



 west virginia department of environmental protection

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

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

Wednesday, November 14, 2018

WELL WORK PERMIT
 Horizontal 6A / New Drill

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

Re: Permit approval for FIBER TFP22 201
 47-091-01347-00-00

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: FIBER TFP22 201
 Farm Name: CFS FARMS LLC
 U.S. WELL NUMBER: 47-091-01347-00-00
 Horizontal 6A New Drill
 Date Issued: 11/14/2018

PERMIT CONDITIONS 4709101347

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

CONDITIONS

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

API Number: _____ 11/16/2018

PERMIT CONDITIONS 4709101347

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.



11/16/2018
4709101347

west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
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: October 22, 2018
ORDER NO.: 2018-W-10

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 July 20, 2018 Arsenal submitted a well work permit application identified as API# 47-091-01347. The proposed well is to be located on the Fiber TFP22 Pad in District 4 of Taylor County, West Virginia.
4. On July 20, 2018 Arsenal requested a waiver for Stream 7, Wetlands F, G, H and I outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-091-01347.

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 Stream 7, and Wetlands F, G, H and I from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-091-01347. The Office of Oil and Gas hereby **ORDERS** that Arsenal shall meet the following site construction and operational requirements for the Fiber TFP22 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. Stream 7 shall be protected by diversion ditches and compost filter sock. This along with rip-rap aprons, temporary and permanent vegetative cover will prevent sediment from reaching the stream;
- d. Wetland F, G, H and I shall be protected by both silt fence and super silt fence. This along 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.

11/16/2018

4709101347

Thus ORDERED, the 22th day of October, 2018.

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

4709101347

Attachment 1

APPROX. LOCATION OF ALLIANCE PETROLEUM CORPORATION ACTIVE WELL PERMIT NUMBER: 091-00221 APR. 17/01-00221



- NOTES:
1. TOPOGRAPHIC INFORMATION OBTAINED FROM BME (DATUM NAD83 WYN)
 2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPPING AND SHOULD BE USED AS REFERENCE ONLY.
 3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON FIRM MAP NUMBER 8403021550 DATED 10/20/10 AND FIRM MAP NUMBER 8403020350 DATED 10/20/10. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE (X) AS DEFINED BY THE FIRM.
 4. RECEIVING STREAMS: NINE (9) UNNAMED TRIBUTARIES TO SIMPSON CREEK
 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 GRADED AT 2:1 UNLESS OTHERWISE NOTED.
 7. PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 AND STEEPER.
 8. LIMITS OF DISTURBANCE: 17.26 ACRES

LEGEND

- | | | | |
|--|------------------------------------|--|-----------------------------|
| | EXISTING INDEX CONTOUR LINE (10) | | EXISTING TREE LINE |
| | EXISTING INTERMEDIATE CONTOUR LINE | | EXISTING ROAD |
| | PROPOSED INDEX CONTOUR LINE (10) | | EXISTING RIGHT-OF-WAY |
| | PROPOSED INTERMEDIATE CONTOUR LINE | | PROPOSED RIGHT-OF-WAY |
| | PROPERTY LINE | | CHANNEL FLOW DIRECTION |
| | EXISTING FENCE | | STREAM |
| | ORANGE CONSTRUCTION FENCE (OCF) | | DELINEATED STREAM |
| | OVERHEAD UTILITY LINE | | DELINEATED WETLAND BOUNDARY |
| | EXISTING GAS LINE | | FEMA FLOODPLAIN (ZONE A) |
| | PROPOSED GAS LINE | | SILT FENCE (SF) |
| | PROPOSED WATER LINE | | COMPOST FILTER SOCK (CFS) |
| | FILL LIMITS | | SUPER SILT FENCE (SSF) |
| | CUT LIMITS | | CUT/FILL TRANSITION |
| | TOE KEY WITH DRAIN | | EXISTING SPOT ELEVATION |
| | FOUNDATION BENCH | | PROPOSED SPOT ELEVATION |
| | ROADWAY CENTERLINE | | EXISTING STRUCTURE |
| | SAFETY BERM | | EXISTING UTILITY POLE |
| | LIMITS OF DISTURBANCE | | SCALE: 1" = 100 FT. |

| WETLAND IMPACTS | | |
|-----------------|--------------|-----------|
| NAME | LOSS (AC) | TEMP (AC) |
| WETLAND J | 0.036 | 0 |
| WETLAND K | 0.023 | 0 |
| TOTAL | 0.061 | 0 |

| STREAM IMPACTS | | |
|----------------|-----------|-----------|
| NAME | LOSS (FT) | TEMP (FT) |
| STREAM 7 | 98 | 40 |

| PRELIMINARY EARTHWORK - WELL PAD | | |
|----------------------------------|--------|----|
| TOTAL RAW CUT | 25,342 | CY |
| TOTAL SWELLED CUT | 27,766 | CY |
| TOTAL FILL | 30,904 | CY |
| TOTAL TOPSOIL | 6,315 | CY |
| TOTAL EXCESS MATERIAL | 6,862 | CY |

| PRELIMINARY EARTHWORK - TANK PAD | | |
|----------------------------------|-------|----|
| TOTAL RAW CUT | 6,530 | CY |
| TOTAL SWELLED CUT | 7,183 | CY |
| TOTAL FILL | 7,199 | CY |
| TOTAL TOPSOIL | 3,619 | CY |
| TOTAL EXCESS MATERIAL | -16 | CY |

| PRELIMINARY EARTHWORK - ACCESS ROAD | | |
|-------------------------------------|--------|----|
| TOTAL RAW CUT | 9,783 | CY |
| TOTAL SWELLED CUT | 10,761 | CY |
| TOTAL FILL | 1,804 | CY |
| TOTAL TOPSOIL | 3,598 | CY |
| TOTAL EXCESS MATERIAL | 8,957 | CY |

| PRELIMINARY EARTHWORK - TOTAL SITE | | |
|------------------------------------|--------|----|
| TOTAL RAW CUT | 41,955 | CY |
| TOTAL SWELLED CUT | 45,710 | CY |
| TOTAL FILL | 29,907 | CY |
| TOTAL TOPSOIL | 13,532 | CY |
| TOTAL EXCESS MATERIAL | 15,803 | CY |



PROJECT: FIBER TFP22 WELL SITE

DATE: 08/14/2018

FILE: OVERALL SITE PLAN

SCALE: 1" = 100 FT.

811 Know what's below. Call before you dig.

STOP Know what's below. Call before you dig.

ARSENAL

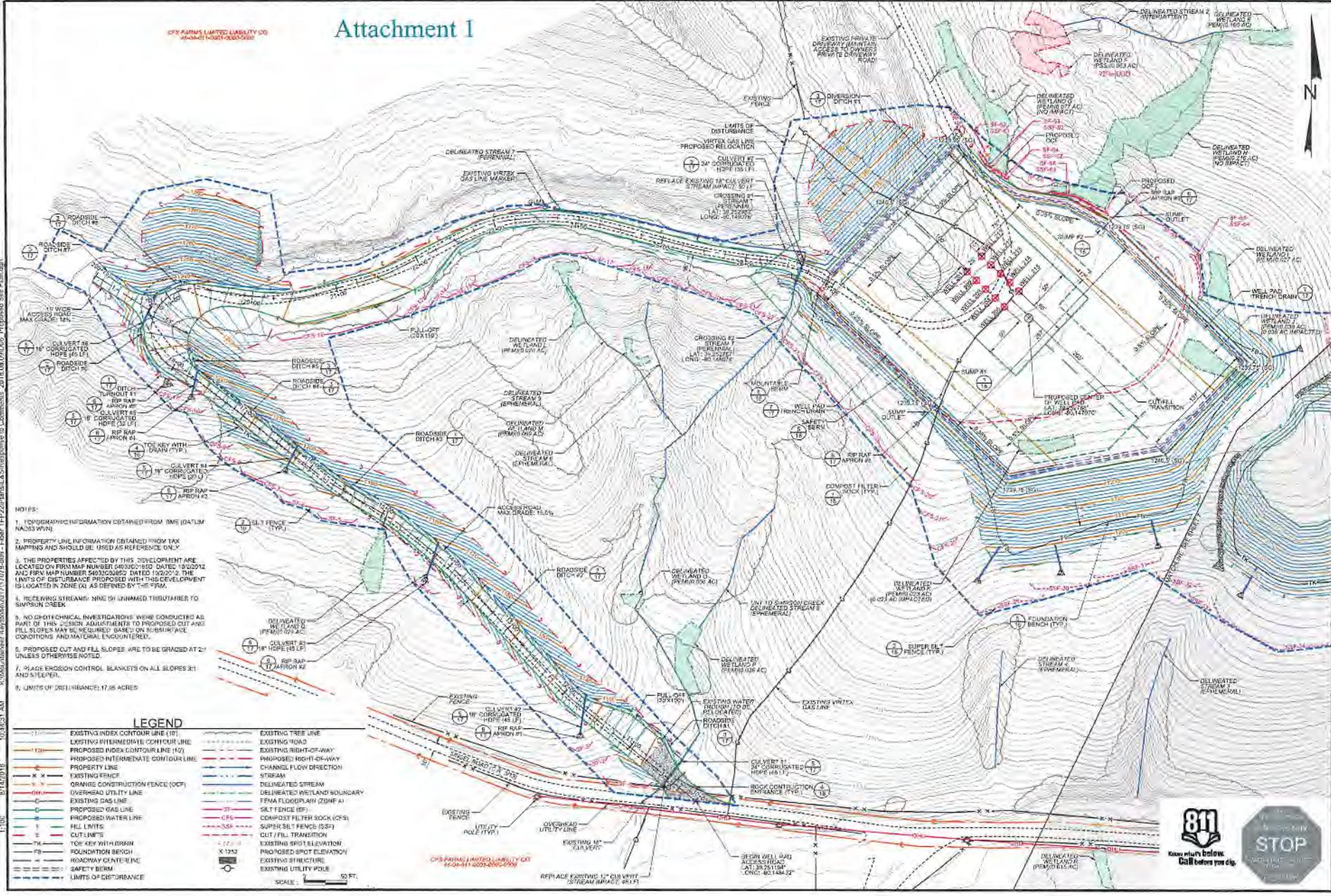
DIFFENBAUGH & HRTZ, LLC
10000 W. 24TH AVENUE
DENVER, CO 80202
TEL: 303.555.5555 FAX: 303.555.5557

CDR. BRANK
BYM CHECKED
HLP APPROVED
AUG 2018
17078-008
PROJECT NO.

4709101347

Attachment 1

CHS PARTNERS LIMITED LIABILITY CO
46-04-011-0001-000-0000



- NOTES:
1. TOPOGRAPHIC INFORMATION OBTAINED FROM DMS (DA/LM NAD83 WUN).
 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 PIRM MAP NUMBER 680300-010, DATE: 10/2014 AND PIRM MAP NUMBER 540300-040 DATED 10/2014. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE (K) AS DEFINED BY THE PIRM.
 4. RECEIVING STREAMS: NINE (9) UNIMPAIRED TRIBUTARIES TO SIMPSON CREEK.
 5. NO DITCH CHANNEL 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 GRAZED AT 2:1 UNLESS OTHERWISE NOTED.
 7. PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 2:1 AND STEEPER.
 8. LIMITS OF DISTURBANCE: 17.85 ACRES.

LEGEND

| | | |
|-----|------------------------------------|----------------------------|
| 10 | EXISTING INDEX CONTOUR LINE (10') | EXISTING TREE LINE |
| 12 | EXISTING INTERMEDIATE CONTOUR LINE | EXISTING ROAD |
| 15 | PROPOSED INDEX CONTOUR LINE (15') | EXISTING RIGHT-OF-WAY |
| 18 | PROPOSED INTERMEDIATE CONTOUR LINE | PROPOSED RIGHT-OF-WAY |
| --- | PROPERTY LINE | CHANNEL FLOW DIRECTION |
| --- | EXISTING FENCE | STREAM |
| --- | ORANGE CONSTRUCTION FENCE (OCF) | DELIMITED STREAM |
| --- | OVERHEAD UTILITY LINE | DELIMITED WETLAND BOUNDARY |
| --- | EXISTING GAS LINE | FEMA FLOODPLAIN (ZONE A) |
| --- | PROPOSED GAS LINE | SILT FENCE (SF) |
| --- | PROPOSED WATER LINE | COMPOST FILTER SOCK (CFS) |
| --- | FILL LIMITS | SUPER SILT FENCE (SSF) |
| --- | CUT LIMITS | CUT/FILL TRANSITION |
| --- | TOP KEY WITH DRAIN | EXISTING SPOT ELEVATION |
| --- | FOUNDATION BENCH | PROPOSED SPOT ELEVATION |
| --- | ROADWAY CENTERLINE | EXISTING STRUCTURE |
| --- | SAFETY BERM | EXISTING UTILITY POLE |
| --- | LIMITS OF DISTURBANCE | |

CHS PARTNERS LIMITED LIABILITY CO
46-04-011-0001-000-0000

REPLACE EXISTING 12" CULVERT (STREAM IMPACT: 49.15')



REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|------------|-----------------------|
| 1 | 10/14/2016 | ISSUED FOR PERMITTING |

DESIGNER: ARSENAL

PROJECT: FIBER TFP22 WELL SITE

DATE: 10/14/2016

SCALE: 1" = 50 FT.

PROJECTED SITE PLAN

6

11/3/14
Wetland and Perennial Stream Waiver Request

4709101347
API Number: 40-091-
Operator's Well Number: Fiber TFP22 201

Well Operator: Arsenal Resources
Well Number: Fiber TFP22 201 Well Pad Name: Fiber TFP22 Well Site
County, District, Quadrangle of Well Location: Taylor Co, District 4, Rosemont 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

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 Stream 7, Wetland F, Wetland G, Wetland H, and Wetland I.

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Environmental Protection

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 and environmental constraints the Access Road, Tank Pad, Well Pad, Excess Material Stockpiles, and Topsoil Stockpiles could not be moved to another location that was flat enough to provide the necessary soil capacity. Stream 7 and wetland F, G, H, and I occupy a high position along the ridge top. Therefore, it is not possible to avoid encroachment of the 100 foot setback. 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.

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 Fiber TFP22 Well Site 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 and wetlands located within 100 feet of the LOD will be protected by utilizing the following controls:

Stream 7: Compost Filter Sock, Rip-Rap Aprons, and Temporary and Permanent Vegetative Cover will be located above the stream. The existing culvert across the access road is to be replaced with a larger diameter culvert, to help promote the flow through the stream's culvert-ed section.

Wetland F: Silt Fence and Temporary and Permanent Vegetative Cover will be located above the wetland to protect from sediment flow during the initial top soil stripping phase.

Wetland G: Silt Fence, Orange Construction Fence, and Temporary and Permanent Vegetative Cover will be located above the wetland.

Wetland H: Silt Fence, Orange Construction Fence, and Temporary and Permanent Vegetative Cover will be located above the wetland.

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:

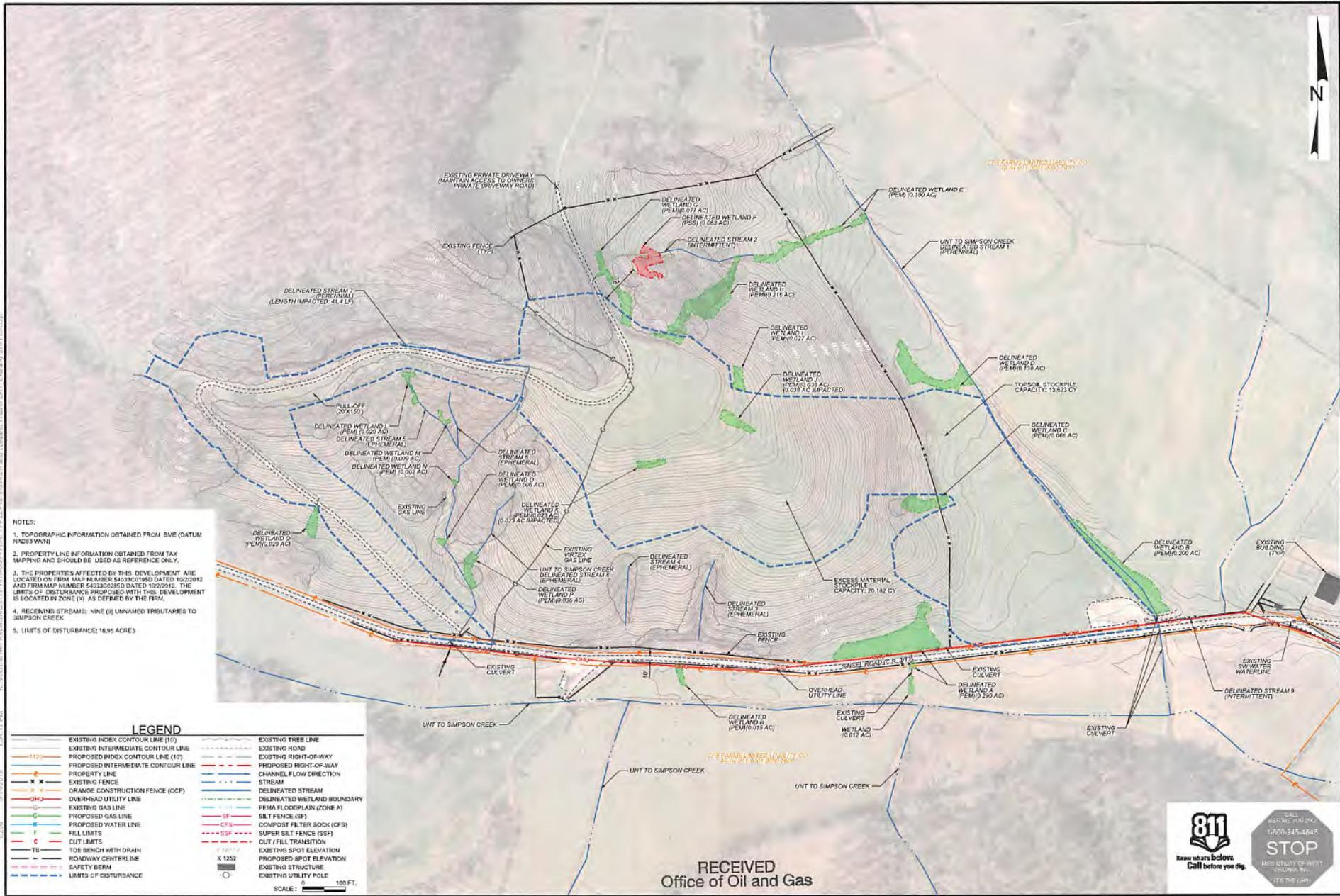
Compost Filter Sock
Silt Fence
Super Silt Fence
Rip-Rap Lined Channels
Rip-Rap Aprons
Rock Construction Entrance
Roadway Ditches
Roadway Culverts
Temporary and Permanent Seeding & Mulching
All disturbed areas are to be seeded as soon as possible.

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Environmental Protection

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



- NOTES:**
1. TOPOGRAPHIC INFORMATION OBTAINED FROM SVE (DATUM NAD83 W88)
 2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPPING AND SHOULD BE USED AS REFERENCE ONLY.
 3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON FRM MAP NUMBER 4403001860 DATED 10/20/12 AND FRM MAP NUMBER 5403002860 DATED 10/20/12. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE (X) AS DEFINED BY THE FRM.
 4. RECEIVING STREAMS: NINE (9) UNNAMED TRIBUTARIES TO SIMPSON CREEK
 5. LIMITS OF DISTURBANCE: 16.96 ACRES

LEGEND

| | | | |
|---|------------------------------------|---|----------------------------|
| — | EXISTING INDEX CONTOUR LINE (10') | — | EXISTING TREE LINE |
| — | EXISTING INTERMEDIATE CONTOUR LINE | — | EXISTING ROAD |
| — | PROPOSED INDEX CONTOUR LINE (10') | — | EXISTING RIGHT-OF-WAY |
| — | PROPOSED INTERMEDIATE CONTOUR LINE | — | PROPOSED RIGHT-OF-WAY |
| — | PROPERTY LINE | — | CHANNEL FLOW DIRECTION |
| — | EXISTING FENCE | — | STREAM |
| — | ORANGE CONSTRUCTION FENCE (OCF) | — | DELIMITED STREAM |
| — | OVERHEAD UTILITY LINE | — | DELIMITED WETLAND BOUNDARY |
| — | EXISTING GAS LINE | — | FEMA FLOODPLAIN (ZONE A) |
| — | PROPOSED GAS LINE | — | SALT FENCE (SF) |
| — | PROPOSED WATER LINE | — | COMPOST FILTER SOCK (CFS) |
| — | FILL LIMITS | — | SUPER SALT FENCE (SSF) |
| — | CUT LIMITS | — | CUT FILL TRANSITION |
| — | TOE BENCH WITH DRAIN | — | EXISTING SPOT ELEVATION |
| — | ROADWAY CENTERLINE | — | PROPOSED SPOT ELEVATION |
| — | SAFETY BERM | — | EXISTING STRUCTURE |
| — | LIMITS OF DISTURBANCE | — | EXISTING UTILITY POLE |

SCALE: 1" = 100 FT.

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JUL 20 2018

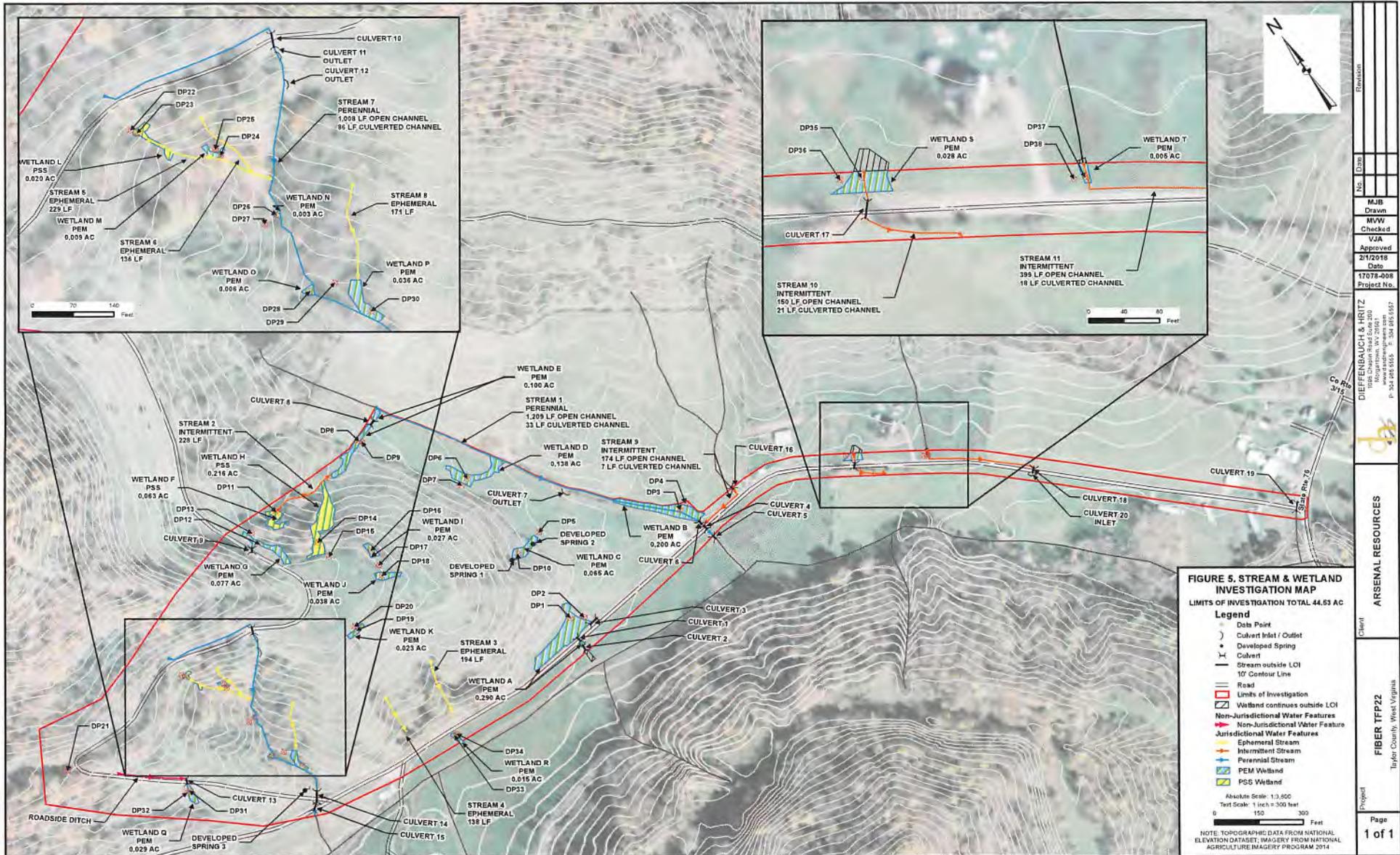
WV Department of
Environmental Protection



| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| DATE | |
| DESCRIPTION | |
| CCR / DDC | ERRORS |
| BY | CHANGED |
| HELP | APPROVED |
| MAY 2018 | DATE |
| 17076-004 | NO. |
| 17076-004 | PROJECT NO. |
| DIFFENBAUGH & HRTZ, LLC 1005 Center Pointe Plaza, Suite 200 Charleston, WV 25301 WWW.DIFFENBAUGH-AND-HRTZ.COM P: 304.485.2555 F: 304.485.5377 | |
| | |
| PROJECT | FIBER TPP22 WELL SITE |
| DATE | EXISTING SITE PLAN |
| NO. | 1 |
| DRAWING NO. | |



4709101347



Document Path: K:\Mountaineer Keystone\2017\17078-008 - Fiber TFP22\Mapping\FIG5_FiberTFP22_Stream&Wetland.mxd

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JUL 20 2018

WV Department of
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| | | | | |
|----------|-------------|----|----------|----------|
| Revision | | | | |
| No. | Date | By | Checked | Approved |
| | | | MJB | |
| | | | MW | |
| | | | Checked | |
| | | | VJA | |
| | | | Approved | |
| | 2/1/2018 | | | |
| | Date | | | |
| | 17078-008 | | | |
| | Project No. | | | |

Client: ARSENAL RESOURCES

Project: FIBER TFP22
Taylor County, West Virginia

Page 1 of 1

4709101347

WW-6B
(04/15)

API NO. 47-091 -
OPERATOR WELL NO. Fiber TFP22 201
Well Pad Name: Fiber TFP22

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: Fiber TFP22 201 Well Pad Name: Fiber TFP22

3) Farm Name/Surface Owner: CFS Farms LLC Public Road Access: CR 3/13

4) Elevation, current ground: 1,252.0' Elevation, proposed post-construction: 1,240.5'

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- 7,684.0ft, Bottom- 7,773.0ft, Anticipated Thickness- 89ft, Associated Pressure- 0.5 psi/ft

8) Proposed Total Vertical Depth: 7,758.5 ft

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 18,999.5 ft

11) Proposed Horizontal Leg Length: 10,324.8 ft

12) Approximate Fresh Water Strata Depths: 20', 40', 55', 110'

13) Method to Determine Fresh Water Depths: Offsetting wells reported water depths (091-00220, 091-00221, 091-00222)

14) Approximate Saltwater Depths: 1,110 ft

15) Approximate Coal Seam Depths: Horton - 400', Bebaraban - 490', Brush Creek - 520', Upper Freeport - 527', Lower Freeport - 550', Upper Killbuck - 704', Middle Killbuck - 800', Lower Killbuck - 830', Clarke - 880'

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: _____

WW-68
(04/15)

API NO. 47- 091
OPERATOR WELL NO. Fiber TFP22 291
Well Pad Name: Fiber TFP22

18)

CASING AND TUBING PROGRAM

| TYPE | Size (in) | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: For Drilling (ft) | INTERVALS: Left in Well (ft) | CEMENT: Fill-up (Cu. Ft.)/CTS |
|--------------|-----------|-------------|-------|------------------------|----------------------------|------------------------------|-------------------------------|
| Conductor | 26 | Used | | 102.7 | 90 | 90 | CTS |
| Fresh Water | 13.375 | New | J-55 | 54.5 | 300 | 300 | CTS |
| Coal | | | | | | | |
| Intermediate | 9.625 | New | J-55 | 40 | 1,500 | 1,500 | CTS |
| Production | 5.5 | New | P-110 | 20 | 18,999 | 18,999 | TOC @1,350 |
| Tubing | | | | | | | |
| Liners | | | | | | | |

Edward J. Doyle 10-26-18

| TYPE | Size (in) | Wellbore Diameter (in) | Wall Thickness (in) | Burst Pressure (psi) | Anticipated Max. Internal Pressure (psi) | Cement Type | Cement Yield (cu. ft./k) |
|--------------|-----------|------------------------|---------------------|----------------------|------------------------------------------|------------------|--------------------------|
| Conductor | 26 | 36 | | | 0 | Class A, 95 CuC2 | 1.2 |
| Fresh Water | 13.375 | 17.5 | 0.38 | 2,730 | 900 | Class A, 95 CuC2 | 1.2 |
| Coal | | | | | | | |
| Intermediate | 9.625 | 12.25 | 0.395 | 3,950 | 1,500 | Class A, 95 CuC2 | 1.29 |
| Production | 5.5 | 8.5-8.75 | 0.361 | 12,640 | 9,500 | Class A/C30 P10 | 1.29/1.34 |
| Tubing | | | | | 5,000 | | |
| Liners | | | | | N/A | | |

PACKERS

| | | | | |
|-------------|--|--|--|--|
| Kind: | | | | |
| Sizes: | | | | |
| Depths Set: | | | | |

WW-6B
(10/14)API NO. 47- 091
OPERATOR WELL NO. Fiber TFP22 201
Well Pad Name: Fiber TFP22**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): 17.05022) Area to be disturbed for well pad only, less access road (acres): 5.389**23) Describe centralizer placement for each casing string:**

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

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 1,350' (+/- 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 TD until no further cuttings are observed coming across the shaker screens. Once clean mud is circulated back to surface, we will pull three stands of drill pipe, load the hole, pull three 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.



Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near Arsenal Resources hydraulic fracturing in Taylor County, WV prior to hydraulic fracturing at the Fiber TFP22 Pad, well #201.

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 7,800' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formations (approximately 4,800' 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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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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SURFACE HOLE SURVEYED 39° 17' 30" (NAD27)
BOTTOM HOLE SURVEYED 39° 15' 00" (NAD27)

Latitude: (NAD27)

(NAD83-WY) US SURVEY FT.

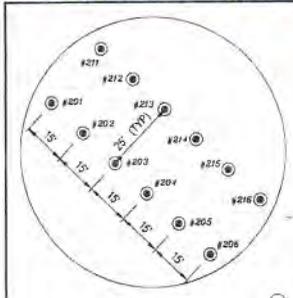
TOP HOLE
N) 27489.3 303
E) 1785190.715
LANDING POINT
N) 273596.491
E) 1783473.673
BOTTOM HOLE
N) 263636.972
E) 1786693.117

(NAD83-LAT/LONG) DECIMAL
TOP HOLE
N) 39.252910463
E) -80.147326655
LANDING POINT
N) 39.249321962
E) -80.153356590
BOTTOM HOLE
N) 39.272594000
E) -80.141212999

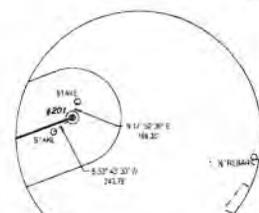
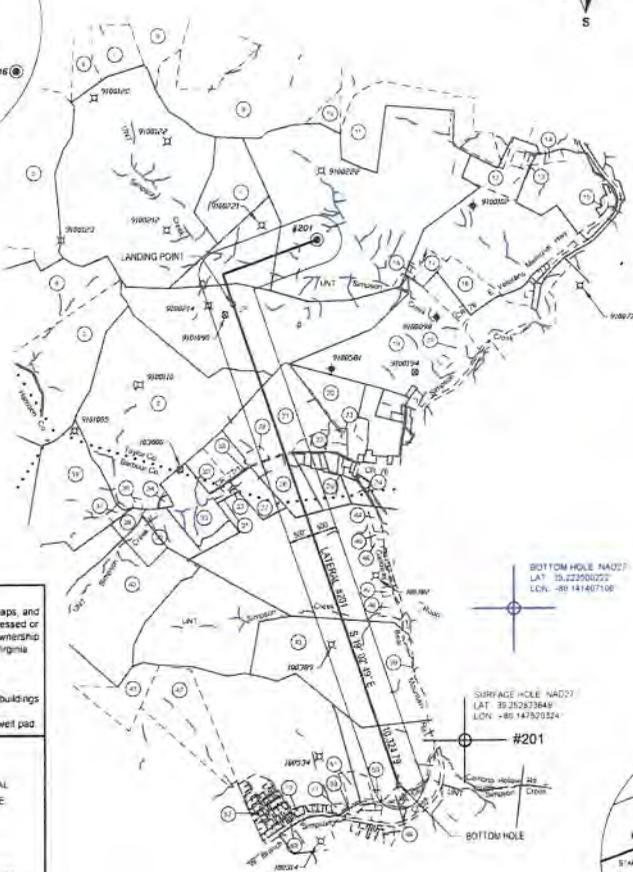
(UTM, NAD83) METER
TOP HOLE
N) 4345190.012
E) 579571.450

LANDING POINT
N) 4344765.218
E) 579304.890

BOTTOM HOLE
N) 4344825.867
E) 579130.671



REFERENCES TO PROPOSED HORIZONTAL WELL SURFACE LOCATIONS NTS



REFERENCES TIES (NTS)

- REFERENCE NOTES
1. 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.
2. State Plane Coordinates & NAD83 L/L using by differential submeter mapping grade GPS.
3. There are no railroads, dwellings, or agricultural buildings within 625 feet of center of pad.
4. 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 (Proposed)
- EXISTING WELL HEAD (Abandoned)
- EXISTING WELL HEAD (Flow Control)
- LANDING POINT/BOTTOM HOLE
- SURFACE OWNER

FILE#: 17078-008
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: [Signature]
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: JULY 11, 2018
OPERATOR'S WELL #: FIBER TFP-22 # 201
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: CFS FARMS LLC
OIL & GAS ROYALTY OWNER: HEIRS AND/OR SUCCESSORS OF THOMAS W. BIRCHARD, JR., JOSEPH L. RIDER, AND NORTH-CENTRAL BANK, TRUSTEES OF THE ALMA MURKIN TESTAMENTARY TRUST MICHAEL C. COLEBANK, VICTA K. COLEBANK, MARIONNE HEIRS AND/OR SUCCESSORS OF A BROOKS FLEMING, ROBERT CHESTER SINSEL, PATRICIA ANN BALTIS, SANDRA PETTIT, CHARLES E. PRYOR

ELEVATION: 1,240.5'
QUADRANGLE: ROSEMONT, WV
ACREAGE: 905
ACREAGE: 1,080

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

ESTIMATED DEPTH: TVD: 7,758.5' TMD: 18,999.5'
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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WV Department of Environmental Protection

Longitude: (NAD27)

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

AOR - ATTACHMENT "A"

| SURFACE PARCEL OWNER INFORMATION | | | ADJOINER PARCEL OWNER INFORMATION | | |
|----------------------------------|---------------|---------------------------------------------------|-----------------------------------|----------------|-----------------------------------|
| ID# | PARCEL NUMBER | OWNER NAME | ID# | PARCEL NUMBER | OWNER NAME |
| 1 | 091-04-11-1 | CFS FARMS LIMITED LIABILITY CO. | 3 | 031-15-35-13 | GRAFTON COAL CO |
| 2 | 001-09-9-2 | STEWART FARM LLC | 4 | 031-15-35-12 | GRAFTON COAL CO |
| 21 | 091-04-11-5.5 | BECKWITH LUMBER COMPANY | 5 | 031-15-321-27 | JOHNSON RENE |
| 26 | 091-04-11-5.1 | RAVIS JERRY L ESTATE | 6 | 091-04-8-22 | GRIPPIN JAMES S & ELAINE M |
| 43 | 001-09-9-22 | WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES | 7 | 091-04-8-23 | GRAY RANDALL & RITA |
| 58 | RIGHT-OF-WAY | COUNTY ROUTE 77/1 | 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 | SASSI 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 I HURST MARY M |
| | | | 25 | 091-04-11-6 | RAVIS JERRY LEE ESTATE |
| | | | 27 | 091-04-11-3 | PROPT PAUL |
| | | | 28 | 091-04-11-5.3 | CRINJOAN LT & BRENDA KAY |
| | | | 29 | RIGHT-OF-WAY | COUNTY ROUTE 76 |
| | | | 30 | 091-04-11-2 | PROPT 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 | 001-09-9-20.1 | SMALLWOOD RUSSELL & ANGELA WRS |
| | | | 36 | 001-09-9-4 | STEWART FARM LLC |
| | | | 37 | 001-09-9-21 | 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 | MADDOX MICHAEL RET UX |
| | | | 45 | 001-09-9-11 | SALTIS STEVE JR & AMY R 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 | KNOTT'S TERRY & DONNETTA |
| | | | 50 | 001-09-12-14 | MOSSOSO JOHN A TRUST |
| | | | 51 | 001-09-9-22.3 | KRIZNER FRANK A & RENE B HWS |
| | | | 52 | | CLEAVENGER PLAT |
| | | | 53 | 001-09-12-4.3 | FARRIS VERNIE & RUSSELL WROS |
| | | | 69 | RIGHT-OF-WAY | COUNTY ROUTE 1/6 |
| | | | 72 | 001-09-12A-9 | EDMOND MUREL L (U/E) |

REFERENCE NOTES
 1 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.
 2 State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS.
 3 There are no railroads, dwellings, or agricultural buildings within 425 feet of center of pad.
 4 No water wells found within 250' of the center of well pad.

LEGEND

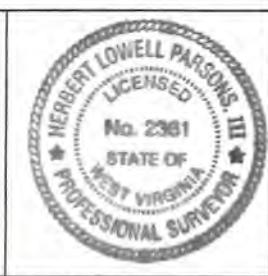
- PROPOSED WELL LATERAL
- PROPOSED WELL TIE LINE
- STREAM
- EXISTING ROAD
- BUFFER
- PROPERTY LINE
- MINERAL TRACT BOUNDARY
- COUNTY BOUNDARY LINE
- /H PROPOSED WELL HEAD
- ⊕ EXISTING WELL HEAD (Active)
- ⊕ EXISTING WELL HEAD (Lugged)
- ⊕ EXISTING WELL HEAD (Abandoned)
- ⊕ EXISTING WELL HEAD (Never Drilled)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

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FILE#: 17078-008
 SHEET#: 2 of 2
 SCALE: 1" = 3000'
 TICK SCALE: 1" = 2000'
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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*
 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: CFS FARMS LLC
 OIL & GAS ROYALTY OWNER: HEIRS AND/OR SUCCESSORS OF THOMAS W BROTHARD, JR, JOSEPH L RIDER AND WORTH CENTRAL BANK, TRUSTEES OF THE ALMA MUIR TESTAMENTARY TRUST, MICHAEL C COLEBANK, WELFARE TRUSTS, HEIRS AND/OR SUCCESSORS OF A BROOKS FLEMING, ROBERT CHESTER BRIDLE, PATRICIA ANN BRIDLE, SANDRA PETTIT, CHARLES E. PRYOR

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: JULY 11, 2018

OPERATOR'S WELL #: FIBER TFP-22 # 201

API WELL #: 47 091
 STATE COUNTY PERMIT

ELEVATION: 1,240.5'
 QUADRANGLE: ROSEMONT, WV
 ACREAGE: 905
 ACREAGE: 1,080

ESTIMATED DEPTH: TVD: 7,758.5' TMD: 18,999.5'
 ESTIMATED DEPTH: TVD: NA (pilot)
 DESIGNATED AGENT: WILLIAM VEIGEL
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200
 CITY: BRIDGEPORT STATE: WV ZIP: 26330

AOR-ATTACHMENT "A"

11/16/2018

4709101347

Area of Review Report - **Fiber TFP22** Pad, **201** Lateral, **Taylor** County, WV

| Well Name | API Number | Operator Name / Address | Well Type | Latitude | Longitude | Total Depth | Perforated Formation(s) | Producing Zones not Perforated |
|--------------|------------|--------------------------------|---------------------|-----------|------------|-------------|----------------------------------|--------------------------------|
| 172-CH | 001-00389 | Alliance Petroleum Corporation | Existing/Active | 39.230358 | -80.146153 | 4788 | Riley, Benson | NA |
| Coalquest 14 | 91-01090 | CDX Gas, LLC | Existing/Not Active | 39.248498 | -80.1539 | 0 | NA | NA |
| 1645 | 91-00214 | Alliance Petroleum Corporation | Existing/Active | 39.249223 | -80.155206 | 4765 | Big Injun (Grnbr), Riley, Benson | NA |

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Environmental Protection

AOR - ATTACHMENT "A"



4709101347 11/16/2018

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, the Fiber TFP22, well #201, located in Taylor County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 7,800 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 Fiber TFP22 Pad, well #201, 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 724-940-1224 with any questions or comments. You may also contact the WV Office of Oil and Gas at 304-926-0499.

Sincerely,

Carolinda Flanagan
Permitting Specialist

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Office of Oil and Gas

JUL 20 2018

WV Department of
Environmental Protection

AOR- ATTACHMENT "B"

4709101347^{11/16/2018}

| Fiber TFP22 #201 | | |
|-------------------------|---------------------------------|--------------------------------------------------|
| 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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WW-9
(4/16)

4709101347 11/16/2018

API Number 47 - 091

Operator's Well No. Fiber TFP22 201

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

WV Department of
Environmental Protection

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name 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/Wastemanagement, Westmoreland Sanitary Landfill, Apex Landfill

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

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

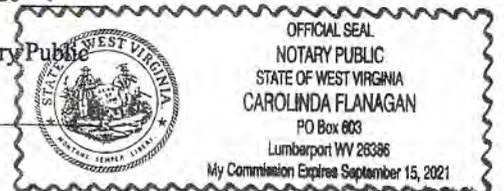
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is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

Company Official Signature [Signature]
Company Official (Typed Name) William Veigel
Company Official Title Designated Agent

Subscribed and sworn before me this 18TH day of JULY, 20 18

[Signature]
My commission expires 9/15/2021

Notary Public



Arsenal Resources

4709101347

Proposed Revegetation Treatment: Acres Disturbed 17.050 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: *Ernest L. Spivey*

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: DILT-GAS INSPECTION Date: 7-18-18

Field Reviewed? Yes No

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Environmental Protection



ARSENAL

R E S O U R C E S

SITE SAFETY PLAN

FIBER TFP22 PAD, WELL #201

911 Address:

1232 Sinsel Hollow Rd
Flemington, WV 26347

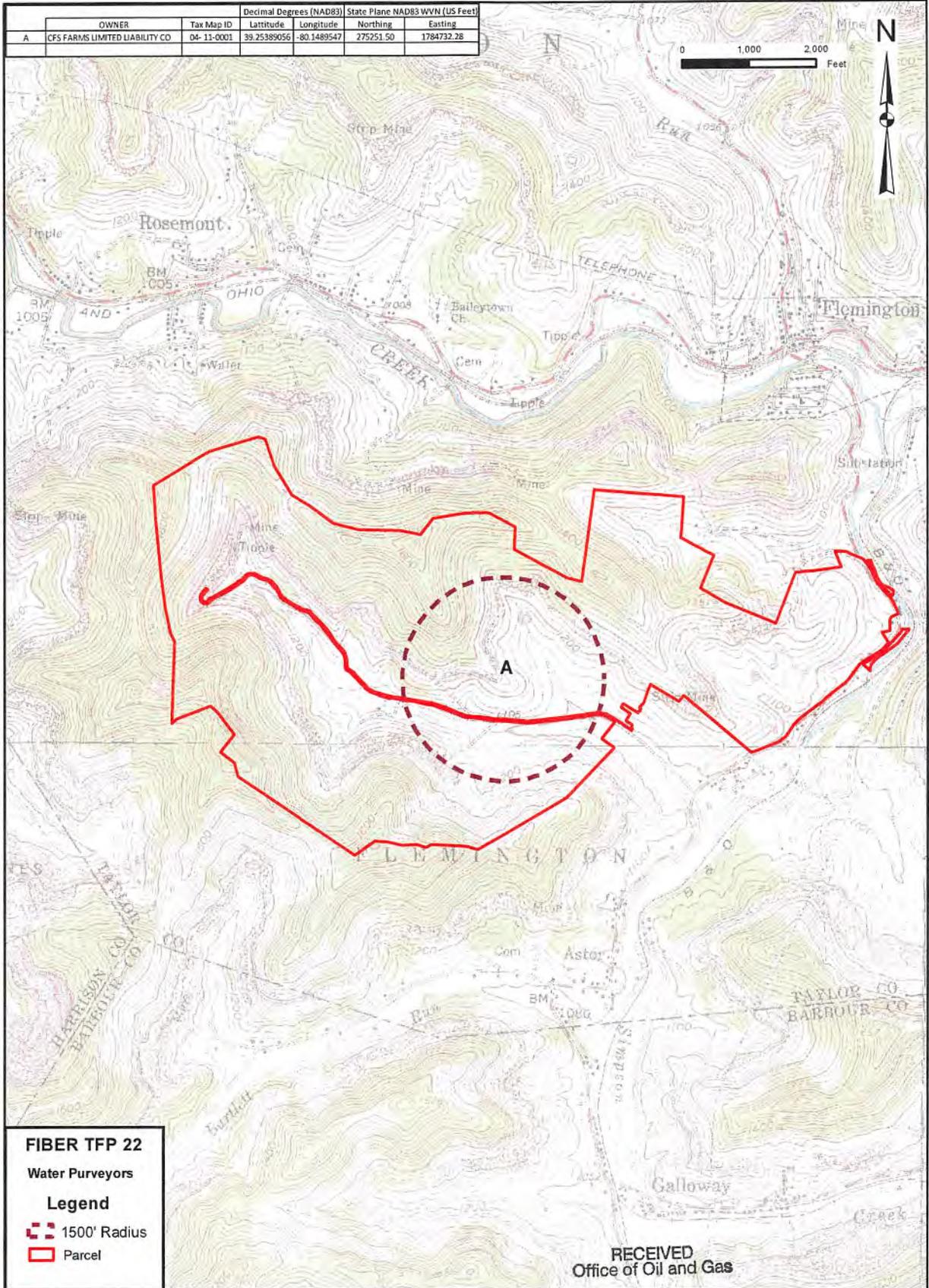
Arnell L. Reynolds

7-18-18

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FIBER TFP 22

Water Purveyors

Legend

-  1500' Radius
-  Parcel

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11/16/2018

4709101347

Potential Water Purveyor's

Project: Fiber TFP22
County: Taylor
State: West Virginia

The following surface owners may have water supplies within 1,500 feet of the
Fiber TFP22 well pad location:

| | Name | Tax Map ID | Address |
|---|-----------------------------------|-------------|----------------------------------|
| A | CFS FARMS LIMITED LIABILITY CO | 04- 11-0001 | PO Box 297, Flemington, WV 26347 |

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

6,476' 4,663'

Latitude: (NAD27)

(NAD83-WVN) US SURVEY FT.



TOP HOLE
 N) 274893.303
 E) 1785190.715
 LANDING POINT
 N) 273596.491
 E) 1783473.673
 BOTTOM HOLE
 N) 263836.972
 E) 1786843.117

(NAD83-LAT/LONG) DECIMAL

TOP HOLE
 N) 39.252916463
 E) -80.147326655
 LANDING POINT
 N) 39.249321962
 E) -80.153356590

BOTTOM HOLE
 N) 39.222594000
 E) -80.141212999

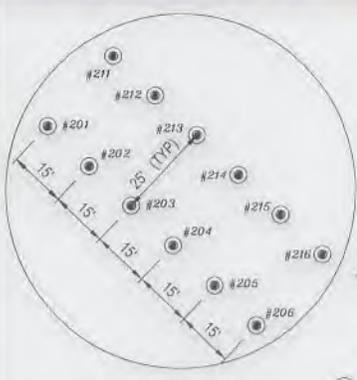
(UTM, NAD83) METER

TOP HOLE
 N) 4345190.012
 E) 573571.450

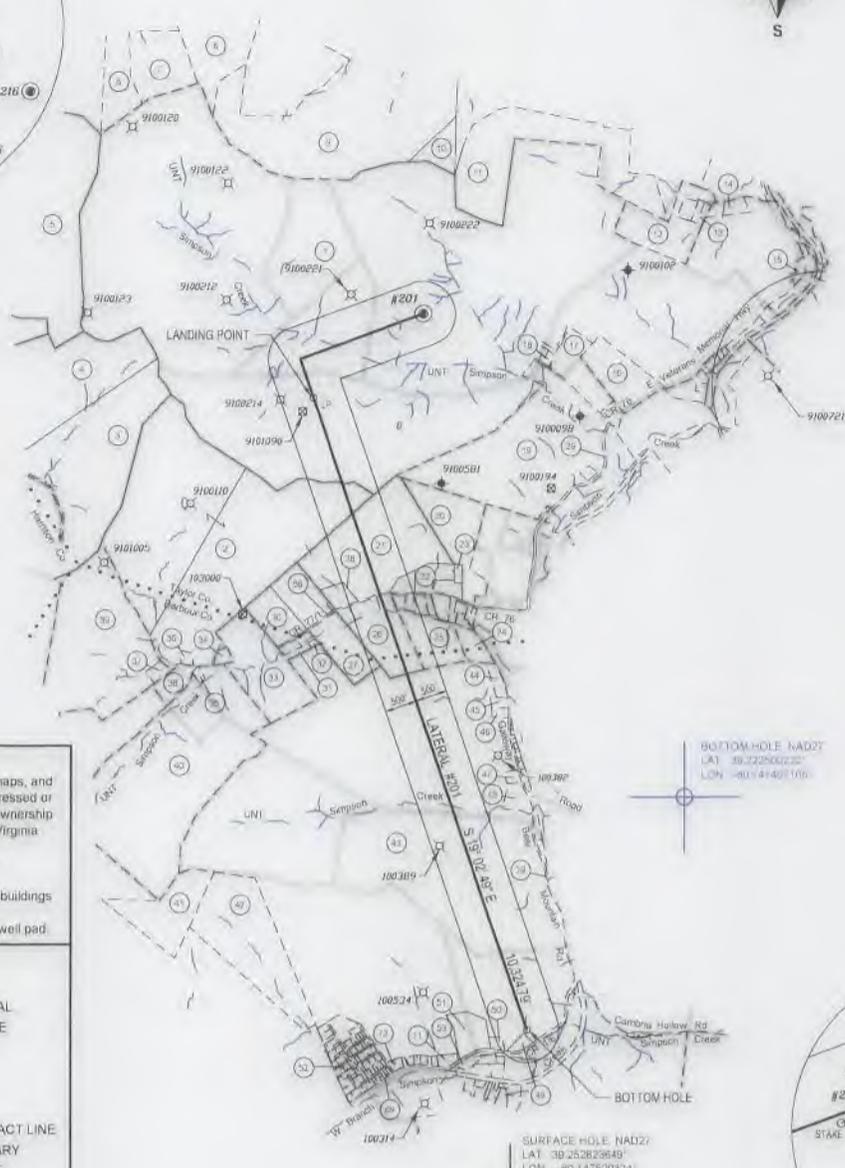
LANDING POINT
 N) 4344786.218
 E) 573054.890

BOTTOM HOLE
 N) 4341829.867
 E) 574130.871

Longitude: (NAD27)

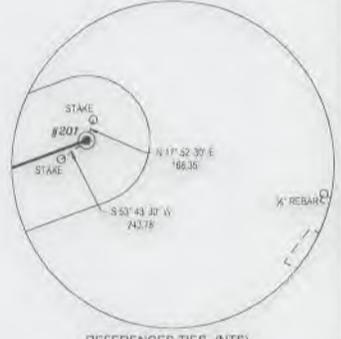


REFERENCES TO PROPOSED HORIZONTAL WELL SURFACE LOCATIONS NTS



BOTTOM-HOLE NAD27
 LAT 39.222594000
 LON -80.141212999

SURFACE HOLE NAD27
 LAT 39.252916463
 LON -80.147326655



REFERENCES TIES (NTS)

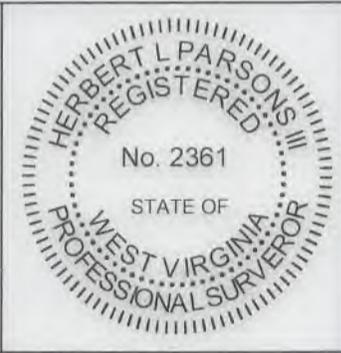
REFERENCE NOTES
 1. Property lines as shown taken from deeds, tax maps, and field locations. A full boundary survey is not expressed or implied. All bearings are based on grid North. Ownership taken from public records Taylor County, West Virginia Date 2018
 2. State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS.
 3. There are no railroads, dwellings, or agricultural buildings within 625 feet of center of pad.
 4. 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
- SURVEYED SURFACE TRACT 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 (Never Drilled)
- LANDING POINT/BOTTOM HOLE
- ⊙ SURFACE OWNER

FILE#: 17078-008
 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* 11-6-18
 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: CFS FARMS LLC
 OIL & GAS ROYALTY OWNER: HEIRS AND/OR SUCCESSORS OF THOMAS W. BROHARD, JR., JOSEPH L. RIDER, AND NORTH CENTRAL BANK TRUSTEES OF THE ALMA MUIR TESTAMENTARY TRUST, MICHAEL C. COLEBANK, VIETTA FLEMING HAWKINS, HEIRS AND/OR SUCCESSORS OF A. BROOKS FLEMING, ROBERT CHESTER SINSEL, PATRICIA ANN SALTIS, SANDRA PETTIT, CHARLES E. PRYOR
 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: NOVEMBER 6, 2018
 FIBER TFP-22
 OPERATOR'S WELL #: # 201
 API WELL #: 47 091 01347
 STATE COUNTY PERMIT
 ELEVATION: 1,240.5'
 QUADRANGLE: ROSEMONT, WV
 ACREAGE: 905
 ACREAGE: 1,080
 ESTIMATED DEPTH: TVD: 7,758.5' TMD: 18,999.5'
 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° 07' 30" (NAD27)

11/16/2018

SURFACE PARCEL OWNER INFORMATION

ADJOINER PARCEL OWNER INFORMATION

| ID# | PARCEL NUMBER | OWNER NAME |
|-----|---------------|----------------------------------------------------|
| 1 | 091-04-11-1 | CFS FARMS LIMITED LIABILITY CO |
| 2 | 001-09-9-2 | STEWART FARM LLC |
| 21 | 091-04-11-5-5 | BECKWITH LUMBER COMPANY |
| 26 | 091-04-11-5-1 | RAVIS JERRY L ESTATE |
| 43 | 001-09-9-22 | WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES, |
| 58 | RIGHT-OF-WAY | COUNTY ROUTE 77/1 |

| ID# | PARCEL NUMBER | OWNER NAME |
|-----|----------------|------------------------------------|
| 3 | 033-15-351-13 | GRAFTON COAL CO |
| 4 | 033-15-351-12 | GRAFTON COAL CO |
| 5 | 033-15-331-27 | JOHNSON RENEE |
| 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 I |
| 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 |
| 27 | 091-04-11-3 | PROPST PAUL |
| 28 | 091-04-11-5.3 | CRIM JOAN LF & BRENDA KAY |
| 29 | RIGHT-OF-WAY | COUNTY ROUTE 76 |
| 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 | 001-09-9-20.1 | SMALLWOOD RUSSELL & ANGELA WRS |
| 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 | MOSESSO JOHN A TRUST |
| 51 | 001-09-9-22.3 | KRIZNER FRANK A & RENEE B HWS |
| 52 | | CLEAVENGER PLAT |
| 53 | 001-09-12-4.3 | FARRIS VERNIE & RUSSELL, WROS |
| 69 | RIGHT-OF-WAY | COUNTY ROUTE 1/6 |

11/16/2018

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
- SURVEYED SURFACE TRACT 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 (Never Drilled)
- LANDING POINT/BOTTOM HOLE
- ⊗ SURFACE OWNER

FILE#: 17078-008
 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* 11-6-18
 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



DATE: NOVEMBER 6, 2018
 FIBER TFP-22
 OPERATOR'S WELL #: # 201
 API WELL #: 47 091 **01317**
 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: CFS FARMS LLC
 OIL & GAS ROYALTY OWNER: HEIRS AND/OR SUCCESSORS OF THOMAS W. BROHARD, JR., JOSEPH L. RIDER, AND NORTH CENTRAL BANK, TRUSTEES OF THE ALMA MUIR TESTAMENTARY TRUST, MICHAEL C. COLEBANK, VIETTA FLEMING HAWKINS, HEIRS AND/OR SUCCESSORS OF A. BROOKS FLEMING, ROBERT CHESTER SINSEL, PATRICIA ANN SALTIS, SANDRA PETTIT, CHARLES E. PRYOR

ELEVATION: 1,240.5'
 QUADRANGLE: ROSEMONT, WV
 ACREAGE: 905
 ACREAGE: 1,080

- 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: 7,758.5' TMD: 18,999.5'
 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. Fiber TFP22 201

4709 101347

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

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

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

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

See Attached

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JUL 20 2018

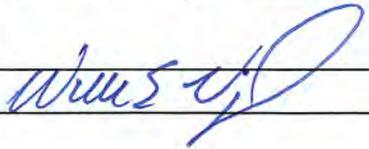
WV Department of
Environmental Protection

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

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

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

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

Well Operator: Arsenal Resources
 By: William Veigel 
 Its: Designated Agent

Attachment to WW-6A1, Fiber TFP22-201

| Letter Designation/Number Designation on Plat | Grantor, Lessor, Assignor, etc. | Grantee, Lessee, Assignee, etc. | Royalty | Book/Page | Acreage |
|-----------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------|---------|--------------------------|---------|
| 1 (00006028) | A. Brooks Fleming and Winnie Fleming, his wife, and Georgia L. Fleming, widow | Union Drilling, Inc. and Allerton Miller | 12.50% | 33/79 | 890 |
| | Vietta Fleming Hawkins and Frank Hawkins, her husband | Union Drilling, Inc. and Allerton Miller | | 33/324 (Ratification) | |
| | Billy Reger and Olive C. Reger | Union Drilling, Inc. and Allerton Miller | | 33/326 (Ratification) | |
| | Allerton Miller | Union Drilling, Inc. | | 5/191 | |
| | Union Drilling, Inc. | Equitable Resources Exploration, Inc. | | 9/427 | |
| | Equitable Resources Exploration, Inc. | Equitable Resources Energy Company | | 10/79 | |
| | Equitable Resources Energy Company | Enervest East Limited Partnership | | 22/181 | |
| | Enervest East Limited Partnership | The Houston Exploration Company | | 27/99 | |
| | The Houston Exploration Company | Seneca-Upshur Petroleum, Inc. | | 27/426 | |
| | Seneca-Upshur Petroleum, Inc. | Seneca-Upshur Petroleum, LLC | | 31/427 | |
| 1 (00005213) | Chester Sinsel and Frances Sinsel, husband and wife | Union Drilling, Inc. | 12.50% | 35/488 | 1,080 |
| | Union Drilling, Inc. | Equitable Resources Exploration, Inc. | | 9/427 | |
| | Equitable Resources Exploration, Inc. | Equitable Resources Energy Company | | 10/79 | |
| | Equitable Resources Energy Company | Enervest East Limited Partnership | | 22/181 | |
| | Enervest East Limited Partnership | The Houston Exploration Company | | 27/99 | |
| | The Houston Exploration Company | Seneca-Upshur Petroleum, Inc. | | 27/426 | |
| | Seneca-Upshur Petroleum, Inc. | Seneca-Upshur Petroleum, LLC | | 31/427 | |
| 1 (00005214) | Nathan H. Coulson and Ann Coulson, husband and wife | Union Drilling, Inc. | 12.50% | 35/629 | 48.25 |

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Office of Oil and Gas
JUL 20 2013
WV Department of
Environmental Protection

7
9
4
0
1
3
4
7

Attachment to WW-6A1, Fiber TFP22-201

| Letter Designation/Number Designation on Plat | Grantor, Lessor, Assignor, etc. | Grantee, Lessee, Assignee, etc. | Royalty | Book/Page | Acreage |
|-----------------------------------------------|------------------------------------------------------|---------------------------------------|---------|-------------------------------------|---------|
| | Union Drilling, Inc. | Equitable Resources Exploration, Inc. | | 9/427 | |
| | Equitable Resources Exploration, Inc. | Equitable Resources Energy Company | | 10/79 | |
| | Equitable Resources Energy Company | Enervest East Limited Partnership | | 22/181 | |
| | Enervest East Limited Partnership | The Houston Exploration Company | | 27/99 | |
| | The Houston Exploration Company | Seneca-Upshur Petroleum, Inc. | | 27/426 | |
| | Seneca-Upshur Petroleum, Inc. | Seneca-Upshur Petroleum, LLC | | 31/427 | |
| 2 (00008235) | John F. Stewart, widower | Petro-Lewis Corporation | 12.50% | 75/154 (Barbour) 33/250 (Taylor) | 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 | |
| | Energy Corporation of America | Greylock Production, LLC | | 36/618 | |
| | Greylock Production, LLC | Mar Key, LLC | | 37/204 | |
| 21, 26 (00008265) | Ethel A. Tomblyn, single and Bessie T. Knight, widow | Petro-Lewis Corporation | 12.50% | 33/254 | 94 |
| | Petro-Lewis Corporation | Partnership Properties Company | | 3/176 | |
| | Partnership Properties Company | Eastern American Energy Corporation | | 4/381 8/319 (corrective) | |
| | Eastern American Energy Corporation | Energy Corporation of America | | 16/488 | |
| | Energy Corporation of America | Greylock Production, LLC | | 36/618 | |
| | Greylock Production, LLC | Mar Key, LLC | | 37/204 | |
| 43 (00005950) | Lillian Wilson Post | Cumberland and Allegheny Gas Company | 12.50% | 40/242 | 400 |

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JUL 20 2018

WV Department of
Environmental Protection

0134

Attachment to WW-6A1, Fiber TFP22-201

| Letter Designation/Number Designation on Plat | Grantor, Lessor, Assignor, etc. | Grantee, Lessee, Assignee, etc. | Royalty | Book/Page | Acreage |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------|---------------------------|----------------|
| | 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 | |
| | 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 | |
| | 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 | |
| | 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 | |
| | Seneca-Upshur Petroleum, Inc. | Seneca-Upshur Petroleum, LLC | | 16/637 (also 447/129) | |
| 43, 58 (00005895) | George C. Law, Guy M. Law and Lura M. Law, Edison O. Law and Betsy Cumberland and Allegheny Gas Company | Cumberland and Allegheny Gas Company | 12.50% | 40/240 | 313 |
| | Cumberland and Allegheny Gas Company | Union Drilling, Inc. and Allerton Miller | | 46/347 | |
| | Allerton Miller | Union Drilling, Inc. | | 98/11 | |

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JUL 20 2018
WV Department of
Environmental Protection

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47

Attachment to WW-6A1, Fiber TFP22-201

| Letter Designation/Number Designation on Plat | Grantor, Lessor, Assignor, etc. | Grantee, Lessee, Assignee, etc. | Royalty | Book/Page | Acreage |
|----------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|----------------|---------------------------|----------------|
| | 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 | |
| | Seneca-Upshur Petroleum, Inc. | Seneca-Upshur Petroleum, LLC | | 16/637 (also 447/129) | |

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Environmental Protection

4709101347

West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

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JUL 20 2018

WV Department of
 Environmental Protection

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MAR KEY LLC

| Organization Information | | | | | | | | |
|---------------------------------|----------------|------------------|-------------|----------|--------|----------|------------------|--------------------|
| 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 | | | |

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

| |
|--------------------------|
| Authorized Shares |
| |

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JUL 20 2018

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

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

| Annual Reports | |
|-----------------------|--|
| Date filed | |
| | |

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

4709101347

Addresses

| Type | Address | |
|----------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------|
| Designated Office Address | 65 PROFESSIONAL PLACE SUITE 200 BRIDGEPORT, WV, 26330 | RECEIVED Office of Oil and Gas JUL 20 2018 |
| Mailing Address | 6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090 USA | WV Department of Environmental Protection |
| Notice of Process Address | CORPORATION SERVICE COMPANY 209 WEST WASHINGTON STREET CHARLESTON, WV, 25302 | |
| Principal Office Address | 6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090 USA | |
| Type | Address | |

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

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

| Name Changes |
|---------------------|
| |

| | | |
|-------------|-------------------------------|----------------------------------------------|
| Date | Old Name | RECEIVED Office of Oil and Gas |
| 3/28/2011 | SENECA-UPSHUR PETROLEUM, INC. | JUL 20 2018 |
| Date | Old Name | WV Department of Environmental Protection |

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

| Annual Reports |
|----------------|
| Filed For |
| 2018 |
| 2017 |
| 2016 |
| 2015 |
| 2014 |
| 2013 |
| 2012 |
| 2011 |
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| 2009 |
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| 2000 |

| | |
|------------|------------|
| 1999 | |
| 1998 | 4709101347 |
| Date filed | |

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

Wednesday, July 18, 2018 — 1:13 PM

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JUL 20 2018

WV Department of
Environmental Protection

11/16/2018



People Powered. Asset Strong.

4709 01347

May 31, 2018

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

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Office of Oil and Gas

JUL 20 2018

WV Department of
Environmental Protection

RE: Ownership of Roadways; Fiber TFP-22 Unit

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 wells. The findings of the title examination show that some of the roadways crossed by the proposed wells are owned in fee by the West Virginia Department of Transportation, Division of Highways and that some are only right of ways. If owned in fee by the West Virginia Department of Transportation, Division of Highways, a lease covering its interest in the roadway or roadways has been properly obtained and provided in the application materials. If a right of way only, the oil and gas underlying such roadway or roadways is owned by the adjoining landowners and is also covered by the leaseholds provided in the application materials.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ryan Brode'.

Ryan Brode
Title Attorney

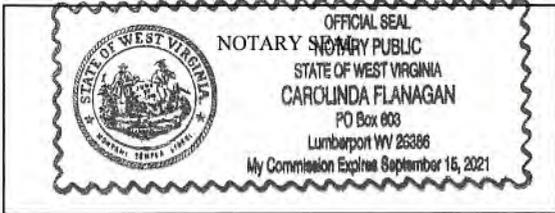
4709101347

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: Arsenal Resources
By: William Veigel *[Signature]*
Its: Designated Agent
Telephone: 724-940-1224

Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090
Facsimile: 304-848-9134
Email: cflanagan@arsenalresources.com



Subscribed and sworn before me this 18TH day of JULY 2018.
Carolinda Flanagan Notary Public
My Commission Expires 9/15/2021

Oil and Gas Privacy Notice:

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

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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: 7/18/18 Date Permit Application Filed: 7/18/18

Notice of:

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

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JUL 20 2018

WV Department of
Environmental Protection

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

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

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

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

SURFACE OWNER(s)

Name: CFS Farms LLC
Address: P.O. Box 297
Flemington, WV 26347

Name: _____
Address: _____

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

Name: CFS Farms LLC
Address: P.O. Box 297
Flemington, WV 26347

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: See Attached
Address: _____

COAL OPERATOR

Name: _____
Address: _____

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

Name: CFS Farms LLC
Address: P.O. Box 297
Flemington, WV 26347

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

JUL 20 2018

WV Department of
Environmental ProtectionAPI NO. 4709101347
OPERATOR WELL NO. Fiber TFP22 201
Well Pad Name: Fiber TFP22
11/16/2018**Notice is hereby given:**

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

WW-6A
(8-13)

4709101347
API NO. 47-091 - 11/16/2018
OPERATOR WELL NO. Fiber TFP22 201
Well Pad Name: Fiber TFP22

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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WV Department of
Environmental Protection

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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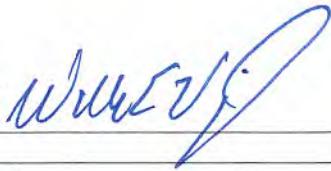
JUL 20 2018

WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 091 - 11/16/2018
OPERATOR WELL NO. Fiber TFP22 201
Well Pad Name: Fiber TFP22

Notice is hereby given by:

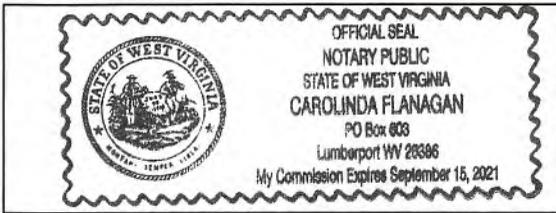


Well Operator: Arsenal Resources
Telephone: 724-940-1224
Email: cflanagan@arsenalresources.com

Address: 6031 Wallace Road Extension, Suite 400
Wxford, PA 15090 4709-01347
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.



Subscribed and sworn before me this 18TH day of JULY 2018.

Carolinda Flanagan Notary Public

My Commission Expires 9/15/2021

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JUL 20 2018
WV Department of
Environmental Protection

11/16/2018

**Arsenal Resources
Fiber TFP 22
WW-6A – Notice of Application, Attachment**

4709 + 01347

Coal Owner or Lessee:

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

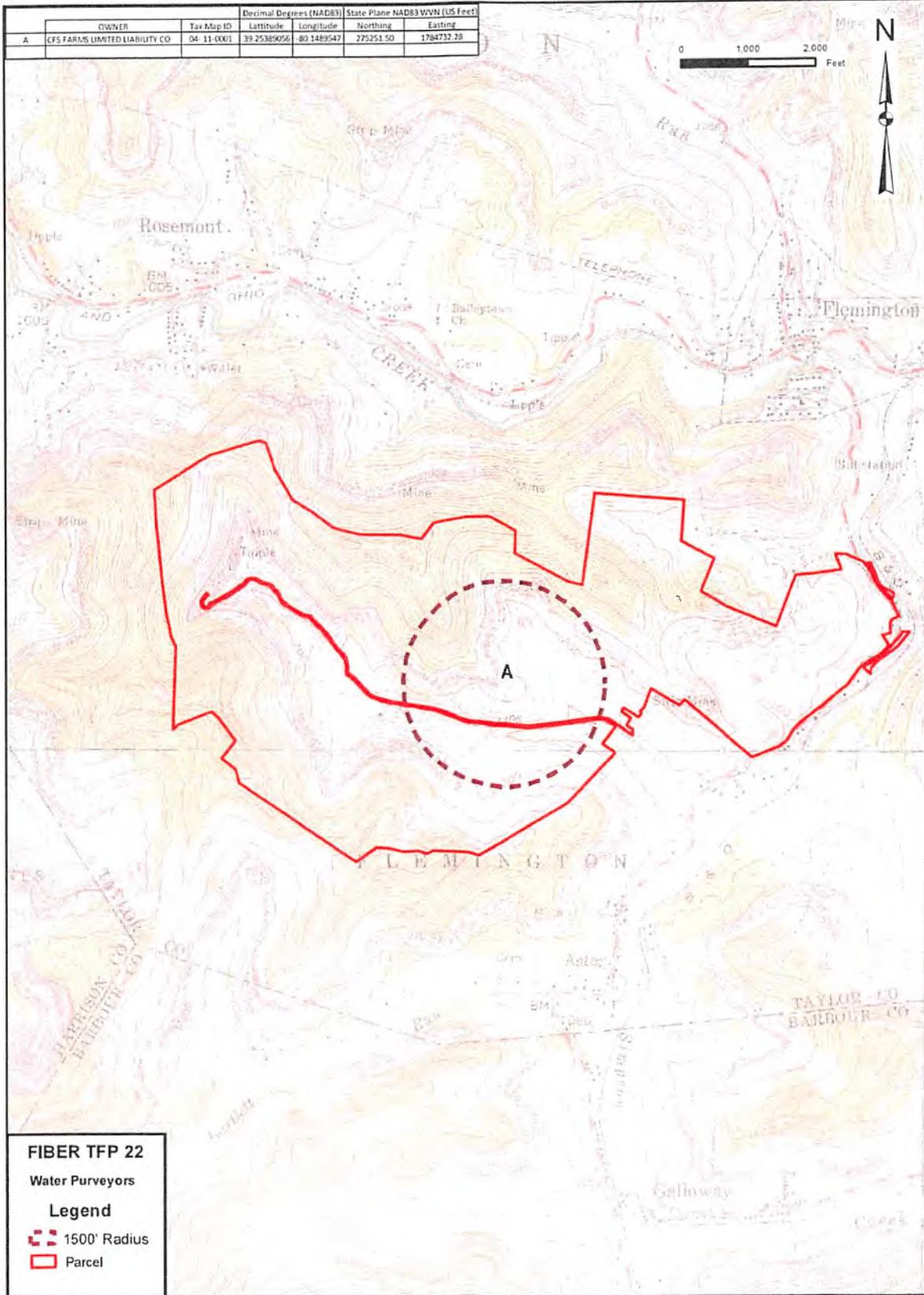
Martha J. Bobella
10 Howard Street, Apt A.
Grafton, WV 26354

OCMAHRR LLC
4620 Simpson Rd
Grafton, WV 26354

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11/16/2018

4709101347

Potential Water Purveyor's

Project: Fiber TFP22
County: Taylor
State: West Virginia

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WV Department of
Environmental Protection

The following surface owners may have water supplies within 1,500 feet of the
Fiber TFP22 well pad location:

| | Name | Tax Map ID | Address |
|---|-----------------------------------|-------------|----------------------------------|
| A | CFS FARMS LIMITED LIABILITY CO | 04- 11-0001 | PO Box 297, Flemington, WV 26347 |

4709 01347

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: 11/15/2017 Date of Planned Entry: 11/22/2017

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Office of Oil and Gas

JUL 20 2018

WV Department of
Environmental Protection

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: CFS Farms LLC
 Address: P.O. Box 297
 Flemington, WV 26347
 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: 39.252738, -80.146991
 Public Road Access: CR 3/13 to SR 76
 Watershed: West Fork
 Generally used farm name: Fiber

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

Notice is hereby given by:

Well Operator: Arsenal Resources
 Telephone: 724-940-1224
 Email: cflanagan@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.

Arsenal Resources

11/16/2018

Fiber TFP 22

WW-6A3 – Notice of Entry for Plat Survey, Attachment

4709 · 01347

Mineral Owner(s):

Robert Sinsel
32 Countryside Dr.
Hendersonville, NC 287929498

Patricia Ann Saltis
649 Easy St.
Bridgeport, WV 26330

Sandra Sinsel
450 Cherry St.
Bridgeport, WV 26330

Charles E. Pryor
606 Stout St.
Bridgeport, WV 26630

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Thomas W. Brohard Jr. Heirs:

1.) % Charlotte McGinnis,
259 Littletown Quarter
Williamsburg, VA 23185

2.) % Thomas W. Brohard III
81905 Mountain View Lane
LaQuinta CA 92253

Alma Muir Testamentary Trust

Alma May Brohard Muir
C/O Woodlands Bank, 2450 Third St
Williamsport, PA 17701

Michael C. Colebank

Michael C. & Marlene Colebank
592 Black Cherry Dr
Fairmont, WV 26554

Vietta Fleming Hawkins

Vietta Fleming & Frank Hawkins
613 Worthington Dr
Bridgeport, WV 26330

11/16/2018

4709 701347

Mineral Owner(s) continued:

A. Brooks Fleming Heirs:

1. % Verr M. Hinkle
P.O. Box 2121
Buckhannon WV 26201
2. % Jeffrey C. Hinkle
P.O. Box 2663
Buckhannon WV 26201
- 3.) % Judy Mae Rodgers
436 Clemens Road
Anacoco, LA 71403-8406
- 4.) % Mark Lee Waldo
10 Gum Street
Buckhannon, WV 26201
- 5.) % Michael Max Waldo
857 Fishing Camp Road
Buckhannon, WV 26201

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WV Department of
Environmental Protection

Coal Owner or Lessee:

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

Martha J. Bobella
10 Howard Street, Apt A.
Grafton, WV 26354

OCMAHRR LLC
4620 Simpson Rd
Grafton, WV 26354

4709101347

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

RECEIVED
Office of Oil and Gas
JUL 20 2018
WV Department of
Environmental Protection

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

Date of Notice: 7/18/2018 Date Permit Application Filed: 7/18/2018

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED HAND DELIVERY

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

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

Name: CFS Farms LLC
Address: P.O. Box 297
Flemington, WV 26347

Name: _____
Address: _____

Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 573,571.450
County: Taylor Northing: 4,345,190.012
District: Flemington Public Road Access: CR 3/13
Quadrangle: Rosemont Generally used farm name: Fiber
Watershed: Simpson Creek

This Notice Shall Include:

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

Well Operator: Arsenal Resources
Telephone: 724-940-1224
Email: cflanagan@arsenalresources.com

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

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4709 + 01347 11/16/2018

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

July 18, 2018

Jill M. Newman
Deputy Commissioner

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

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Office of Oil and Gas

JUL 20 2018

WV Department of
Environmental Protection

Subject: DOH Permit for the Fiber TFP 22 Pad, Taylor County

Fiber TFP 22 201 Well Site

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permits #04-2018-0687 & 04-2018-0686 for the subject site to ARSENAL Resources for access to the State Road for the well site located off of Taylor County route 3/13 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

| Fiber TFP22 #201 | | | |
|----------------------|---------------------|---------------|-------------|
| FRACTURING ADDITIVES | | | |
| | PURPOSE | TRADE NAME | CAS # |
| Additive #1: | Friction Reducer | WFRA-405 | Proprietary |
| Additive #2: | Scale Inhibitor | SI-1000 | 7440-21-3 |
| Additive #3: | Biocide | BIOCLEAR 2000 | 25314-61-8 |
| Additive #4: | Gelling Agent | LGC-15 | 9000-30-0 |
| Additive #5: | Corrosion Inhibitor | AI-300 | 111-76-2 |
| Additive #6: | Gel Breaker | AP-One | 7727-54-0 |
| Additive #7: | Acid | HCl - 7.5% | 7647-01-0 |

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JUL 20 2018
WV Department of
Environmental Protection

EROSION & SEDIMENT CONTROL PLAN

FIBER TFP22 WELL SITE TAYLOR COUNTY, WEST VIRGINIA

FOR



| PANEL | LENGTH | SECTION | COORDINATE |
|---------------|--------|-------------------------------|------------|
| DOWN TANK PAD | 2.117 | CONCRETE WATER TANK (10' DIA) | 13.456 |
| WELL PAD | | 16' DIA WELL PAD (10' DIA) | 13.456 |
| TOTAL | | | 26.912 |

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

THE PAD AND LOD (INCLUDING EAS CONTROL FEATURES) IS NOT WITHIN 50 FEET TO A NATURALLY PRODUCING TROUT STREAM.

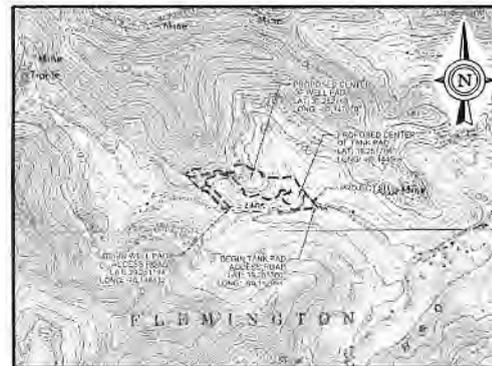
THE PAD AND LOD (INCLUDING EAS CONTROL FEATURES) IS NOT WITHIN 100 FEET TO A GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY.

THE WELL IS NOT WITHIN 200 FEET TO AN EXISTING WATER WELL OR DEVELOPED STRING.

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 MOBILE TOWER BUILDINGS LARGER THAN 2000 SQUARE FEET.

| LOD ELEMENT (ACRES) | AREA |
|---------------------|--------|
| ACCESS ROAD | 4.536 |
| WELL PAD | 3.189 |
| TANK PAD | 3.125 |
| SPECIFIC | 5.900 |
| TOTAL | 17.050 |
| TEXT CLEARING | 1.805 |



REFERENCES: UNITED STATES GEOLOGICAL SURVEY - ROSSMONT AND BROWN TOWN QUADRANGLE, WEST VIRGINIA, 7.5-MINUTE SERIES.



PROJECT NO. 17078-008

AUGUST 2018

DIEFFENBAUCH & HRITZ, LLC



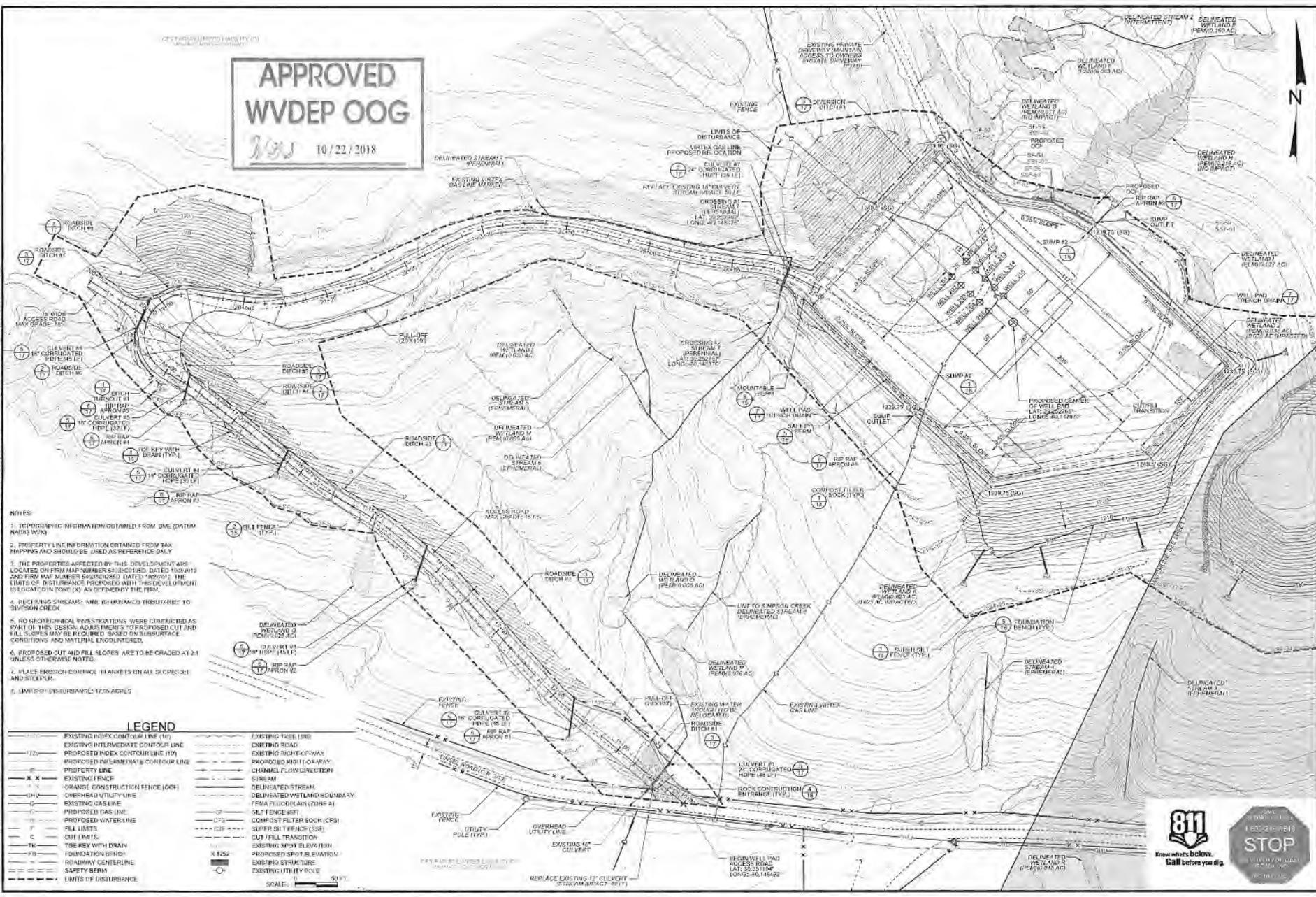
| INDEX | |
|-------------|-------------------------------------|
| DRAWING NO. | TITLE |
| 1 | TITLE SHEET |
| 2 | GENERAL NOTES |
| 3 | EXISTING SITE PLAN |
| 4 | SOIL STRIP PLAN |
| 5 | OVERALL SITE PLAN |
| 6-7 | PROPOSED SITE PLAN |
| 8 | ACCESS ROAD PROFILES |
| 9-10 | WELL PAD ACCESS ROAD CROSS-SECTIONS |
| 11 | TANK PAD ACCESS ROAD CROSS-SECTIONS |
| 12 | WELL PAD CROSS-SECTIONS |
| 13 | TANK PAD CROSS-SECTIONS |
| 13A | STOCKPILE CROSS-SECTIONS |
| 14 | REVEGETATION PLAN |
| 15 | SITE RESTORATION PLAN |
| 16-18 | EAS DETAILS |
| 19 | QUANTITIES |



DATE: 10/22/2018
 CCR: 17078-008
 RYM: 17078-008
 H.P.:
 AUG 2018
 17078-008
 DIEFFENBAUCH & HRITZ, LLC
 1005 Orange Road, Suite 200
 New Martinsburg, WV 26053
 P: 304.365.5553 F: 304.365.5577
 ARSENAL
 PROJECT: FIBER TFP22 WELL SITE
 TITLE SHEET
 1

APPROVED WVDEP OOG

WV 10/22/2018



- NOTES:**
1. TOPOGRAPHIC INFORMATION OBTAINED FROM DTM (DATA NOTED W/M).
 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 PERMAP NUMBER 8403030000 DATED 10/01/15 AND PERMAP NUMBER 8403030000 DATED 10/01/15. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN ZONE (A) AS DEFINED BY THE FIRM.
 4. RECEIVING STREAMS SHALL BE MAINTAINED TRIBUTARIES TO SIMPSON CREEK.
 5. NO HYDROLOGICAL 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 GRADED AT 2:1 UNLESS OTHERWISE NOTED.
 7. PLACE EROSION CONTROL MEASURES ON ALL SLOPES AT AND BETWEEN.
 8. LIMITS OF DISTURBANCE: 1200 ACRES.

LEGEND

- | | | | |
|----------------|------------------------------------|----------------|-----------------------------|
| — (1/2) — | EXISTING INDEX CONTOUR LINE (1/2") | — (1/2) — | EXISTING TREE LINE |
| — (1/4) — | EXISTING INTERMEDIATE CONTOUR LINE | — (1/4) — | EXISTING ROAD |
| — (1/8) — | PROPOSED INDEX CONTOUR LINE (1/8") | — (1/8) — | EXISTING RIGHT-OF-WAY |
| — (1/16) — | PROPOSED INTERMEDIATE CONTOUR LINE | — (1/16) — | PROPOSED RIGHT-OF-WAY |
| — (1/32) — | PROPERTY LINE | — (1/32) — | CHANNEL FLOW DIRECTION |
| — (1/64) — | EXISTING FENCE | — (1/64) — | STREAM |
| — (1/128) — | ORANGE CONSTRUCTION FENCE (OCC) | — (1/128) — | DELINEATED STREAM |
| — (1/256) — | OVERHEAD UTILITY LINE | — (1/256) — | DELINEATED WETLAND BOUNDARY |
| — (1/512) — | EXISTING GAS LINE | — (1/512) — | FEED FLOODING (DWF-A) |
| — (1/1024) — | PROPOSED GAS LINE | — (1/1024) — | SILT FENCE (SF) |
| — (1/2048) — | PROPOSED WATER LINE | — (1/2048) — | COMPOST FILTER SOCK (CFS) |
| — (1/4096) — | FILL LIMITS | — (1/4096) — | SUPPLY BIN FENCE (SBF) |
| — (1/8192) — | CUT LIMITS | — (1/8192) — | CUT FILL TRANSITION |
| — (1/16384) — | TOE KEY WITH DRAIN | — (1/16384) — | EXISTING SPOT ELEVATION |
| — (1/32768) — | FOUNDATION BOND | — (1/32768) — | PROPOSED SPOT ELEVATION |
| — (1/65536) — | ROADWAY CENTERLINE | — (1/65536) — | EXISTING STRUCTURE |
| — (1/131072) — | SAFETY BERM | — (1/131072) — | EXISTING UTILITY POLE |
| — (1/262144) — | LIMITS OF DISTURBANCE | — (1/262144) — | |

- | | |
|----------------|-----------------------------|
| — (1/2) — | EXISTING TREE LINE |
| — (1/4) — | EXISTING ROAD |
| — (1/8) — | EXISTING RIGHT-OF-WAY |
| — (1/16) — | PROPOSED RIGHT-OF-WAY |
| — (1/32) — | CHANNEL FLOW DIRECTION |
| — (1/64) — | STREAM |
| — (1/128) — | DELINEATED STREAM |
| — (1/256) — | DELINEATED WETLAND BOUNDARY |
| — (1/512) — | FEED FLOODING (DWF-A) |
| — (1/1024) — | SILT FENCE (SF) |
| — (1/2048) — | COMPOST FILTER SOCK (CFS) |
| — (1/4096) — | SUPPLY BIN FENCE (SBF) |
| — (1/8192) — | CUT FILL TRANSITION |
| — (1/16384) — | EXISTING SPOT ELEVATION |
| — (1/32768) — | PROPOSED SPOT ELEVATION |
| — (1/65536) — | EXISTING STRUCTURE |
| — (1/131072) — | EXISTING UTILITY POLE |

SCALE: 1" = 50'

Know what's below.
Call before you dig.

STOP
CALL BEFORE YOU DIG