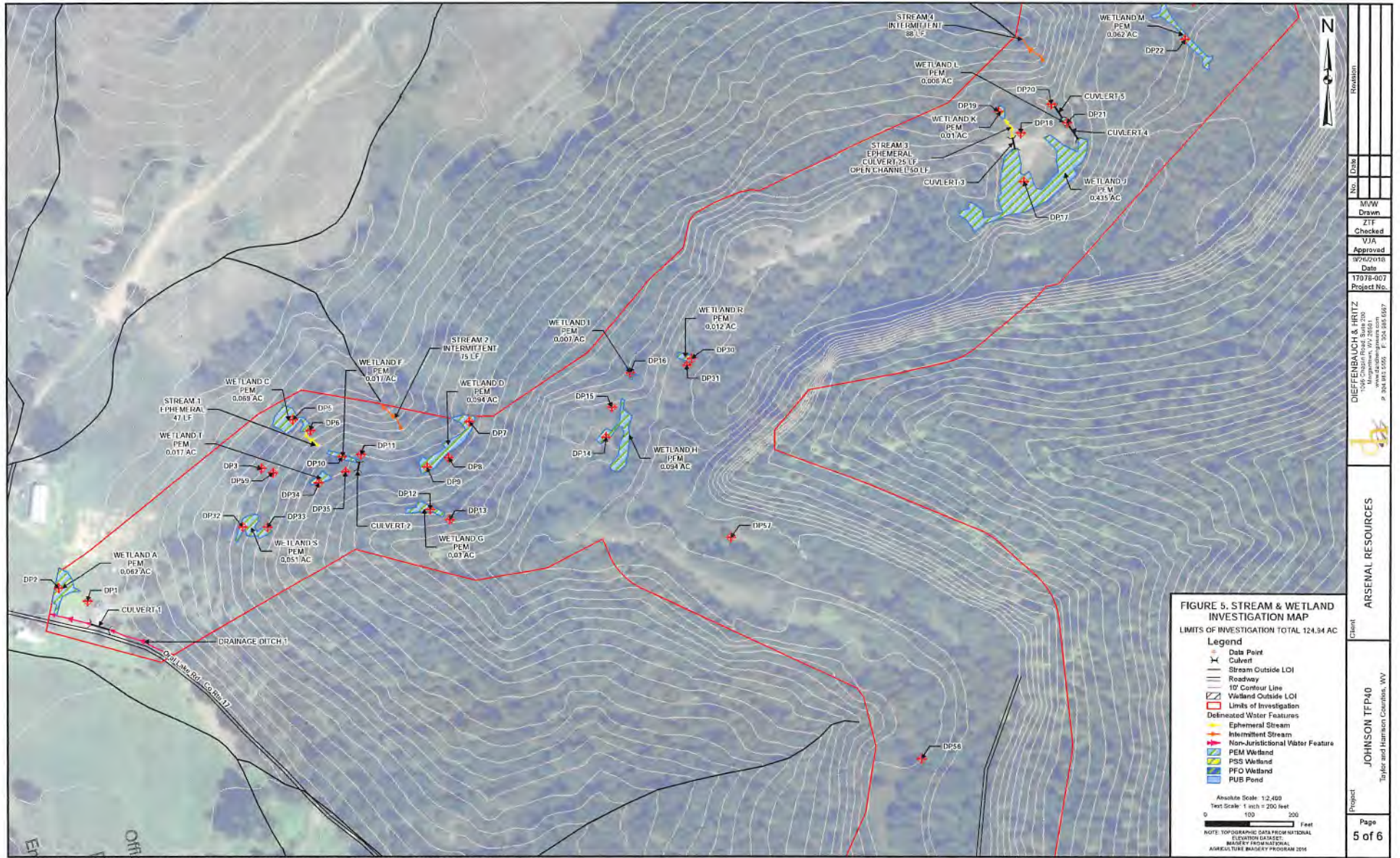
0 100 200 Feet

NOTE: TOPOGRAPHIC DATA FROM NATIONAL ELEVATION DATASET  
 BASED ON NATIONAL AGRICULTURE INVENTORY PROGRAM 2016

Revision			
No.	Date		
M/W	Drawn		
Z/T	Checked		
VJA	Approved		
16/07/2018	Date		
17078-007	Project No.		
<b>DIEFENBAUGH &amp; HIRTZ</b> 1000 Morgantown, WV 26501 P: 304.485.5558 F: 304.485.5557			
<b>ARSENAL RESOURCES</b>			
Client: <b>JOHNSON TFP40</b> Taylor and Harrison Counties, WV			
Project: <b>JOHNSON TFP40</b>			
Page: <b>4 of 6</b>			

Working Path: K:\Morgantown\Kaps\201717078-007 - Johnson TFP40\Mapping\FIG5\_JohnsonTFP40\_Stream&Wetland\_NevRoute\_Sep2018\_MAP4.mxd

Approved for Oil and Gas  
 10/11/2019  
 Office of Environmental Protection  
 West Virginia Department of Environmental Protection



**FIGURE 5. STREAM & WETLAND INVESTIGATION MAP**  
 LIMITS OF INVESTIGATION TOTAL 124.94 AC

**Legend**

- Data Point
- Culvert
- Stream Outside LOI
- Roadway
- 10' Contour Line
- Wetland Outside LOI
- Limits of Investigation
- Delineated Water Features
- Ephemeral Stream
- Intermittent Stream
- Non-Jurisdictional Water Feature
- PEM Wetland
- PSS Wetland
- PFO Wetland
- PUB Pond

Absolute Scale: 1:2,400  
 Text Scale: 1 inch = 200 feet

0 100 200 Feet

NOTE: TOPOGRAPHIC DATA FROM NATIONAL ELEVATION DATASET; BARELY PROFESSIONAL AGRICULTURE BARELY PROGRAM 2016

Revision			
No.	Date		
M/W Drawn	ZTF		
Checked	VJA		
Approved	10/20/2018		
Date	17078-007		
Project No.			

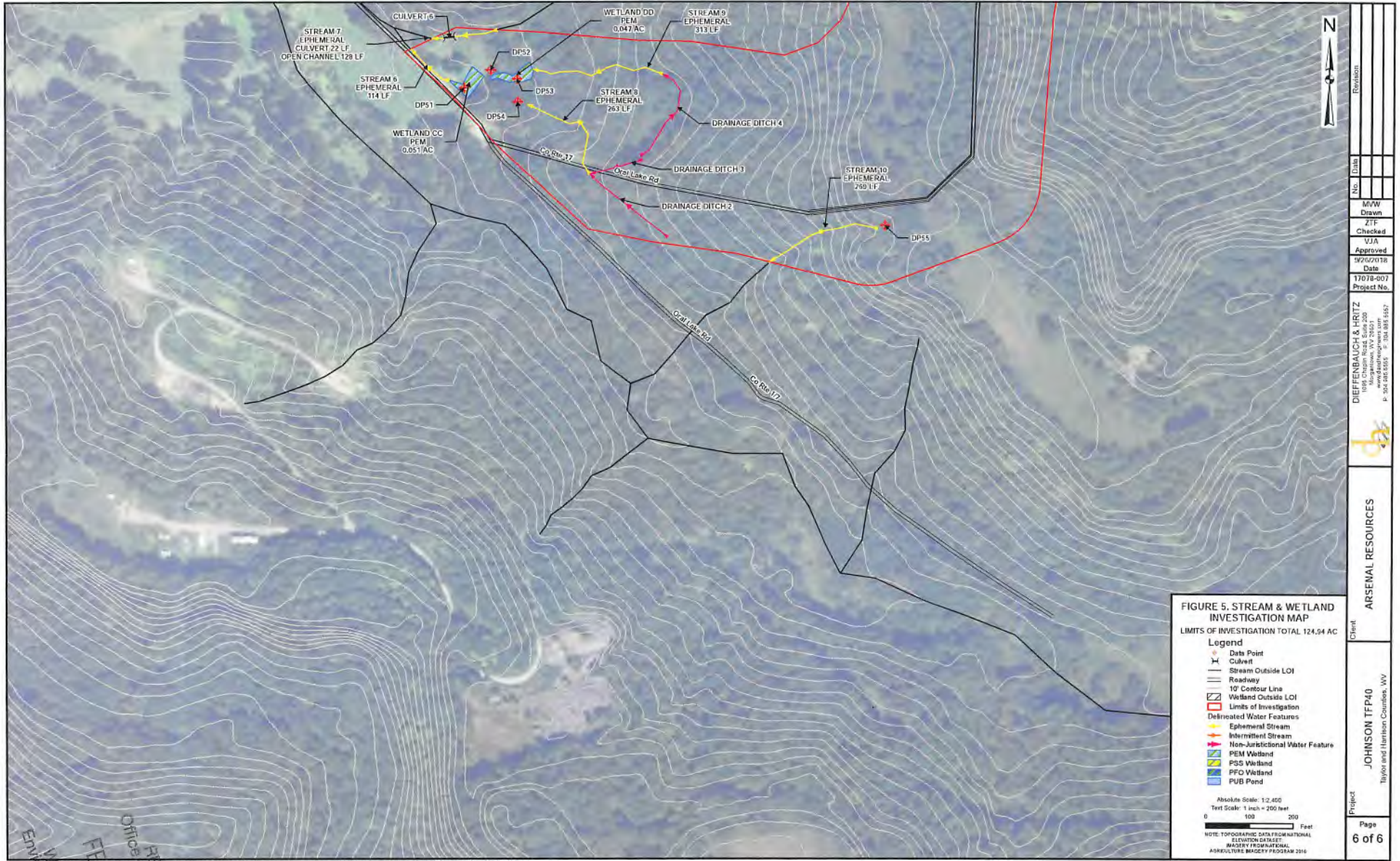
Client: ARSENAL RESOURCES

Project: JOHNSON TFP40  
 Taylor and Harrison Counties, WV

Page: 5 of 6

Document Path: K:\Mountains by Key\2017\17078-007 - Johnson TFP40\Mapping\FIG5\_JohnsonTFP40\_Streams&Wetland\_NewRoute\_Sept2018\_MAP5.mxd

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**FIGURE 5. STREAM & WETLAND INVESTIGATION MAP**  
 LIMITS OF INVESTIGATION TOTAL 124.94 AC

**Legend**

- Data Point
- Culvert
- Stream Outside LOI
- Roadway
- 10' Contour Line
- Wetland Outside LOI
- Limits of Investigation
- Delimited Water Features
- Ephemeral Stream
- Intermittent Stream
- Non-Jurisdictional Water Feature
- PEM Wetland
- PFS Wetland
- PFO Wetland
- PUB Pond

Absolute Scale: 1:2,400  
 Text Scale: 1 inch = 200 feet

0 100 200 Feet

NOTE: TOPOGRAPHIC DATA FROM NATIONAL ELEVATION DATASET  
 BASED ON NATIONAL AGRICULTURE IMAGERY PROGRAM 2016



Revision	
No.	Date
M/W	Drawn
Z/T	Checked
VJA	Approved
1926/2018	Date
17078-001	Project No.
DIEFFENBAUGH & HRITZ 1000 Morgantown, WV 26401 P. 304.241.4400 F. 304.241.4452	
<b>ARSENAL RESOURCES</b>	
Client	JOHNSON TFP40 Taylor and Harrison Counties, WV
Project	Page 6 of 6

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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 and Barbour Counties, WV prior to hydraulic fracturing at Johnson TFP-40 pad 206 well.

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 7,910' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formations (approximately 4,770' TVD).

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.

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02/15/2019



## 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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Area of Review Report - Johnson TFP40 Pad, 206 Lateral, Taylor County, WV

Well Name	API Number	Operator Name / Address	Well Type	Latitude	Longitude	Total Depth	Perforated Formation(s)	Producing Zones not Perforated
Goodwin 2	091-00116	Alliance Petroleum Corporation	Existing	39.25858	-80.169849	4560	Benson	NA
361-UF 2	091-00120	Alliance Petroleum Corporation	Existing	39.260762	-80.163512	4767	Big Injun, Gordon, Riley, Benson	NA
1634 5	091-00212	Alliance Petroleum Corporation	Existing	39.253475	-80.158192	4722	Big Injun, Riley, Benson	NA
1645 2	091-00214	Alliance Petroleum Corporation	Existing	39.249223	-80.155206	4765	Big Injun, Riley, Benson	NA
230-CH 1	001-00534	Alliance Petroleum Corporation	Existing	39.224132	-80.14699	4645	Riley, Benson	NA

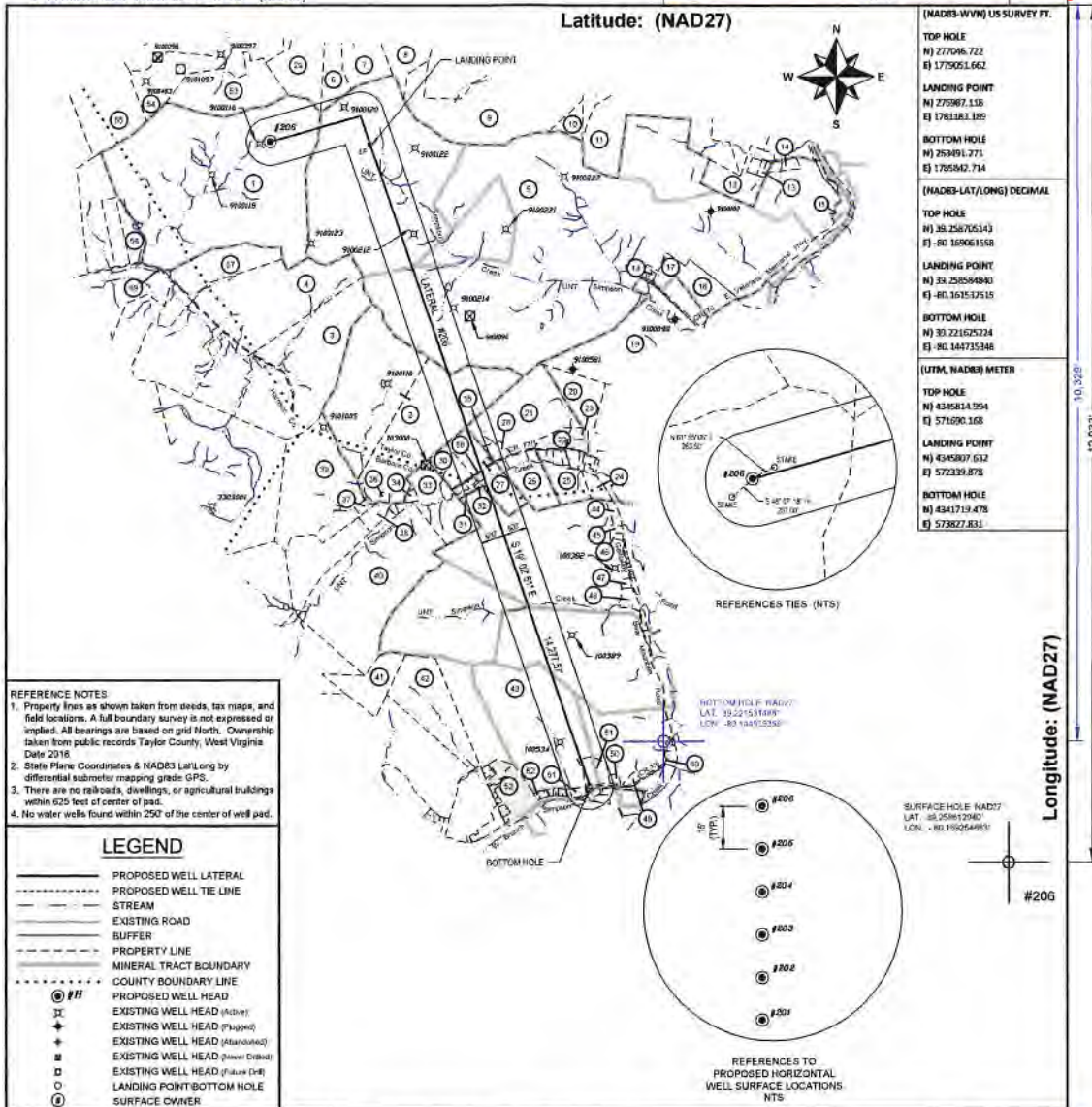
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 OCT 25 2018  
 WV Department of  
 Environmental Protection

AOR - Attachment "A"



SURFACE HOLE SURVEYED 39° 17' 30" (NAD27)  
 BOTTOM HOLE SURVEYED 35° 15' 00" (NAD27)

822' 02/15/2019



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

Signed: *Herbert L. Parsons, III* 9-17-2018  
 P.S. #2361: Herbert L. Parsons, III P.S.

DATE: SEPT 17, 2018

JOHNSON TFP-40  
 OPERATOR'S WELL #: # 206

API WELL #: 47 091  
 STATE COUNTY PERMIT

ELEVATION: 1,332.5  
 QUADRANGLE: ROSEMONT, WV  
 ACREAGE: 284 ±  
 ACREAGE: 284 ±

WATERSHED: SIMPSON CREEK  
 COUNTY / DISTRICT: TAYLOR CO. FLEMINGTON DISTRICT  
 SURFACE OWNER: RENEE JOHNSON  
 OIL & GAS ROYALTY OWNER: HEIRS & ASSIGNS OF EARL LAWSON, HEIRS & ASSIGNS OF DULCIE STARKEY, HEIRS & ASSIGNS OF MARTHA ROBERTS, HEIRS & ASSIGNS OF VIRGIE BARTLETT, HEIRS & ASSIGNS OF BLANCHIE WATSON, HEIRS & ASSIGNS OF DEZZIE BUTTS, AND HEIRS & ASSIGNS OF HASSEL LAWSON

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON  
 CLEAN OUT & REPLUG  OTHER CHANGE SPECIFY: \_\_\_\_\_

TARGET FORMATION: MARCELLUS  
 NA (pilot)

WELL OPERATOR: ARSENAL RESOURCES  
 ADDRESS: 6031 WALLACE ROAD EXTENSION # 300  
 CITY: WEXFORD STATE: PA ZIP: 15090

ESTIMATED DEPTH: TVD: 7,903.5' TMD: 23,043.5'  
 ESTIMATED DEPTH: TVD: NA (pilot)  
 DESIGNATED AGENT: WILLIAM VEIGEL  
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200  
 CITY: BRIDGEPORT STATE: WV ZIP: 26330

HERBERT L. PARSONS, III  
 REGISTERED  
 No. 2361  
 STATE OF  
 WEST VIRGINIA  
 PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

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AOR - Attachment "A"

SURFACE PARCEL OWNER INFORMATION			ADJOINER PARCEL OWNER INFORMATION		
ID#	PARCEL NUMBER	OWNER NAME	ID#	PARCEL NUMBER	OWNER NAME
1	033-15-331-27	JOHNSON RENEE	2	033-15-351-13	EP III WEST VIRGINIA LLC
2	001-09-9-7	STEWART FARM LLC	4	033-15-351-12	EP III WEST VIRGINIA LLC
5	091-04-11-1	CFS FARMS LIMITED LIABILITY CO	6	091-04-8-22	GRIFFIN JAMES S & ELAINE M
21	091-04-11-5.5	BECKWITH LUMBER COMPANY	7	091-04-8-21	GRAY RANDALL & RITA
27	091-04-11-3	PROPST PAUL	8	091-04-8-35	MARKS BETTY P
43	001-09-9-22	WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES,	9	091-04-8-29	COALQUEST DEVELOPMENT LLC
51	001-09-9-22.3	KRIZNER FRANK A & RENEE B HWS	10	091-04-8-105	BLOSSER PATRICK R ETAL
58	RIGHT-OF-WAY	COUNTY ROUTE 77/1	11	091-04-8-81	SIMMONS HUNTER
			12	091-04-8-83	STEWART BARBARA JEAN
			13	091-04-8-84	STEWART BARBARA JEAN
			14	091-04-8-90.1	SINSEL FRANCES E
			15	091-04-9-37.1	FELTON MICHAEL B & TARA L
			16	091-04-11-19	BARTLETT HILDA & MILTON D
			17	091-04-11-17	HOWARD CYNTHIA D
			18	091-04-11-1.1	ANDERSON DANIEL & KAREN
			19	091-04-11-17.3	SIMPSON JOHN E
			20	091-04-11-9	WATKINS DOUGLAS R & ANNA M
			22		BARTLETT TRACTS
			23		ASTOR CEMETERY
			24	091-04-13-7.5	NELSON HELEN L HURST MARY M
			25	091-04-13-4	RAVIS JERRY LEE ESTATE
			26	091-04-13-5.1	RAVIS JERRY L ESTATE
			28	091-04-13-5.3	CRIM JOAN LE & BRENDA KAY
			29	091-04-8-21	CARLYLE G MILLARD
			30	091-04-13-2	PROPST PAUL
			31	001-09-9-8	CLEAVENGER LEONARD D
			32	001-09-9-8.2	CLEAVENGER LEONARD D
			33	001-09-9-7	CROUSE ORLAN, JR
			34	001-09-9-6	STEWART FARM LLC
			35	091-04-13-4	SEESE BRENDA K & SMITH JOANN V & SURV
			36	001-09-9-4	STEWART FARM LLC
			37	001-09-9-2.1	BOARD OF EDUCATION
			38	001-09-9-3	STEWART FARM LLC
			39	001-09-9-1	STEWART FARM LLC
			40	001-09-9-20	SEESE ROBERT & BRENDA HWS
			41	001-09-12-1	POUNO ENTERPRISES INC
			42	001-09-12-2	
			44	001-09-9-17.1	MADDIX MICHAEL R ET UX
			45	001-09-9-11	SALTIS STEVE JR & AMY HWS
			46	001-09-9-12	SALTIS STEVE JR & AMY R HWS
			47	001-09-9-13	MURPHY GEORGE H JR & TAMELA J, HWS
			48	001-09-9-23.2	WOLFE MICHAEL B
			49	001-09-12-4.2	KNOTTS TERRY & DONETTA
			50	001-09-12-14	MOSESJO JOHN A TRUST
			52		CLEAVENGER PLAT
			53	091-04-7-9	CEQUEL COMMUNICATIONS LLC
			54	091-04-7-27	CEQUEL COMMUNICATIONS LLC
			55	091-04-7-8	SHIRLEY A FRUM, CLYTON A FRUM, ET UX
			56	033-15-351-9	RENEE JOHNSON
			57	033-15-351-30	RENEE JOHNSON
			59	RIGHT-OF-WAY	COUNTY ROUTE 17 DRAL LAKE ROAD
			60	RIGHT-OF-WAY	COUNTY ROUTE 1/6
			61	001-09-12-4	SWIGER ARGYLE C
			62	001-09-12A-9	EDMOND MURREL I (L/E)

**REFERENCE NOTES**

- Property lines as shown taken from deeds, tax maps, and field locations. A full boundary survey is not expressed or implied. All bearings are based on grid North. Ownerships taken from public records Taylor County, West Virginia Date 2018
- State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS.
- There are no railroads, dwellings, or agricultural buildings within 625 feet of center of pad.
- No water wells found within 250' of the center of well pad.

**LEGEND**

- PROPOSED WELL LATERAL
- PROPOSED WELL TIE LINE
- STREAM
- EXISTING ROAD
- BUFFER
- PROPERTY LINE
- MINERAL TRACT BOUNDARY
- COUNTY BOUNDARY LINE
- PROPOSED WELL HEAD
- EXISTING WELL HEAD (Active)
- EXISTING WELL HEAD (Plugged)
- EXISTING WELL HEAD (Abandoned)
- EXISTING WELL HEAD (Never Drilled)
- EXISTING WELL HEAD (Future Drill)
- LANDING POINT/BOTTOM HOLE
- SURFACE OWNER

FILE#: 17078-007  
 SHEET#: 2 of 2  
 SCALE: 1" = 3000'  
 TICK SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: WV-RTN CORS STATION

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

Signed: *Herbert L. Parsons, III* 9-17-2018  
 P.S. #2361: Herbert L. Parsons, III P.S.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304



DATE: SEPT 17, 2018  
 JOHNSON TFP-40  
 OPERATOR'S WELL #: # 206  
 API WELL #: 47 091  
 STATE COUNTY PERMIT

Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow  
 WATERSHED: SIMPSON CREEK  
 COUNTY / DISTRICT: TAYLOR CO. FLEMINGTON DISTRICT  
 SURFACE OWNER: RENEE JOHNSON  
 OIL & GAS ROYALTY OWNER: HEIRS & ASSIGNS OF EARL LAWSON, HEIRS & ASSIGNS OF DALICE STANKEY, HEIRS & ASSIGNS OF MARTHA ROBERTS, HEIRS & ASSIGNS OF VIRGIE BARTLETT, HEIRS & ASSIGNS OF BLANCHE WATSON, HEIRS & ASSIGNS OF DEBBIE BUTTS, HEIRS & ASSIGNS OF HASSEL LAWSON

ELEVATION: 1,332.5  
 QUADRANGLE: ROSEMONT, WV  
 ACREAGE: 284 ±  
 ACREAGE: 284 ±

TARGET FORMATION: MARCELLUS  
 NA (pilot)  
 WELL OPERATOR: ARSENAL RESOURCES  
 ADDRESS: 6031 WALLACE ROAD EXTENSION # 300  
 CITY: WEXFORD STATE: PA ZIP: 15090

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON  
 CLEAN OUT & REPLUG  OTHER CHANGE SPECIFY:  
 ESTIMATED DEPTH: TVD: 7,903.5' TMD: 23,043.5'  
 ESTIMATED DEPTH: TVD: NA (pilot)  
 DESIGNATED AGENT: WILLIAM VEIGEL  
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200  
 CITY: BRIDGEPORT STATE: WV ZIP: 26330

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AOR - Attachment "A"

02/15/2019



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, Johnson TFP-40, well #206, located in Taylor and Barbour Counties, 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 7,910 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 Johnson TFP-40 pad, well #206, 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

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OCT 25 2018  
WV Department of  
Environmental Protection

AOR Attachment "B"

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

1) Well Operator: Arsenal Resources 494519412 Taylor Fleming Rosemont  
Operator ID County District Quadrangle

2) Operator's Well Number: Johnson TFP40 206 Well Pad Name: Johnson TFP40

3) Farm Name/Surface Owner: Renee Johnson Public Road Access: CR 17, Oral Lake Road

4) Elevation, current ground: 1338.79' Elevation, proposed post-construction: 1332.5'

5) Well Type (a) Gas  Oil  Underground Storage

Other \_\_\_\_\_

(b) If Gas Shallow  Deep

Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Target Formation- Marcellus Shale, Top- 7,824.5ft, Bottom- 7,916.5ft, Anticipated Thickness- 92ft, Associated Pressure- 0.5 psi/ft

8) Proposed Total Vertical Depth: 7,903.5 ft

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 23,043.5 ft

11) Proposed Horizontal Leg Length: 14,277.57 ft

12) Approximate Fresh Water Strata Depths: 45.5', 132.5', 187.5, 219.5' 817.5, 1102.5'

13) Method to Determine Fresh Water Depths: Offsetting wells reported water depths (091-00116, 091-00117, 091-00118, 091-00120)

14) Approximate Saltwater Depths: 1987.5'

15) Approximate Coal Seam Depths: Elk Lick-322.5', Harlem-388.5', Bakerstown-477.5', Brush Creek-577.5', Upper Freeport-630.5', Lower Freeport-692.5', Upper Kittanning-760.5', Middle Kittanning-825.5', Lower Kittanning-846.5', Clarion-876.5'

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  None Known

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_

Depth: \_\_\_\_\_

Seam: \_\_\_\_\_

Owner: \_\_\_\_\_

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18)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<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	1,175	1,175	CTS
Coal							
Intermediate	9.625	New	J-55	40	2,050	2,050	CTS
Production	5.5	New	P-110	23	23,043	23,043	TOC @ 1,900
Tubing							
Liners							

*Ernest L. Reynolds*  
10-17-18

<b>TYPE</b>	<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		

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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

The well will be 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): 33.56

22) Area to be disturbed for well pad only, less access road (acres): 6.20

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 2,150'; there will be no centralizers from 2,150 to surface.

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 1,900' (+/- 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.

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 surface. We will pull three stands of drill pipe, load the hole, pull three stands 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.

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Johnson TFP40 #206		
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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Arsenal Resources  
Johnson TFP 40 206  
Casing Design  
Directional Plan # 1 QES

Other Names:	N/A
Surface Location:	TBD
Bottom Hole Location:	TBD
Total Depth:	23,043 MD (ft) 7,903 TVD (ft)

County:	Taylor
State:	West Virginia
AFE #:	XX
RKB:	27
Ground Level:	1,332

Logs	Significant Formations (TVD)	Depth (ft) MD	Depth (ft) TVD	Hole Size	Casing and Cement	Mud	Directional & Surveys Drlg /Csg Point												
None	Section 1			Conductor Pipe	26" 102.7#	Vertical													
		80	80																
None	Section 2			Floc	17 1/2" (PDC)	Floc Water													
					Cement: Class A 489 Sacks w/ 30% Excess TOC: Surface (top off if needed) All cement volumes are estimates														
Possible CBL after cement job		1,175	1,175		13 3/8" 64.5# J-55 STC	Vertical													
None	Section 3			Floc	12 1/4" (PDC)	Floc Water													
					Cement: Class A 678 Sacks w/ 50% Excess TOC: Surface (top off if needed) All cement volumes are estimates														
Possible CBL after cement job		2,050	2,050		9 5/8" 40# J-55 LTC	Vertical													
	Section 4			Floc	<table border="1"> <tr><td>Mud Data</td><td>From</td><td>To</td></tr> <tr><td>Floc Water</td><td>80</td><td>2050</td></tr> <tr><td>Floc Water</td><td>2050</td><td>7,785</td></tr> <tr><td>11.5- 12.0 ppg SOB</td><td>7,785</td><td>23,043</td></tr> </table>		Mud Data	From	To	Floc Water	80	2050	Floc Water	2050	7,785	11.5- 12.0 ppg SOB	7,785	23,043	
Mud Data	From	To																	
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Bit Data	From	To																	
17-1/2" & 12 1/4" PDC	80	2,050																	
8- 3/4" (PDC)	2,050	8,785																	
8- 1/2" (PDC)	8,785	23,043																	
					Directional Data See Directional Plan														
				OBM															
	Big Lime		1,509																
	1st Elk Siltstone		4,884																
	Tully Lime		7,551																
	Purcell (Limestone)		7,880																
	Lower Marcellus		7,883																
		23,043 MD 7903 TVD																	
					Cement: Class A: 50/50 POZ 1.2 ft3/sack +10% Exs in OH = 4048 sacks TOC : 1,900 ft All cement volumes are estimates														
					5 1/2" 23# P-110 VAR														

Revision 1  
Note: Not drawn to scale  
Cement Outside Casing Seal Assembly in Annulus  
Date Last Revised: 19-Sep-18  
Jarrett Toms

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02/15/2019

WW-9  
(4/16)

API Number 47 - 091 - \_\_\_\_\_  
Operator's Well No. Johnson TFP40 206

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) Simpson Creek Quadrangle Rosemont

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 / Waste Management, Apex Landfill, and Wesmoreland Sanitary 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.

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 17<sup>th</sup> day of October, 20 18

Kelly A. Davis

My commission expires September 18, 2023

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Notary Public OFFICIAL SEAL  
Notary Public, State Of West Virginia  
KELLY A DAVIS WV Department of  
2142 Elk City Road Environmental Protection  
Jane Lew, WV 26378  
My Commission Expires September 18, 2023

**Arsenal Resources**

Proposed Revegetation Treatment: Acres Disturbed 33.56 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: [Signature]

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.

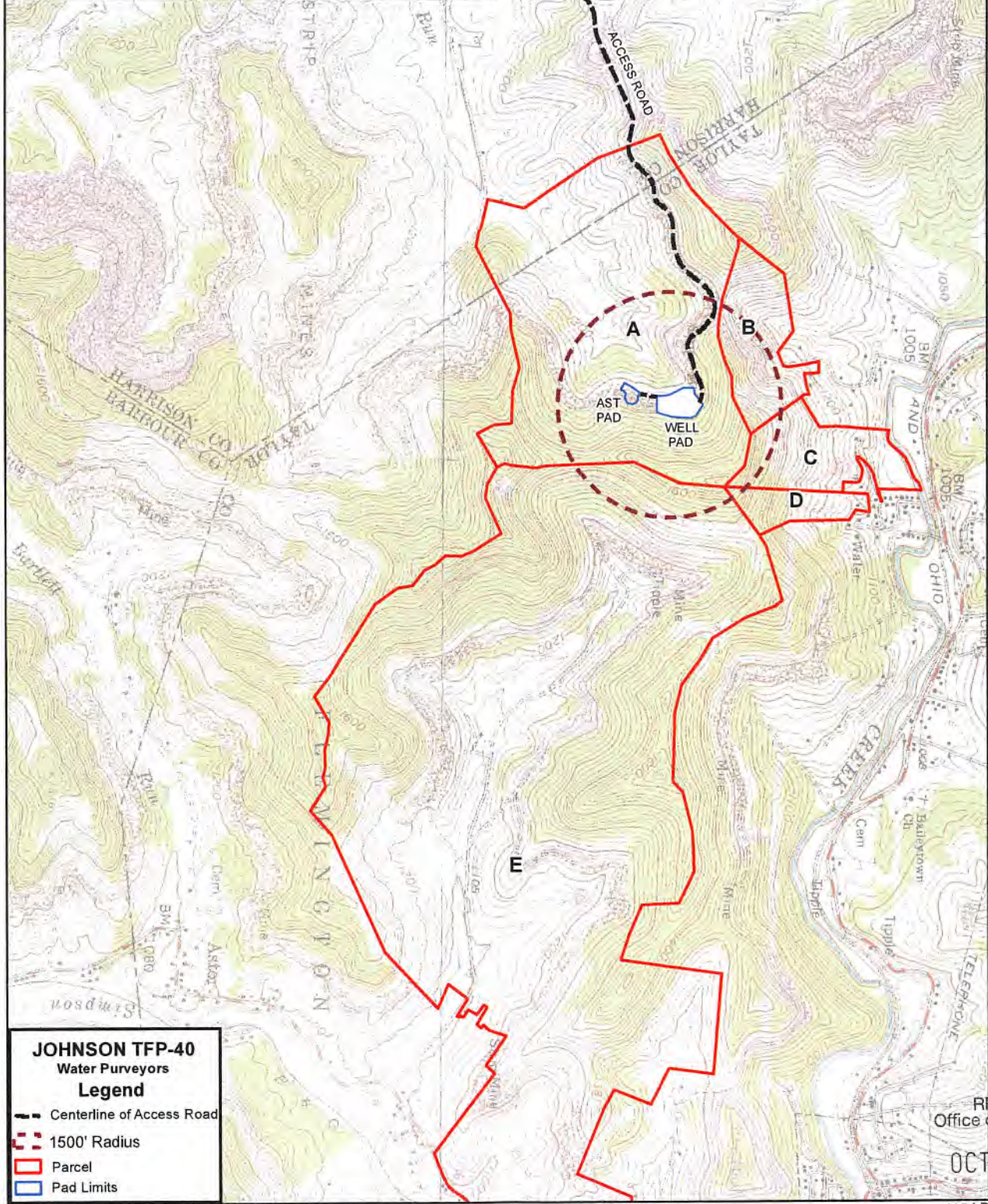
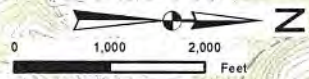
Title: OIL & GAS INSPECTOR

Date: 10-17-18

Field Reviewed?  Yes  No

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OWNER	Tax Map ID	Decimal Degrees (NAD83)		State Plane NAD83 WVN (US Feet)	
		Latitude	Longitude	Northing	Easting
A JOHNSON RENEE	15-331-0027	39.25632498	-80.17280821	276187.75	1777994.30
B CEQUEL III COMMUNICATIONS II LLC	04-07-0027	39.26161828	-80.17242773	278114.85	1778106.47
C MILLARD CARLYLE G	04-08-0021	39.26390185	-80.16679691	278934.66	1779706.94
D GRIPPIN JAMES S & ELAINE M & SURV	04-08-0022	39.26303246	-80.16443818	278613.08	1780372.43
E CFS FARMS LIMITED LIABILITY CO	04-11-0001	39.25389056	-80.14895468	275251.50	1784732.28



**JOHNSON TFP-40  
Water Purveyors  
Legend**

- Centerline of Access Road
- 1500' Radius
- Parcel
- Pad Limits

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## Potential Water Purveyor's

**Project:** Johnson TFP-40  
**County:** Harrison & Taylor  
**State:** West Virginia

The following surface owners may have water supplies within 1,500 feet of the Johnson 40 well pad location:

	Name	Tax Map ID	Address
A	JOHNSON RENEE	15-331-0027	511 Beards Run Road, Bridgeport, WV 26330
B	CEQUEL III COMMUNICATIONS II LLC	04-07-0027	520 Maryville Centre DR Suite, Saint Louis, MO 63141
C	MILLARD CARLYLE G	04-08-0021	413 High St, Bridgeport, WV 26330
D	GRIPPIN JAMES S & ELAINE M & SURV	04-08-0022	137 Ocello St, Clarksburg, WV 26301
E	CFS FARMS LIMITED LIABILITY CO	04-11-0001	PO Box 297, Flemington, WV 26347

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02/15/2019



November 15, 2018

WVDEP  
Office of Oil and Gas  
ATTN: Laura Adkins  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

RE: Johnson TFP40 206 permit application (API # 47-091-01351)

Dear Mrs. Adkins:

Enclosed, please find the revised plat for the Johnson TFP40 206 permit application. D&H discovered there was an issue that is now corrected on the mylar. Please discard the mylar in the package and replace this one in the application.

If you have any questions, please let me know. Thank you!

Sincerely,

A handwritten signature in blue ink that reads 'Kelly Davis'.

Kelly Davis  
Permitting Specialist  
1-304-517-8743 mobile  
1-724-940-1218 office  
kdavis@arsenalresources.com

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# ARSENAL

R E S O U R C E S

## SITE SAFETY PLAN

### JOHNSON TFP40 WELL PAD #206

*Timothy L. Lopez*  
10-17-18

**911 Address:**

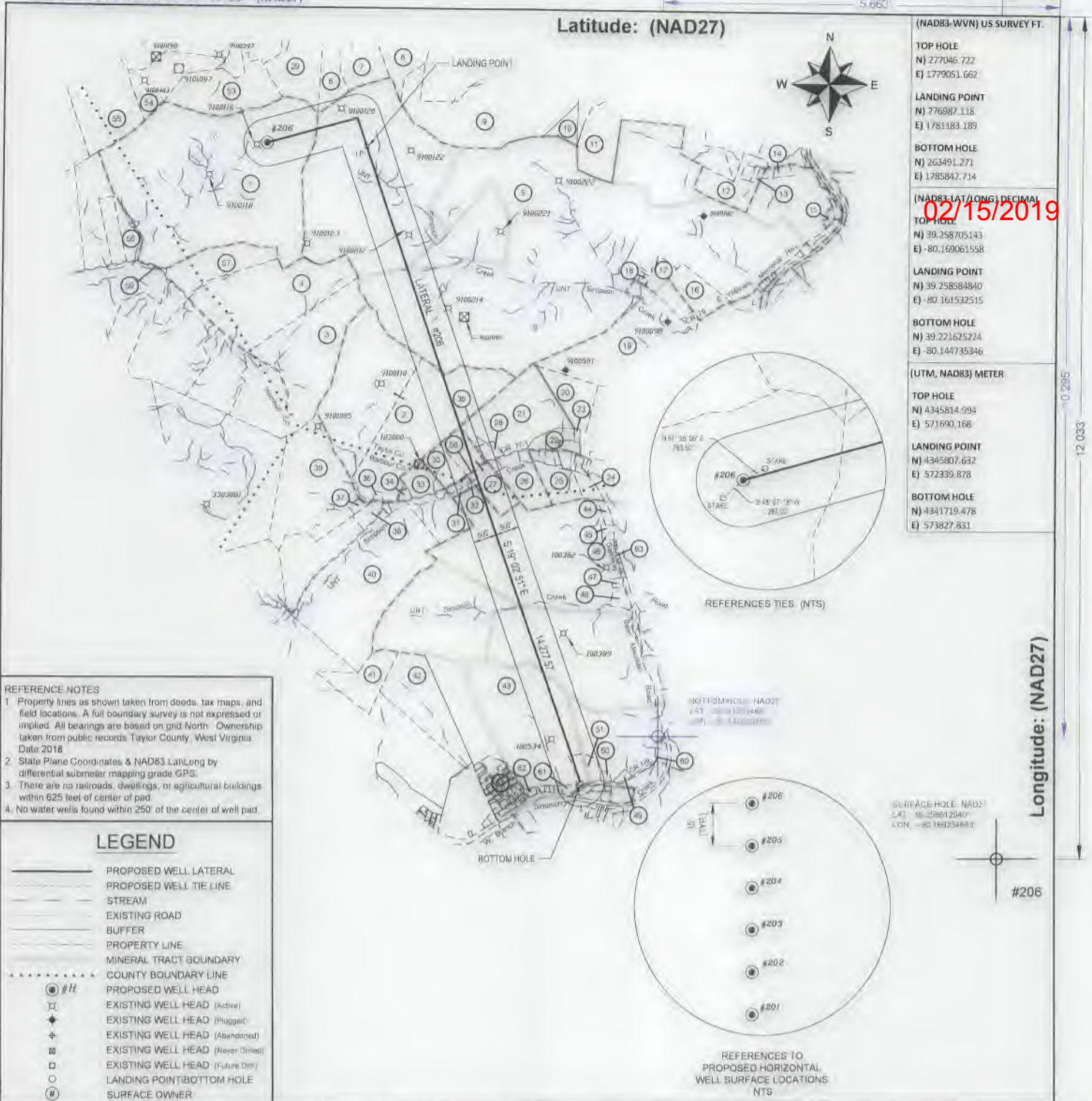
1241 Beards Run Rd  
Bridgeport, WV 26330

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SURFACE HOLE SURVEYED 39° 17' 30" (NAD27)  
 BOTTOM HOLE SURVEYED 39° 15' 00" (NAD27)

Latitude: (NAD27)

(NAD83-WVN) US SURVEY FT.



TOP HOLE  
 N) 277046.722  
 E) 1779051.662

LANDING POINT  
 N) 276887.118  
 E) 1781183.189

BOTTOM HOLE  
 N) 263491.271  
 E) 1785842.714

(NAD83-LAT/LONG) DECIMAL  
 TOP HOLE  
 N) 39.258705143  
 E) -80.169061558

LANDING POINT  
 N) 39.258584840  
 E) -80.161532515

BOTTOM HOLE  
 N) 39.221625274  
 E) -80.144735346

(UTM, NAD83) METER  
 TOP HOLE  
 N) 4345834.994  
 E) 571690.168

LANDING POINT  
 N) 4345807.632  
 E) 572339.878

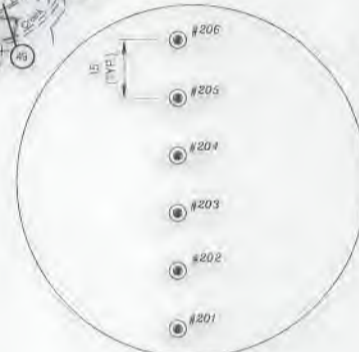
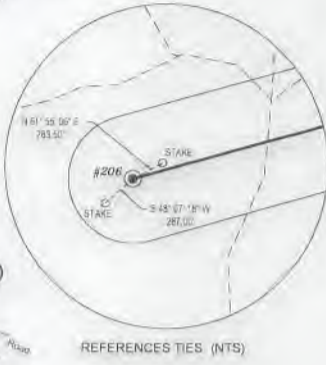
BOTTOM HOLE  
 N) 4341719.478  
 E) 573827.831

REFERENCE NOTES

- Property lines as shown taken from deeds, tax maps, and field locations. A full boundary survey is not expressed or implied. All bearings are based on grid North. Ownership taken from public records Taylor County, West Virginia Date 2018
- State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS.
- There are no railroads, dwellings, or agricultural buildings within 625 feet of center of pad
- No water wells found within 250' of the center of well pad.

**LEGEND**

- PROPOSED WELL LATERAL
- PROPOSED WELL TIE LINE
- STREAM
- EXISTING ROAD
- BUFFER
- PROPERTY LINE
- MINERAL TRACT BOUNDARY
- COUNTY BOUNDARY LINE
- #H PROPOSED WELL HEAD
- EXISTING WELL HEAD (Active)
- ◆ EXISTING WELL HEAD (Plugged)
- ⊕ EXISTING WELL HEAD (Abandoned)
- ⊞ EXISTING WELL HEAD (Nayer / Fried)
- ⊟ EXISTING WELL HEAD (Flare / Dry)
- LANDING POINT/BOTTOM HOLE
- ⊙ SURFACE OWNER



FILE#: 17078-007  
 SHEET#: 1 of 2  
 SCALE: 1" = 3000'  
 TICK SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: WV-RTN CORS STATION

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

Signed: *Herbert L. Parsons, III* 11-9-18  
 P.S. #2361: Herbert L. Parsons, III P.S.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

WATERSHED: SIMPSON CREEK  
 COUNTY / DISTRICT: TAYLOR CO. FLEMINGTON DISTRICT  
 SURFACE OWNER: RENEE JOHNSON  
 OIL & GAS ROYALTY OWNER: HEIRS & ASSIGNS OF EARL LAWSON; HEIRS & ASSIGNS OF DULCIE STARKEY; HEIRS & ASSIGNS OF MARTHA ROBERT'S; HEIRS & ASSIGNS OF VIRGIE BARTLETT; HEIRS & ASSIGNS OF BLANCHE WATSON; HEIRS & ASSIGNS OF DEZZIE BUTTS; AND HEIRS & ASSIGNS OF HASSEL LAWSON

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON  
 CLEAN OUT & REPLUG  OTHER CHANGE SPECIFY:

TARGET FORMATION: MARCELLUS  
 NA (pilot)

WELL OPERATOR: ARSENAL RESOURCES  
 ADDRESS: 6031 WALLACE ROAD EXTENSION # 300  
 CITY: WEXFORD STATE: PA ZIP: 15090

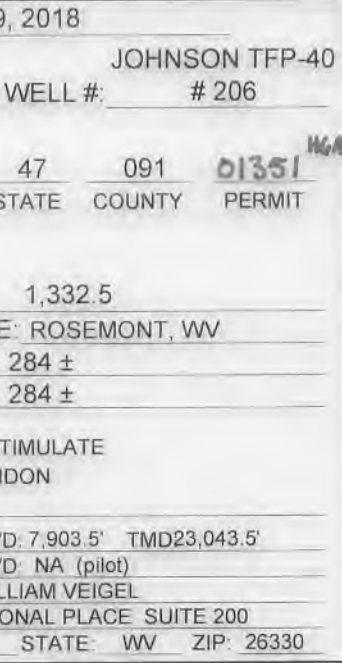
DATE: NOV. 9, 2018

JOHNSON TFP-40  
 OPERATOR'S WELL #: # 206

API WELL #: 47 091 01351  
 STATE COUNTY PERMIT

ELEVATION: 1,332.5  
 QUADRANGLE: ROSEMONT, WV  
 ACREAGE: 284 ±  
 ACREAGE: 284 ±

ESTIMATED DEPTH: TVD: 7,903.5' TMD23,043.5'  
 ESTIMATED DEPTH: TVD: NA (pilot)  
 DESIGNATED AGENT: WILLIAM VEIGEL  
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200  
 CITY: BRIDGEPORT STATE: WV ZIP: 26330



BOTTOM HOLE SURVEYED 80° 07' 30" (NAD27)  
 SURFACE HOLE SURVEYED 80° 10' 00" (NAD27)

02/15/2019

**SURFACE PARCEL OWNER INFORMATION**

ID#	PARCEL NUMBER	OWNER NAME
1	033-15-331-27	JOHNSON RENEE
2	001-09-9-2	STEWART FARM LLC
5	091-04-11-1	CFS FARMS LIMITED LIABILITY CO
21	091-04-11-5.5	BECKWITH LUMBER COMPANY
27	091-04-11-3	PROPST PAUL
43	001-09-9-22	WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES,
51	001-09-9-22.3	KRIZNER FRANK A & RENEE B HWS
58	RIGHT-OF-WAY	COUNTY ROUTE 77/1 BARBOUR CORNERS

**ADJOINER PARCEL OWNER INFORMATION**

ID#	PARCEL NUMBER	OWNER NAME
3	033-15-351-13	EIP III WEST VIRGINIA LLC
4	033-15-351-12	EIP III WEST VIRGINIA LLC
6	091-04-8-22	GRIPPIN JAMES S & ELAINE M
7	091-04-8-23	GRAY RANDALL & RITA
8	091-04-8-35	MARKS BETTY P
9	091-04-8-29	COALQUEST DEVELOPMENT LLC
10	091-04-8-105	BLOSSER PATRICK B ETAL
11	091-04-8-81	SIMMONS HUNTER
12	091-04-8-83	STEWART BARBARA JEAN
13	091-04-8-84	STEWART BARBARA JEAN
14	091-04-8-90.1	SINSEL FRANCES E
15	091-04-9-37.1	FELTON MICHAEL B & TARA L
16	091-04-11-19	BARTLETT HILDA & MILTON D
17	091-04-11-17	HOWARD CYNTHIA D
18	091-04-11-1.1	ANDERSON DANIEL & KAREN
19	091-04-11-17.3	SIMPSON JOHN E
20	091-04-11-9	WATKINS DOUGLAS R & ANNA M
22		BARTLETT TRACTS
23	091-04-11-8	ASTOR CEMETERY
24	091-04-11-7.5	NELSON HELEN L HURST MARY M
25	091-04-11-6	RAVIS JERRY LEE ESTATE
26	091-04-11-5.1	RAVIS JERRY L ESTATE
28	091-04-11-5.3	CRIM JOAN LF & BRENDA KAY
29	091-04-8-21	CARLYLE G MILLARD
30	091-04-11-2	PROPST PAUL
31	001-09-9-8	CLEAVENGER LEONARD D
32	001-09-9-8.2	CLEAVENGER LEONARD D
33	001-09-9-7	CROUSE ORLAN, JR
34	001-09-9-6	STEWART FARM LLC
35	091-04-11-4	SEESE BRENDA K & SMITH JOANN V & SURV
36	001-09-9-4	STEWART FARM LLC
37	001-09-9-2.1	BOARD OF EDUCATION
38	001-09-9-3	STEWART FARM LLC
39	001-09-9-1	STEWART FARM LLC
40	001-09-9-20	SEESE ROBERT & BRENDA HWS
41	001-09-12-1	POLINO ENTERPRISES INC
42	001-09-12-2	
44	001-09-9-17.1	MADDIX MICHAEL R ET UX
45	001-09-9-11	SALTIS STEVE JR & AMY HWS
46	001-09-9-12	SALTIS STEVE JR & AMY R HWS
47	001-09-9-13	MURPHY GEORGE H JR & TAMELA J, HWS
48	001-09-9-22.2	WOLFE MICHAEL B
49	001-09-12-4.2	KNOTTS TERRY & DONETTA
50	001-09-12-14	MOSESJO JOHN A TRUST
52		CLEAVENGER PLAT
53	091-04-7-9	CEQUEL COMMUNICATIONS LLC
54	091-04-7-27	CEQUEL COMMUNICATIONS LLC
55	091-04-7-8	SHIRLEY A FRUM, CLINTON A FRUM, ET UX
56	033-15-351-9	RENEE JOHNSON
57	033-15-351-10	RENEE JOHNSON
59	RIGHT-OF-WAY	COUNTY ROUTE 17 ORAL LAKE ROAD
60	RIGHT-OF-WAY	COUNTY ROUTE 1/6 BEAR MOUNTAIN ROAD
61	001-09-12-4	SWIGER ARGYLE C
62	001-09-12A-9	ELMOND MUREL L (L/E)
63	RIGHT-OF-WAY	GALLOWAY STATE ROUTE 76

02/15/2019

REFERENCE NOTES

- Property lines as shown taken from deeds, tax maps, and field locations. A full boundary survey is not expressed or implied. All bearings are based on grid North. Ownership taken from public records Taylor County, West Virginia Date 2018.
- State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS.
- There are no railroads, dwellings, or agricultural buildings within 625 feet of center of pad.
- No water wells found within 250' of the center of well pad.

**LEGEND**

- PROPOSED WELL LATERAL
- - - - - PROPOSED WELL TIE LINE
- STREAM
- EXISTING ROAD
- BUFFER
- PROPERTY LINE
- MINERAL TRACT BOUNDARY
- - - - - COUNTY BOUNDARY LINE
- #11 PROPOSED WELL HEAD
- ⊕ EXISTING WELL HEAD (Active)
- ⊖ EXISTING WELL HEAD (Plugged)
- ⊙ EXISTING WELL HEAD (Abandoned)
- ⊗ EXISTING WELL HEAD (Never Drilled)
- ⊘ EXISTING WELL HEAD (Future Drill)
- LANDING POINT/BOTTOM HOLE
- ⊙ SURFACE OWNER

FILE#: 17078-007  
 SHEET#: 2 of 2  
 SCALE: 1" = 3000'  
 TICK SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: WV-RTN CORS STATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.  
 Signed: *Herbert L. Parsons, III* 11-9-18  
 P.S. #2361: Herbert L. Parsons, III P.S.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304

Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

WATERSHED: SIMPSON CREEK  
 COUNTY / DISTRICT: TAYLOR CO. FLEMINGTON DISTRICT  
 SURFACE OWNER: RENEE JOHNSON  
 OIL & GAS ROYALTY OWNER: HEIRS & ASSIGNS OF EARL LAWSON, HEIRS & ASSIGNS OF DULCIE STARKEY, HEIRS & ASSIGNS OF MARTHA ROBERTS, HEIRS & ASSIGNS OF VIRGIE BARTLETT, HEIRS & ASSIGNS OF BLANCHE WATSON, HEIRS & ASSIGNS OF DEZZIE BUTTS, AND HEIRS & ASSIGNS OF HASSEL LAWSON

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON  
 CLEAN OUT & REPLUG  OTHER CHANGE SPECIFY: \_\_\_\_\_

TARGET FORMATION: MARCELLUS  
 NA (pilot)

WELL OPERATOR: ARSENAL RESOURCES  
 ADDRESS: 6031 WALLACE ROAD EXTENSION # 300  
 CITY: WEXFORD STATE: PA ZIP: 15090



DATE: NOV. 9, 2018  
 JOHNSON TFP-40  
 OPERATOR'S WELL #: # 206  
 API WELL #: 47 091 03351-044  
 STATE COUNTY PERMIT

ELEVATION: 1,332.5  
 QUADRANGLE: ROSEMONT, WV  
 ACREAGE: 284 ±  
 ACREAGE: 284 ±

ESTIMATED DEPTH: TVD: 7,903.5' TMD23,043.5'  
 ESTIMATED DEPTH: TVD: NA (pilot)  
 DESIGNATED AGENT: WILLIAM VEIGEL  
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200  
 CITY: BRIDGEPORT STATE: WV ZIP: 26330



WW-6A1  
(5/13)

Operator's Well No. Johnson TFP40 206

**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

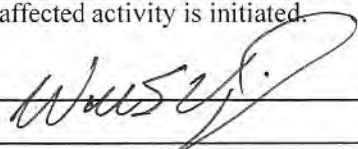
**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

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

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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

**Attachment to WW-6A1, Johnson TFP 40 206**

Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
1 (00006031)	Blanche Watson (widow), Dezzie Butts and Terry H. Butts (her husband), Dulcie Starkey (widow), Martha Roberts (widow), Gail Wilson (widow), Mary Bartlett (widow), James Bartlett and Elsa Bartlett (his wife), Ernestine White and John White (her husband), Leoma Chandler (widow) and Ellenor Whitman and Paul Whitman (her husband); Earl Lawson, Widower	Union Drilling, Inc.	12.50%	1030/412 1031/291	284
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		1189/1209	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		1199/642	
	Equitable Resources Energy Company	Enervest East Limited Partnership		22/181 (Taylor County)	
	Enervest East Limited Partnership	The Houston Exploration Company		1359/820	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Incorporated		1367/1084	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		1467/119	
2 (00008235)	John F. Stewart, widower	Petro-Lewis Corporation	12.50%	75/154	200
	Petro-Lewis Corporation	Partnership Properties Company		77/226	
	Partnership Properties Company	Eastern American Energy Corporation		95/112	
	Eastern American Energy Corporation	Energy Corporation of America		438/429	

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**Attachment to WW-6A1, Johnson TFP 40 206**

	Energy Corporation of America	Greylock Production, LLC		178/401	
	Greylock Production, LLC	Mar Key, LLC		179/96	
5 (00006028)	A. Brooks Fleming and Winnie Fleming, his wife	Union Drilling, Inc. and Allerton Miller		33/79	
	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		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)	
5 (00005213)	Chester Sinsel and Frances Sinsel, husband and wife	Union Drilling, Inc.	12.50%	35/488	1080
	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		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)	

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**Attachment to WW-6A1, Johnson TFP 40 206**

	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)	
21 (00008265)	Ethel A. Tomblyn, single and Bessie T. Knight, widow, parties of the first part	Petro-Lewis Corporation		33/254	
	Petro-Lewis Corporation	Partnership Properties Company		3/176	
	Partnership Properties Company	Eastern American Energy Corporation		4/381	
	Eastern American Energy Corporation	Energy Corporation of America		16/488 (Barbour)	
	Energy Corporation of America	Greylock Production, LLC		36/618	
	Greylock Production, LLC	Mar Key, LLC		37/8	
27 (00004510)	Paul Propst, a single man	PDC Mountaineer	12.50%	59/146	34.71
	PDC Mountaineer	River Ridge Energy, LLC		8/544	
43 (00005950)	Lillian Wilson Post	Cumberland and Allegheny Gas Company	12.50%	40/242	400
	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		116/81	

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**Attachment to WW-6A1, Johnson TFP 40 206**

	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)	
43 (00005929)	Virginia C. McDonald, single	Union Drilling, Inc. and Allerton Miller	12.50%	47/443	114
	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		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)	
43 (00005894)	Virginia C. McDonald, single	Union Drilling Inc. and Allerton Miller	12.50%	47/434	177
	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		116/81	

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**Attachment to WW-6A1, Johnson TFP 40 206**

	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)	
43; 51 (00005958)	Virginia C. McDonald, single	Union Drilling Inc. and Allerton Miller	12.50%	67/397	111
	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		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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## West Virginia Secretary of State — Online Data Services

### Business and Licensing

Online Data Services Help

### Business Organization Detail

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### 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			
<b>Business Purpose</b>	2111 - Mining, Quarrying, Oil & Gas Extraction - Oil and Gas Extraction - Crude Oil and Natural Gas Extraction		<b>Capital Stock</b>
<b>Charter County</b>		<b>Control Number</b>	0
<b>Charter State</b>	WV	<b>Excess Acres</b>	0
<b>At Will Term</b>	A	<b>Member Managed</b>	MBR
<b>At Will Term Years</b>		<b>Par Value</b>	
<b>Authorized Shares</b>			

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

<b>Officers</b>	
<b>Type</b>	<b>Name/Address</b>
<b>Member</b>	RIVER RIDGE ENERGY, LLC 6031 WALLACE ROAD EXTENSION, SUITE 300 WEXFORD, PA, 15090
<b>Organizer</b>	TAMMY J OWEN 300 SUMMERS STREET, STE 1500 PO BOX 2107 CHARLESTON, WV, 25328 USA
<b>Type</b>	<b>Name/Address</b>

<b>DBA</b>			
<b>DBA Name</b>	<b>Description</b>	<b>Effective Date</b>	<b>Termination Date</b>
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
<b>DBA Name</b>	<b>Description</b>	<b>Effective Date</b>	<b>Termination Date</b>

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### Name Changes



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	
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1999
1998
<b>Date filed</b>

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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**Business Organization Detail**

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**MAR KEY LLC**

<b>Organization Information</b>								
Org Type	Effective Date	Established Date	Filing Date	Charter	Class	Sec Type	Termination Date	Termination Reason
LLC   Limited Liability Company	7/11/2011		7/11/2011	Domestic	Profit			

<b>Organization Information</b>			
<b>Business Purpose</b>	2111 - Mining, Quarrying, Oil & Gas Extraction - Oil and Gas Extraction - Crude Oil and Natural Gas Extraction		<b>Capital Stock</b>
<b>Charter County</b>		<b>Control Number</b>	99Q1F
<b>Charter State</b>	WV	<b>Excess Acres</b>	
<b>At Will Term</b>	A	<b>Member Managed</b>	MBR
<b>At Will Term Years</b>		<b>Par Value</b>	

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<b>Authorized Shares</b>

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

<b>Officers</b>	
Type	Name/Address
<b>Member</b>	ARSENAL RESOURCES ENERGY LLC 6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090
<b>Organizer</b>	PAUL M HERZING 560 EPSILON DR. PITTSBURGH, PA, 15238 USA
Type	Name/Address

<b>Annual Reports</b>	
Date filed	

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3/30/2017
6/20/2016
6/30/2015
4/28/2014
6/28/2013
5/8/2012
Date filed

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

Tuesday, November 28, 2017 — 9:44 AM

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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 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]

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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

**RIVER RIDGE HOLDINGS, LLC**

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

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People Powered. Asset Strong.

October 4, 2018

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

RE: Ownership of Roadways; Johnson TFP 40

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]. 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

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Environmental Protection

6031 Wallace Road Ext, Suite 300  
Wexford, PA 15090  
P: 724-940-1100  
F: 800-428-0981  
www.arsenalresources.com



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

Date of Notice Certification: 10-18-18

API No. 47- 091 - \_\_\_\_\_  
Operator's Well No. Johnson TFP40 206  
Well Pad Name: Johnson TFP40

**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>571,690.168</u>
County: <u>Taylor</u>	Northing: <u>4,345,814.994</u>
District: <u>Flemingon</u>	Public Road Access: <u>CR 17, Oral Lake Road</u>
Quadrangle: <u>Rosemont</u>	Generally used farm name: <u>Johnson</u>
Watershed: <u>Simpson Creek</u>	

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

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

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

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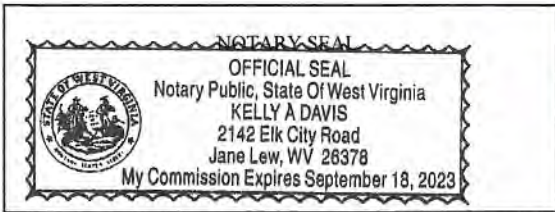
01-25-2018

WV Department of  
Environmental Protection

**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> <i>WVMS</i>		<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 18<sup>th</sup> day of October 2018  
Kelly A. Davis Notary Public  
 My Commission Expires September 18, 2023

**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](mailto:depprivacyofficer@wv.gov).

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 OCT 25 2018  
 WV Department of  
 Environmental Protection

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

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

**Date of Notice:** 10-18-18 **Date Permit Application Filed:** 10-24-18

**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.

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

SURFACE OWNER(s)

Name: Renee Johnson  
Address: 511 Beards Run Road  
Bridgeport WV 26330

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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

Name: See Attached  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)

Name: Renee Johnson  
Address: 511 Beards Run Road  
Bridgeport, WV 26330

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

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**OCT 25 2018**  
WV Department of  
Environmental Protection

**Notice is hereby given:**

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

**This Notice Shall Include:**

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

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

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

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

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/received](http://www.dep.wv.gov/received) Office of Oil and Gas

OCT 25 2018

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

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

**Water Well Testing:**

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

**Water Testing Laboratories:**

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

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

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

**Written Comment:**

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

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

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OCT 25 2018  
WV Department of  
Environmental Protection

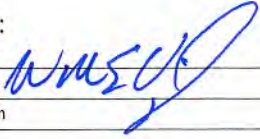
Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

WW-6A  
(8-13)

API NO. 47-091 - **02/15/2019**  
OPERATOR WELL NO. Johnson TFP40 206  
Well Pad Name: Johnson TFP40

**Notice is hereby given by:**

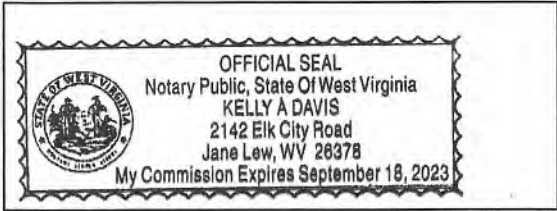
Well Operator: Arsenal Resources  
Telephone: 724-940-1218  
Email: kdavis@arsenalresources.com



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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 18<sup>th</sup> day of October 2018  
Kelly A. Davis Notary Public  
My Commission Expires September 18, 2023

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WV Department of  
Environmental Protection

**Arsenal Resources  
Johnson TFP 40 206**

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

**Surface Owner(s) (Road and/other Disturbance):**

Renee Johnson  
511 Beards Run Road  
Bridgeport, WV 26330

John Troy Snider & Cynthia Snider  
95 Beards Run Road  
Bridgeport, WV 26330

Clee T Henderson II  
PO Box 1026  
Bridgeport, WV 26330

Oran Lee Warder and Janice L Warder  
In care of Lee Warder  
2381 Silverado Drive,  
Weatherford, TX 76087

**Coal Owner or Lessee:**

CoalQuest Development, LLC  
Attn: Chuck Duckworth  
100 Tygart Drive  
Grafton, West Virginia 26354

Consolidated Coal Company  
1000 Consol Energy Drive  
Canonsburg, PA 15317

**Water Purveyors:**

Renee Johnson  
511 Beards Run Road  
Bridgeport, WV 26330

Cequel III Communications II LLC  
520 Maryville Centre DR Suite  
Saint Louis, MO 63141

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**Arsenal Resources**  
**Johnson TFP 40 206**  
**WW-6A Notice of Application, Attachment (Page 2 of 2)**

**Water Purveyors (continued):**

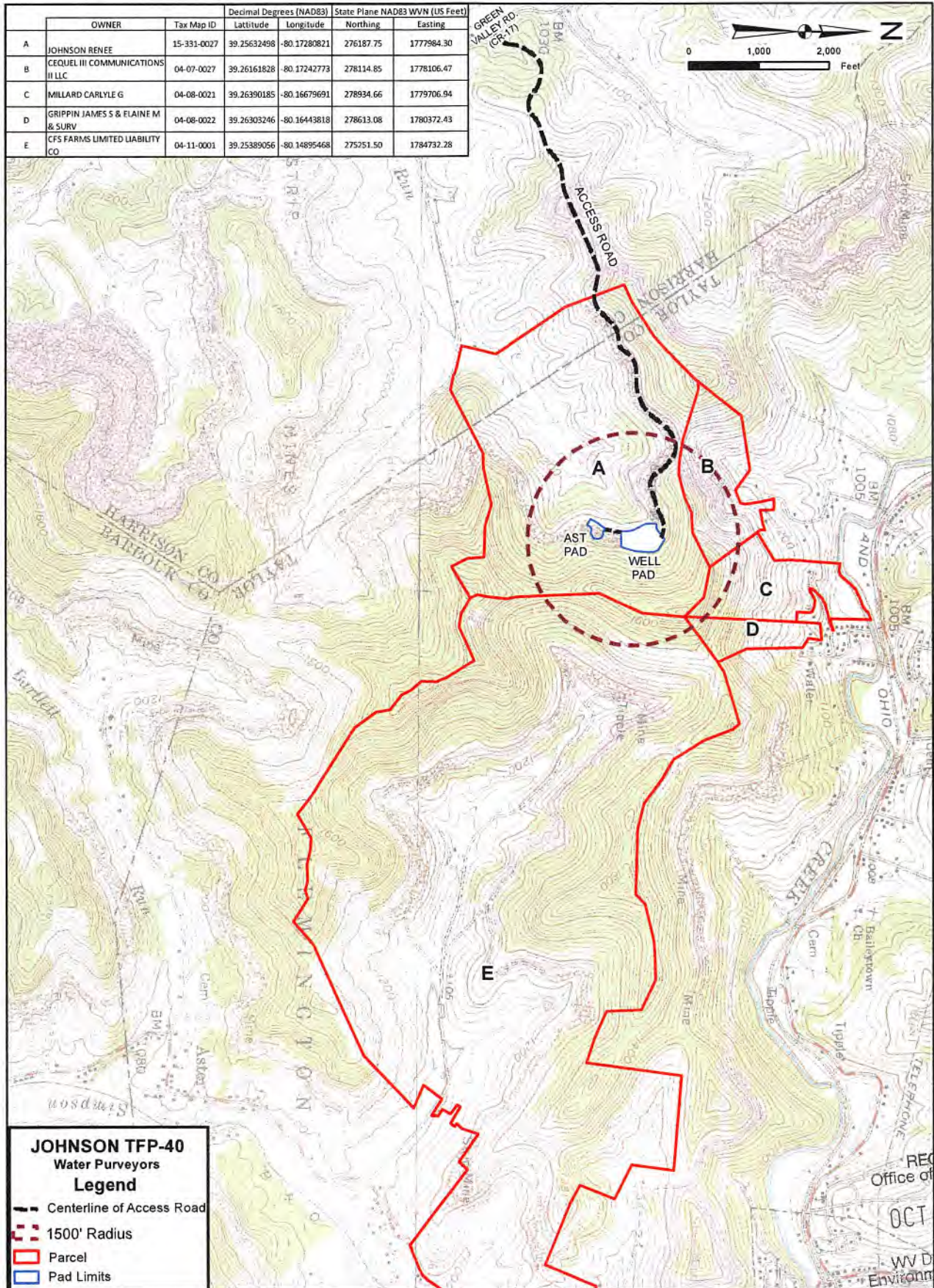
Carlyle G Millard  
413 High St  
Bridgeport, WV 26330

James and Elaine Grippin  
137 Ocello St  
Clarksburg, WV 26301

CFS Farms Limited Liability Co  
PO Box 297  
Flemington, WV 26347

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02/15/2019

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

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

**Date of Notice:** 11/8/2017      **Date of Planned Entry:** 11/15/2017

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

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

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

**Notice is hereby provided to:**

SURFACE OWNER(S)

Name: Renee Johnson  
Address: 511 Beards Run Road  
Bridgeport, WV 26330

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: See Attached  
Address: \_\_\_\_\_

MINERAL OWNER(S)

Name: See Attached  
Address: \_\_\_\_\_

\*please attach additional forms if necessary

**Notice is hereby given:**

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

State: West Virginia  
County: Taylor  
District: Flemington  
Quadrangle: Rosemont

Approx. Latitude & Longitude: 39.2528781, -80.169049  
Public Road Access: CR 17, Oral Lake Road  
Watershed: Simpson Creek  
Generally used farm name: Johnson

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

**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: 304-948-9134

**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](mailto:depprivacyofficer@wv.gov).

**Arsenal Resources  
Johnson TFP 40 206**

**WW-6A3 Notice of Entry for Plat Survey, Attachment (Page 1 of 2)**

**Mineral Owner(s):**

Richard Paul Whiteman & Carolyn Sue Moninger  
721 James Street  
Bridgeport, WV 26330

Dulcie B. Starkey C/O Jack Bartlett  
1174 Wild Ginger Lane  
Orange Park, FL 32763

Richards Resources  
608 Independence Road  
Salem, WV 26426

Bryan K. Wilson etal  
PO Box 117  
Anmoore, WV 26323

Betty J. Sutton C/O Joseph Sutton  
919 Milam Street STE 2400  
Houston, TX 77002

Heidi Bartlett Wiedebusch  
312 Jackson Avenue  
Morgantown, WV 26501

Glenn Ray Watkins  
RR 2 Box 328C  
Mount Clare, WV 26408

Ernestine White Trust (Judith L. Luce Trustee)  
309 Balsam Dr.  
Severna Park, MD 21146

Lenore Lawson C/O Kay Davis  
1255 Lunbeck Road  
Chillicothe, OH 45601

Jo Ann Rose  
638 Hampton Woods Drive  
Marion, OH 43302

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OCT 25 2018

WV Department of  
Environmental Protection

**Arsenal Resources  
Johnson TFP 40 206**

**WW-6A3 Notice of Entry for Plat Survey, Attachment (Page 2 of 2)**

**Mineral Owner(s) (continued):**

Nancy Lee Munn  
528 Hopetown Road  
Chillicothe, OH 45601

Mike Ross Inc & IL Morris  
PO Box 219  
Coalton, WV 26257

Sandra K. Wilson  
31 Woodburn Drive  
Fairmont, WV 26554

**Coal Owner or Lessee:**

CoalQuest Development, LLC  
Attn: Chuck Duckworth  
100 Tygart Drive  
Grafton, West Virginia 26354

Consolidated Coal Company  
1000 Consol Energy Drive  
Canonsburg, PA 15317

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

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

**Date of Notice:** 10-18-18      **Date Permit Application Filed:** 10-24-18

**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.

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

Name: <u>Renee Johnson</u>	Name: _____
Address: <u>511 Beards Run Road</u>	Address: _____
<u>Bridgeport, WV 26330</u>	_____

**Notice is hereby given:**

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

State: <u>West Virginia</u>	UTM NAD 83      Easting: <u>571,690.168</u>
County: <u>Taylor</u>	Northing: <u>4,345,814.994</u>
District: <u>Flemington</u>	Public Road Access: <u>CR 17, Oral Lake Road</u>
Quadrangle: <u>Rosemont</u>	Generally used farm name: <u>Johnson</u>
Watershed: <u>Simpson Creek</u>	

**This Notice Shall Include:**

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

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

**Oil and Gas Privacy Notice:**

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

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Office of Oil and Gas  
OCT 25 2018  
WV Department of  
Environmental Protection

47 09 10 13 51 02/15/2019

U.S. Postal Service™  
CERTIFIED MAIL® RECEIPT  
Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

BRIDGEPORT, WV 26330

OFFICIAL USE

Certified Mail Fee	\$3.45
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

0098  
03

Postmark  
Here

Postage \$1.21

10/18/2018

Total Postage and Fees \$7.41

Renee Johnson  
511 Beards Run Rd  
Bridgeport, WV 26330

Johnson TFP 40-206 - Notice of Application and Planned Operation  
Surf Owner, Surf Owner by Road, Surf Owner by Pit/Impound, Water Purveyor

701A 0040 0000 1478 8495

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Office of Oil and Gas

OCT 25 2018

WV Department of  
Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

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

October 24, 2018

Jill M. Newman  
Deputy Commissioner

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

Subject: DOH Permit for the Johnson TFP 20 Pad, Harrison County

Johnson TFP 40 206 Well Site

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permits #04-2018-1123 for the subject site to ARSENAL Resources for access to the State Road for the well site located off of Harrison County 17 SLS.

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 January 3, 2012.

Very Truly Yours,

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

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

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OCT 25 2018

WV Department of  
Environmental Protection

<b>Johnson TFP40 #206</b>			
<b>FRACTURING ADDITIVES</b>			
	<b>PURPOSE</b>	<b>TRADE NAME</b>	<b>CAS #</b>
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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WV Department of  
Environmental Protection



# EROSION & SEDIMENT CONTROL PLAN

## JOHNSON TFP 40 WELL SITE

### HARRISON AND TAYLOR COUNTY, WEST VIRGINIA

#### FOR



APPROVED  
WVDEP OOG

*2/12* 2/12/2019

LOD SUMMARY			
PARCEL	ACERAGE	PARCEL	ACERAGE
COUNTRY ROUTE 17 (GR IN VALLEY ROAD)	0.03	WARDER OMAN LEE	2.85
SNIDER JOHN TROY & CYNTHIA R 17-15-331-0024-0000-0000	5.86	WARDER OMAN LEE	1.72
HENDERSON CLET F II 17-15-331-0014-0000-0000	2.36	JOHNSON HEWFE	3.17
HENDERSON CLET F II 17-15-331-0001-0000-0000	0.27	JOHNSON HEWFE	12.70
<b>TOTAL</b>			<b>33.56</b>

THE PAD AND LOD (INCLUDING E&S CONTROL FEATURES) IS WITHIN 100 FEET OF A PERENNIAL STREAM OR WETLAND.

THE PAD AND LOD (INCLUDING E&S CONTROL FEATURES) IS NOT WITHIN 300 FEET TO A NATURALLY PRODUCING TROUT STREAM.

THE PAD AND LOD (INCLUDING E&S CONTROL FEATURES) IS NOT WITHIN 1000 FEET TO A GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY.

THE WELL IS NOT WITHIN 250 FEET TO AN EXISTING WATER WELL OR DEVELOPED SPRING.

THE CENTER OF THE PAD IS AT LEAST 625 FEET FROM AN OCCUPIED DWELLING STRUCTURE.

THE CENTER OF THE PAD IS AT LEAST 625 FEET FROM AGRICULTURAL BUILDINGS LARGER THAN 2500 SQUARE FEET.

LOD SUMMARY	
ACCESS ROAD	71.27
WELL PAD	0.20
TANK PAD	1.59
STOCKPILE	6.48
<b>TOTAL</b>	<b>80.54</b>
TREE CLEARING	15.93



REFERENCES: UNITED STATES GEOLOGICAL SURVEY - ROSEMOUNT QUADRANGLE WEST VIRGINIA, 7.5 MINUTE SERIES

750' 0 1000' 2000'  
SCALE

PROJECT NO. 17078-007

JANUARY 2019

**DIEFFENBAUCH & HRITZ, LLC**



INDEX	
DRAWING NO.	TITLE
1	TITLE SHEET
2	GENERAL NOTICE
3-5	EXISTING SITE PLAN
6-8	SOILS PLAN
9-11	OVERALL SITE PLAN
12-18	PROPOSED SITE PLAN
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23-25	ACCESS ROAD CROSS-SECTIONS
26	WELL PAD CROSS-SECTIONS
27	AST MANIFOLD PAD CROSS-SECTIONS
27A	STOCKPILE CROSS-SECTIONS
28-30	SITE VEGETATION PLAN
31-33	SITE RESTORATION PLAN
34-37	E&S DETAILS
38	CULVERT PROFILE
39	QUANTITY SUMMARY

17078-007 PROJECT NO.

JAN 2019 DATE

17078-007 PROJECT NO.

WVDEP OOG

APPROVED

2/12/2019

ARSENAL

PROJECT: JOHNSON TFP40 WELL SITE

TITLE SHEET

1

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# EROSION & SEDIMENT CONTROL PLAN

## JOHNSON TFP 40 WELL SITE

### HARRISON AND TAYLOR COUNTY, WEST VIRGINIA

#### FOR



LOD SUMMARY			
PARCEL	ACREAGE	PARCEL	ACREAGE
COUNTRY ROUTE 17 (GREEN VALLEY BASIN)	8.03	WARDEN ORAN LEE 17-15-135-0023-0000-0000	2.85
SWIDER JOHN TROY & CYNTHIA R 2F 15-351-0006-0000-0000	5.48	WARDEN ORAN LEE 17-15-135-0023-0000-0000	1.78
HERNDONSON CLEVE T B 17-15-391-0013-0000-0000	2.38	JOHNSON RENEE 17-15-391-0000-0000-0000	5.17
HERNDONSON CLEVE T B 17-15-391-0021-0000-0000	0.27	JOHNSON RENEE 17-15-391-0000-0000-0000	12.70
TOTAL			88.58

THE PAD AND LOD (INCLUDING ERS CONTROL FEATURES) IS WITHIN 100 FEET OF A PERENNIAL STREAM OR WETLAND.

THE PAD AND LOD (INCLUDING EMS CONTROL FEATURES) IS NOT WITHIN 300 FEET TO A NATURALLY PRODUCING TROUT STREAM.

THE PAD AND LOD (INCLUDING EMS CONTROL FEATURES) IS NOT WITHIN 1000 FEET TO A GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY.

THE WELL IS NOT WITHIN 250 FEET TO AN EXISTING WATER WELL OR DEVELOPED SPRING.

THE CENTER OF THE PAD IS AT LEAST 605 FEET FROM AN OCCUPIED DWELLING STRUCTURE.

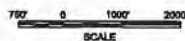
THE CENTER OF THE PAD IS AT LEAST 626 FEET FROM AGRICULTURAL BUILDINGS LARGER THAN 2500 SQUARE FEET.

LOD SUMMARY	
ACCESS ROAD	21.27
WELL PAD	6.29
TANK PAD	1.50
ENCLOSURE	4.50
TOTAL	33.56

TREE CLEARING	15.93
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REFERENCE: UNITED STATES GEOLOGICAL SURVEY - ROSSMOUNT QUADRANGLE, WEST VIRGINIA, 7.5 MINUTE SERIES



PROJECT NO. 17078-007

OCTOBER 2018

DIEFFENBAUCH & HRITZ, LLC



*Robert L. Parsons*  
10-17-18

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31-33	SITE RESTORATION PLAN
34-37	ERM DETAILS
38	CUVERT PROFILE
39	QUANTITY SUMMARY

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WED / DOC  
REVISED  
EHS  
CHECKED  
HLP  
APPROVED  
OCT 20 18  
17078-007  
PROJECT NO.

DIEFFENBAUCH & HRITZ, LLC  
1100 UNIVERSITY AVENUE, SUITE 200  
HARRISON, WV 25855  
PHONE: 304.761.0000 FAX: 304.761.0002

ARSENAL RESOURCES

JOHNSON TFP40 WELL SITE

TITLE SHEET

1

4709101351

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Environmental Protection