



 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, March 20, 2019
 WELL WORK PERMIT
 Horizontal 6A / New Drill

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

Re: Permit approval for JOHNSON TFP 40 205
 47-091-01355-00-00

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

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

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

James A. Martin
 Chief

Operator's Well Number: JOHNSON TFP 40 205
 Farm Name: RENEE JOHNSON
 U.S. WELL NUMBER: 47-091-01355-00-00
 Horizontal 6A New Drill
 Date Issued: 3/20/2019

PERMIT CONDITIONS

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

CONDITIONS

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

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API Number: _____

PERMIT CONDITIONS

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



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 Johnson TFP40 and Well Number 205.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 7,910' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formations (approximately 4,720' 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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Area of Review Report - Johnson TFP40 Pad, 205 Lateral, Taylor County, WV

Well Name	API Number	Operator Name / Address	Well Type	Latitude	Longitude	Total Depth	Perforated Formation(s)	Producing Zones not Perforated
Goodwin 2	091-00116	Alliance Petroleum Corporation	Existing	39.25858	-80.169849	4560	Benson	NA
Pepper 1	091-00112	Alliance Petroleum Corporation	Existing	39.256221	-80.163191	4523	Benson	NA
Stewart 2	091-00110	Braxton Oil & Gas Corp.	Existing	39.244788	-80.160125	4715	Benson	NA
Crouse 2	001-03000	Petroleum Development Corp.	Cancelled	39.239893	-80.157029	NA	NA	NA
Crouse 1	001-02356	Alliance Petroleum Corporation	Existing	39.237767	-80.155201	4612	Benson	NA
McDonald 1	001-00364	Alliance Petroleum Corporation	Existing	39.231646	-80.152703	4650	Benson	NA
VC McDonald1/230-CH	001-00534	Alliance Petroleum Corporation	Existing	39.224132	-80.14699	4645	Riley, Benson	NA

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SURFACE PARCEL OWNER INFORMATION			ADJOINER PARCEL OWNER INFORMATION		
ID#	PARCEL NUMBER	OWNER NAME	ID#	PARCEL NUMBER	OWNER NAME
1	033-15-331-27	JOHNSON RENEE	3	033-15-351-13	EIP III WEST VIRGINIA LLC
5	091-04-11-1	CFS FARMS LIMITED LIABILITY CO	4	033-15-351-12	EIP III WEST VIRGINIA LLC
2	001-09-9-2	STEWART FARM LLC	6	091-04-8-22	GRIPPIN JAMES S & ELAINE M
30	091-04-11-2	PROPT PAUL	7	091-04-8-23	GRAY RANDALL & RITA
33	001-09-9-7	CROUSE ORLAN, JR	8	091-04-8-35	MARKS BETTY P
43	001-09-9-22	WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES,	9	091-04-8-29	COALQUEST DEVELOPMENT LLC
			10	091-04-8-105	BLOSSER PATRICK B ETAL
			11	091-04-8-81	SIMMONS HUNTER
			12	091-04-8-83	STEWART BARBARA JEAN
			13	091-04-8-84	STEWART BARBARA JEAN
			14	091-04-8-90.1	SINSEL FRANCES E
			15	091-04-9-37.1	FELTON MICHAEL B & TARA L
			16	091-04-11-19	BARTLETT HILDA & MILTON D
			17	091-04-11-17	HOWARD CYNTHIA D
			18	091-04-11-1.1	ANDERSON DANIEL & KAREN
			19	091-04-11-17.3	SIMPSON JOHN E
			21	091-04-11-5.5	BECKWITH LUMBER COMPANY
			24	091-04-11-7.5	NELSON HELEN L HURST MARY M
			25	091-04-11-6	RAVIS JERRY LEE ESTATE
			26	091-04-11-5.1	RAVIS JERRY L ESTATE
			27	091-04-11-3	PROPT PAUL
			29	091-04-8-21	CARLYLE G MILLARD
			31	001-09-9-8	CLEAVENGER LEONARD D
			32	001-09-9-8.2	CLEAVENGER LEONARD D
			34	001-09-9-6	STEWART FARM LLC
			36	001-09-9-4	STEWART FARM LLC
			37	001-09-9-2.1	BOARD OF EDUCATION
			39	001-09-9-1	STEWART FARM LLC
			40	001-09-9-20	SEESE ROBERT & BRENDA HWS
			42	001-09-12-1	POLINO ENTERPRISES INC
			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	091-04-7-9	CEQUEL COMMUNICATIONS LLC
			54	091-04-7-27	CEQUEL COMMUNICATIONS LLC
			55	091-04-7-8	SHIRLEY A FRUM, CLINTON A FRUM, ET UX
			56	033-15-351-9	RENEE JOHNSON
			57	033-15-351-10	RENEE JOHNSON
			60	RIGHT-OF-WAY	COUNTY ROUTE 1/6 BEAR MOUNTAIN ROAD
			61	001-09-12-4	SWIGER ARGYLE C
			62	001-09-12A-9	ELMOND MUREL L (L/E)
			63	RIGHT-OF-WAY	GALLOWAY STATE ROUTE 76
			64	001-09-12A-91	DELANEY V GRACE & KRISTI J FREEMAN, WROS
			65	001-09-12-27	WOLFE LARRY MICHAEL
			66	001-09-12-26	WOLFE STANLEY, ROBERT & LARRY
			90	001-09-9-8.1	CLEAVENGER LEONARD D

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 Lvl. Long by differential submeter mapping grade GPS.
3. There are no railroads, dwellings, or agricultural buildings within 250 feet of center of grid.
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 (Plugged)
- EXISTING WELL HEAD (Abandoned)
- EXISTING WELL HEAD (Never Drilled)
- EXISTING WELL HEAD (Future Drill)
- LANDING POINT/BOTTOM HOLE
- SURFACE OWNER

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

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

Signed: Herbert L. Parsons, III 1-15-2019
 P.S. #2361: Herbert L. Parsons, III P.S.



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

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

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

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

TARGET FORMATION: MARCELLUS

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



DATE: JAN. 15, 2019
 OPERATOR'S WELL #: JOHNSON TFP-40 # 205
 API WELL #: 47 091
 STATE COUNTY PERMIT

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

ESTIMATED DEPTH: TVD: 7,903.5' TMD: 22,494.2'
 DESIGNATED AGENT: WILLIAM VEIGEL
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200
 CITY: BRIDGEPORT STATE: WV ZIP: 26330

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Click or tap to enter a date.

Braxton Oil & Gas Corp.
Address
State

RE: Click or tap here to enter text.

Dear Sir/Madam,

Arsenal Resources has developed a Marcellus pad, Johnson TFP40, well #205, 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 7,910 TVD) and existing conventional natural gas wells included in the attached well list for which you are believed to be the operator.

Arsenal Resources anticipates conducting hydraulic fracturing at the Johnson TFP40 pad, well #205, during the Quarter of 2018. We have identified conventional natural gas wells operated by your company within 500' (lateral distance) of our newly planned wells. Plats for each well on this pad are attached.

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

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

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

Sincerely,

Kelly Davis
Permitting Specialist

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Apr- Attachment "B"

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

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

2) Operator's Well Number: Johnson TFP 40 205 Well Pad Name: Johnson TFP 40

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

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

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

Other _____

(b)If Gas Shallow X Deep _____

Horizontal X _____

6) Existing Pad: Yes or No No

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

8) Proposed Total Vertical Depth: 7,903.5 ft

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 22,494.2 ft

11) Proposed Horizontal Leg Length: 14,012.2 ft

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

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

14) Approximate Saltwater Depths: 1987.5'

15) Approximate Coal Seam Depths: Elk Lick-322.5', Harlem-398.5', Bakerstown-477.5', Brush Creek-577.5', Upper Freeport-630.5', Lower Freeport-692.5', Upper Kittanning-760.5', Middle Kittanning-825.5', Lower Kittanning-845.5', Clarion-876.5'

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

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No None Known

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

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WW-6B
(04/15)

4709101855

API NO. 47-091 - 03/22/2019

OPERATOR WELL NO. Johnson TFP 40 205

Well Pad Name: Johnson TFP 40

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	80	80	CTS
Fresh Water	13.375	New	J-55	54.5	1,175	1,175	CTS
Coal							
Intermediate	9.625	New	J-55	40	2,050	2,050	CTS
Production	5.5	New	P-110	23	22,494	22,494	TOC @ 1,900
Tubing							
Liners							

Ernest L. Reynolds
11-14-18

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, 3% CaCl ₂	1.2
Fresh Water	13.375	17.5	0.38	2,730	900	Class A, 3% CaCl ₂	1.2
Coal							
Intermediate	9.625	12.25	0.395	3,950	1,500	Class A, 3% CaCl ₂	1.29
Production	5.5	8.5-8.75	0.415	14,520	9,500	Class A/50:50 Poz	1.29/1.34
Tubing					5,000		
Liners					N/A		

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

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

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 33.56

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

23) Describe centralizer placement for each casing string:

26" - No centralizers 13 3/8" - one bow spring centralizer on every other joint 9 5/8" - one bow spring centralizer every third joint from TD to surface 5 1/2" - one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 2,150'; there will be no centralizers from 2,150 to surface.

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

26" will be circulated to surface. The 13 3/8" casing will be cemented to surface with Class A cement and no greater than 3% CaCl (calcium chloride). The 9 5/8" casing will be cemented to surface with Class A cement, & no greater than 3% calcium chloride. The 5 1/2" production string will be cemented back to 1,900' (+/- 150' above the casing shoe for the 9 5/8") with Class A and 50/50 Poz cement retarded (to extend pumpability) cellophane flaked for fluid loss, Bentonite gel as an extender (increased pumpability and fluid loss), a defoaming agent to decrease cement foaming during mixing to insure the cement is of proper viscosity, 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 strands and load the hole. The weight indicator on the rig will be monitored for any occurrences of drag and if any are noticed, we will re-run the previous stand of pipe pulled across and circulate 2x bottoms up while watching shakers for signs of cuttings. Once at the base curve, the string will be continuously rotated while pumping 2x bottoms up. We will pull three stands and fill the hole until we reach the vertical section of the well.

*Note: Attach additional sheets as needed.

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Well Name # Johnson TFP 40 205		
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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API Number 47 - 091 -

Operator's Well No. Johnson TFP40 205

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Arsenal Resources OP Code 494519412

Watershed (HUC 10) Simpson Creek Quadrangle Rosemont

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

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

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

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

-Landfill or offsite name/permit number? Meadowfill Landfill / Waste Management, Apex Landfill, and Wesmoreland Sanitary Landfill

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

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

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

Company Official Signature *William Veigel*

Company Official (Typed Name) William Veigel

Company Official Title Designated Agent

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Environmental Protection

Subscribed and sworn before me this 14th day of November, 2018

Kelly A. Davis

My commission expires September 18, 2023



Arsenal Resources

Proposed Revegetation Treatment: Acres Disturbed 33.56 Prevegetation pH 6.8 Average

Lime 2.67 Tons/acre or to correct to pH 6.4

Fertilizer type 10-20-20

Fertilizer amount 1000 lbs/acre

Mulch 3-4 Tons/acre

Seed Mixtures

Temporary

Permanent

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

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

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

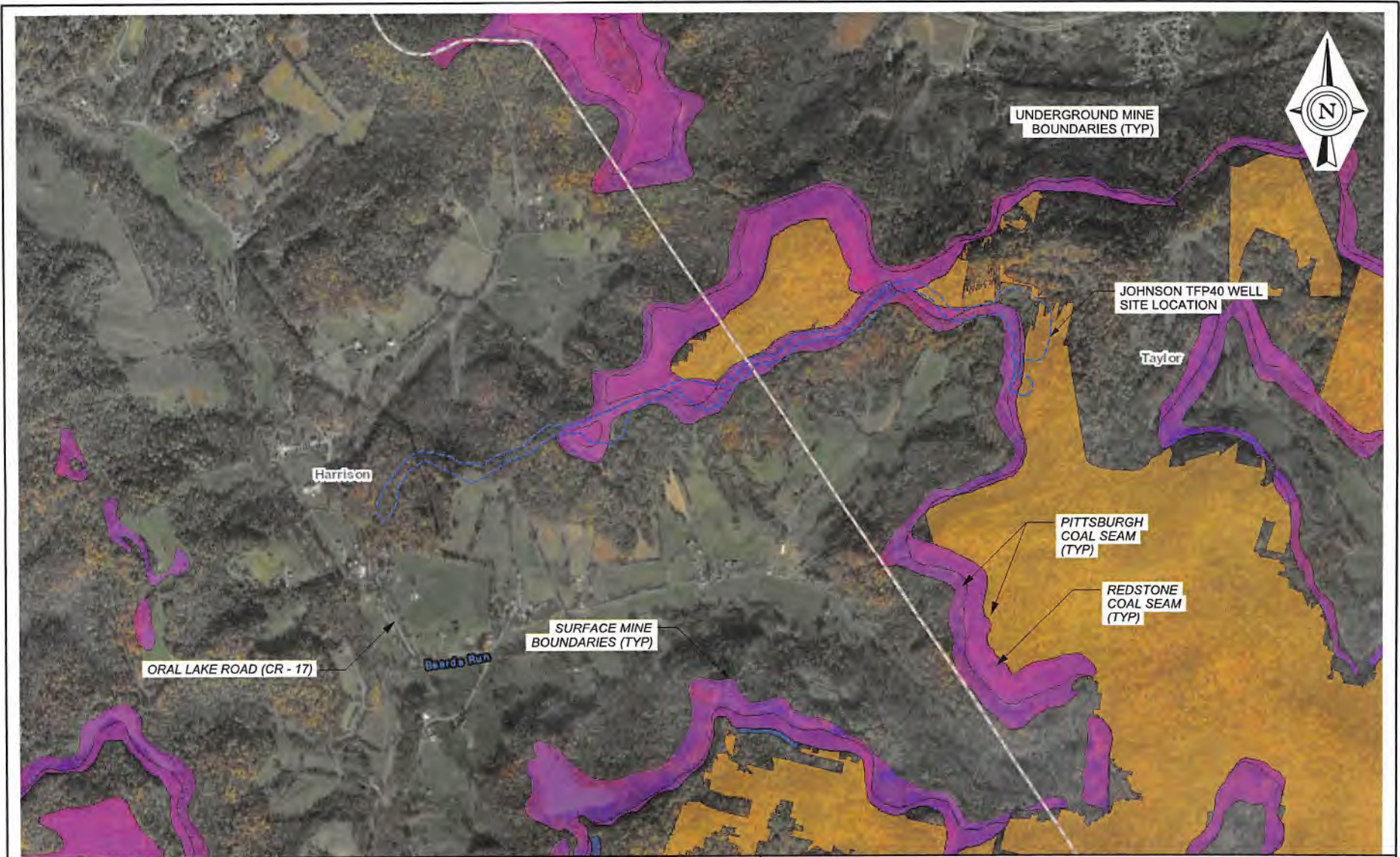
Comments: Re-seed and mulch all disturbed areas as soon as reasonably possible per regulation. Upgrade erosion and sediment control measures where needed per the West Virginia Erosion and Sediment Control Field Manual.

Title: OIL & GAS INSPECTOR

Date: 11-14-18

Field Reviewed? () Yes () No

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COAL MINING MAP
 made for
ARSENAL RESOURCES
JOHNSON TFP40 WELL SITE
TAYLOR AND HARRISON COUNTIES,
WEST VIRGINIA

DIEFFENBAUCH & HRITZ, LLC
 1095 Chaplin Rd Suite 200, Morgantown, WV 26501
 Phone: 304-985-5555 Fax: 304-985-5557

REFERENCE: WEST VIRGINIA GEOLOGICAL AND ECONOMICAL SURVEY (WVGES)

SCALE: 0 1000 FT.

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 West Virginia Department of Environmental Protection

03/22/2019



ARSENAL

R E S O U R C E S

SITE SAFETY PLAN

JOHNSON TFP 40 WELL PAD #205

911 Address:

1241 Beards Run Rd

Bridgeport, WV 26330

Samuel L. Reynolds
11-14-18

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

822

6,559

Latitude: (NAD27)

(NAD83-WVN) US SURVEY FT.

TOP HOLE
 N) 277031.722
 E) 1779051.662
 LANDING POINT
 N) 276723.440
 E) 1780374.149
 BOTTOM HOLE
 N) 263478.441
 E) 1784947.100

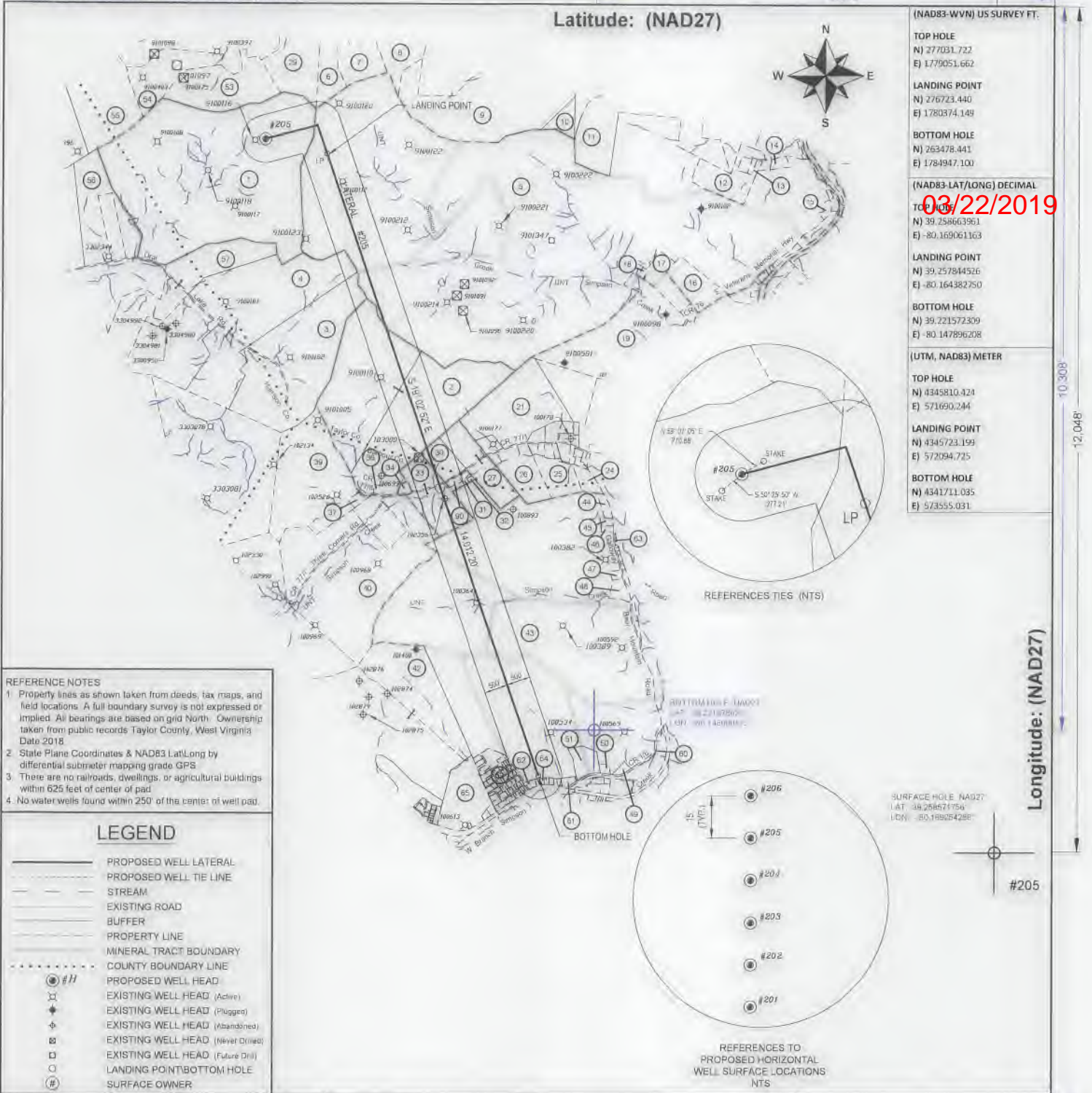
(NAD83-LAT/LONG) DECIMAL

TOP HOLE
 N) 39.258663961
 E) -80.169061163
 LANDING POINT
 N) 39.257844526
 E) -80.164382750
 BOTTOM HOLE
 N) 39.221572309
 E) -80.147896208

(UTM, NAD83) METER

TOP HOLE
 N) 4345810.424
 E) 571690.244
 LANDING POINT
 N) 4345723.199
 E) 572094.725
 BOTTOM HOLE
 N) 4341711.035
 E) 573555.031

03/22/2019



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
	MINERAL TRACT BOUNDARY
	COUNTY BOUNDARY LINE
	PROPOSED WELL HEAD
	EXISTING WELL HEAD (Active)
	EXISTING WELL HEAD (Plugged)
	EXISTING WELL HEAD (Abandoned)
	EXISTING WELL HEAD (Never Drilled)
	EXISTING WELL HEAD (Future Drill)
	LANDING POINT/BOTTOM HOLE
	SURFACE OWNER

FILE#: 17078-007
 SHEET#: 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* 1-15-2019
 P.S. #2361: Herbert L. Parsons, III P.S.



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

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

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

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

TARGET FORMATION: MARCELLUS

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

DATE: JAN. 15, 2019

JOHNSON TFP-40
 OPERATOR'S WELL #: # 205

API WELL #: 47 091 01355 H6A
 STATE COUNTY PERMIT

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

ESTIMATED DEPTH: TVD: 7,903.5' TMD: 22,494.2'

DESIGNATED AGENT: WILLIAM VEIGEL
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200
 CITY: BRIDGEPORT STATE: WV ZIP: 26330

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

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

Longitude: (NAD27)

SURFACE PARCEL OWNER INFORMATION

ID#	PARCEL NUMBER	OWNER NAME
1	033-15-331-27	JOHNSON RENEE
5	091-04-11-1	CFS FARMS LIMITED LIABILITY CO
2	001-09-9-2	STEWART FARM LLC
30	091-04-11-2	PROPST PAUL
33	001-09-9-7	CROUSE ORLAN, JR
43	001-09-9-22	WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES,

ADJOINER PARCEL OWNER INFORMATION

ID#	PARCEL NUMBER	OWNER NAME
3	033-15-351-13	EIP III WEST VIRGINIA LLC
4	033-15-351-12	EIP III WEST VIRGINIA LLC
6	091-04-8-22	GRIPPIN JAMES S & ELAINE M
7	091-04-8-23	GRAY RANDALL & RITA
8	091-04-8-35	MARKS BETTY P
9	091-04-8-29	COALQUEST DEVELOPMENT LLC
10	091-04-8-105	BLOSSER PATRICK B ETAL
11	091-04-8-81	SIMMONS HUNTER
12	091-04-8-83	STEWART BARBARA JEAN
13	091-04-8-84	STEWART BARBARA JEAN
14	091-04-8-90.1	SINSEL FRANCES E
15	091-04-9-37.1	FELTON MICHAEL B & TARA L
16	091-04-11-19	BARTLETT HILDA & MILTON D
17	091-04-11-17	HOWARD CYNTHIA D
18	091-04-11-1.1	ANDERSON DANIEL & KAREN
19	091-04-11-17.3	SIMPSON JOHN E
21	091-04-11-5.5	BECKWITH LUMBER COMPANY
24	091-04-11-7.5	NELSON HELEN L HURST MARY M
25	091-04-11-6	RAVIS JERRY LEE ESTATE
26	091-04-11-5.1	RAVIS JERRY L ESTATE
27	091-04-11-3	PROPST PAUL
29	091-04-8-21	CARLYLE G MILLARD
31	001-09-9-8	CLEAVENGER LEONARD D
32	001-09-9-8.2	CLEAVENGER LEONARD D
34	001-09-9-6	STEWART FARM LLC
36	001-09-9-4	STEWART FARM LLC
37	001-09-9-2.1	BOARD OF EDUCATION
39	001-09-9-1	STEWART FARM LLC
40	001-09-9-20	SEESE ROBERT & BRENDA HWS
42	001-09-12-1	POLINO ENTERPRISES INC
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	091-04-7-9	CEQUEL COMMUNICATIONS LLC
54	091-04-7-27	CEQUEL COMMUNICATIONS LLC
55	091-04-7-8	SHIRLEY A FRUM, CLINTON A FRUM, ET UX
56	033-15-351-9	RENEE JOHNSON
57	033-15-351-10	RENEE JOHNSON
60	RIGHT-OF-WAY	COUNTY ROUTE 1/6 BEAR MOUNTAIN ROAD
61	001-09-12-4	SWIGER ARGYLE C
62	001-09-12A-9	ELMOND MUREL L (L/E)
63	RIGHT-OF-WAY	GALLOWAY STATE ROUTE 76
64	001-09-12A-91	DELANEY V GRACE & KRISTI J FREEMAN, WROS
65	001-09-12-27	WOLFE LARRY MICHAEL
66	001-09-12-26	WOLFE STANLEY, ROBERT & LARRY
90	001-09-9-8.1	CLEAVENGER LEONARD D

03/22/2019

REFERENCE NOTES

- Property lines as shown taken from deeds, tax maps, and field locations. A full boundary survey is not expressed or implied. All bearings are based on grid North. Ownership taken from public records Taylor County, West Virginia Date 2018
- State Plane Coordinates & NAD83 Lat/Long by differential submeter mapping grade GPS
- There are no railroads, dwellings, or agricultural buildings within 825 feet of center of pad.
- No water wells found within 250' of the center of well pad.

LEGEND

- PROPOSED WELL LATERAL
- PROPOSED WELL TIE LINE
- STREAM
- EXISTING ROAD
- BUFFER
- PROPERTY LINE
- MINERAL TRACT BOUNDARY
- COUNTY BOUNDARY LINE
- ⊙ #H PROPOSED WELL HEAD
- ⊠ EXISTING WELL HEAD (Active)
- ⊡ EXISTING WELL HEAD (Plugged)
- ⊢ EXISTING WELL HEAD (Abandoned)
- ⊣ EXISTING WELL HEAD (Never Drilled)
- ⊤ EXISTING WELL HEAD (Dry Line Drill)
- LANDING POINT/BOTTOM HOLE
- ⊕ SURFACE OWNER

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

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 Signed: *Herbert L. Parsons* 1-15-2019
 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: JAN. 15, 2019
 JOHNSON TFP-40
 OPERATOR'S WELL #: # 205
 API WELL #: 47 091 01355
 STATE COUNTY PERMIT

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

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 7,903.5' TMD: 22,494.2'
 WELL OPERATOR: ARSENAL RESOURCES DESIGNATED AGENT: WILLIAM VEIGEL
 ADDRESS: 6031 WALLACE ROAD EXTENSION # 300 ADDRESS: 65 PROFESSIONAL PLACE SUITE 200
 CITY: WEXFORD STATE: PA ZIP: 15090 CITY: BRIDGEPORT STATE: WV ZIP: 26330

WW-6A1
(5/13)

Operator's Well No. Johnson TFP40 205

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

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

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

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

See Attached


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

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

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

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

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

Attachment to WW-6A1, Johnson TFP 40 205

Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
1 (00006031)	Blanch Watson (Widow), Dezzie Butts & Terry H. Butts (Her Husband), Dulcie Starkey (Widow), Martha Roberts (Widow), Gail Wilson (Widow), Mary Bartlett (Widow), James Bartlett & Elsa Bartlett (His Wife), Ernestine White & John White (Her Husband).	Union Drilling, Inc.	12.50%	1030/412	284
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		1189/1209	
	Equitable Resources Exploration, Inc.	Equitable Resources Exploration Company		1199/642	
	Equitable Resources Exploration Company	Enervest East Limited Partnership		22/181 (Taylor County)	
	Enervest East Limited Partnership	The Houston Exploration Company		1359/820	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Incorporated		1367/1084	
	Seneca-Upshur Petroleum, Incorporated	Seneca-Upshur Petroleum, LLC		1467/119	
5 (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
	Allerton Miller	Union Drilling		5/191	
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		9/427	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		29129	
	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	

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4109101355

Attachment to WW-6A1, Johnson TFP 40 205

	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		31/427	
5 (00005213)	Chester Sinsel and Frances Sinsel, his 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		Oct-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	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		178/401	
	Greylock Production, LLC	Mar Key, LLC		179/96	
30 (00004510)	Paul Propst, a single man	PDC Mountaineer, LLC		59/146	
	PDC Mountaineer, LLC	River Ridge Energy, LLC		8/544	
	Orlan Crouse, Jr. and Dora Jeanne Crouse, his wife, Helen Galiyano, single, Jeffrey Owen Burton and Lesa E Burton, his wife	Petroleum Development Corporation	12.50%	110/525	30.5

33
(000038)

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Attachment to WW-6A1, Johnson TFP 40 205

	Petroleum Development Corporation	PDC Mountaineer, LLC		150/444	
	PDC Mountaineer, LLC, and PDC Energy, Inc.	Seneca-Upshur Petroleum, LLC		165/438	
43 (00005950)	Lillian Wilson Post, widow	Cumberland and Allegheny Gas Company	12.50%	40/242	400
	Cumberland and Allegheny Gas Company	Union Drilling, Inc. and Allerton Miller		46/347	
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637	
43 (00005929)	Virginia C. McDonald, single	Union Drilling, Inc. and Allerton Miller	12.50%	67/397	111
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company		116/81	

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Attachment to WW-6A1, Johnson TFP 40 205

	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637	
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	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637	
43 (00005958)	Virginia C. McDonald, single	Union Drilling, Inc. and Allerton Miller	12.50%	63/577	114
	Allerton Miller	Union Drilling, Inc.		98/11	
	Union Drilling, Inc.	Equitable Resources Exploration, Inc.		325/219	
	Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Energy Company	Fuel Resources Production and Development Company		116/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company		383/187	
	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381 (139/48)	

Attachment to WW-6A1, Johnson TFP 40 205

	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637	
--	-------------------------------	------------------------------	--	--------	--

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Environmental Protection

West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

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

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	

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WV Department of Environmental Protection

Authorized Shares

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

Officers	
Type	Name/Address
Member	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

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WV Department of
Environmental Protection

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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Agreement to Drill, Complete and Operate Oil & Gas Wells

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

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

[Signature Page Follows]

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

ARSENAL RESOURCES LLC

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

RIVER RIDGE ENERGY, LLC

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

RIVER RIDGE HOLDINGS, LLC

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

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West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

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

SENECA-UPSHUR PETROLEUM, LLC

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

Organization Information			
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			

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

Officers	
Type	Name/Address
Member	RIVER RIDGE ENERGY, LLC 6031 WALLACE ROAD EXTENSION, SUITE 300 WEXFORD, PA, 15090
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

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Name Changes

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

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

Annual Reports

Filed For
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1999
1998
Date filed

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Wednesday, July 18, 2018 — 1:13 PM

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People Powered. Asset Strong.

October 4, 2018

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

RE: Ownership of Roadways; Johnson TFP 40

Dear Mr. Martin:

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

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

Sincerely,

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

Coty Brandon
Title Manager

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

Date of Notice Certification: 1-28-19

API No. 47- 091 -
Operator's Well No. Johnson TFP40 205
Well Pad Name: Johnson TFP40

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>571690.244</u>
County: <u>Taylor</u>	Northing: <u>4345810.424</u>
District: <u>Flemington</u>	Public Road Access: <u>CR 17, Oral Lake Road</u>
Quadrangle: <u>Rosemont</u>	Generally used farm name: <u>Johnson</u>
Watershed: <u>Simpson Creek</u>	

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


<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p>RECEIVED Office of Oil and Gas FEB - 1 2019</p>
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Required Attachments:

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

Certification of Notice is hereby given:

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

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



Subscribed and sworn before me this 28th day of January 2019
Kelly A. Davis Notary Public
 My Commission Expires September 18, 2023

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 1-28-19 Date Permit Application Filed: 1-31-19

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
Name: Renee Johnson
Address: 511 Beards Run Road
Bridgeport WV 26330
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: See Attached
Address: _____

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: See Attached
Address: _____
Name: _____
Address: _____

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

SURFACE OWNER(s) (Impoundments or Pits)
Name: Renee Johnson
Address: 511 Beards Run Road
Bridgeport WV 26330

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

*Please attach additional forms if necessary

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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/office-of-oil-and-gas/pages/default.aspx.

Well Location Restrictions

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

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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

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.**

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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.

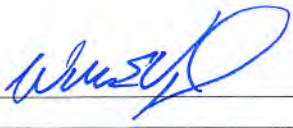
Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the 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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WW-6A
(8-13)

API NO. 47-091 - **03/22/2019**
OPERATOR WELL NO. Johnson TFP40 205
Well Pad Name: Johnson TFP40

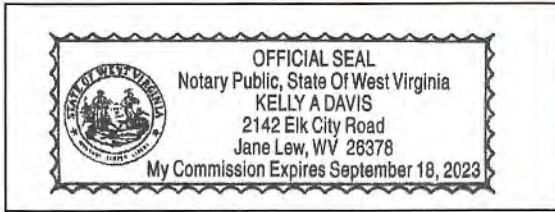
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 28th day of January 2019
Kelly A. Davis Notary Public
My Commission Expires September 18, 2023

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**Arsenal Resources
Johnson TFP 40 205
WW-6A Notice of Application, Attachment (Page 1 of 2)**

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

Renee Johnson
511 Beards Run Road
Bridgeport, WV 26330

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

Clee T Henderson II
PO Box 1026
Bridgeport, WV 26330

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

Coal Owner or Lessee:

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

Consolidated Coal Company
1000 Consol Energy Drive
Canonsburg, PA 15317

Water Purveyors:

Renee Johnson
511 Beards Run Road
Bridgeport, WV 26330

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

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**Arsenal Resources
Johnson TFP 40 205
WW-6A Notice of Application, Attachment (Page 2 of 2)**

Water Purveyors (continued):

Carlyle G Millard
413 High St
Bridgeport, WV 26330

James and Elaine Grippin
137 Ocello St
Clarksburg, WV 26301

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

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Potential Water Purveyor's

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

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

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

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Potential Water Purveyor's

Project: Johnson TFP-40
County: Harrison & Taylor
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E	CFS FARMS LIMITED LIABILITY CO	04-11-0001	PO Box 297, Flemington, WV 26347

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

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

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

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

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

COAL OWNER OR LESSEE

Name: See Attached
 Address: _____

MINERAL OWNER(s)

Name: See Attached
 Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia	Approx. Latitude & Longitude: 39.2528781, -80.169049
County: Taylor	Public Road Access: CR 17, Oral Lake Road
District: Flemington	Watershed: Simpson Creek
Quadrangle: Rosemont	Generally used farm name: Johnson

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 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: 724-940-1218
 Email: kdavis@arsenalresources.com

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

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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
Johnson TFP 40 205**

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

Mineral Owner(s):

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

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

Richards Resources
608 Independence Road
Salem, WV 26426

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

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

Heidi Bartlett Wiedebusch
312 Jackson Avenue
Morgantown, WV 26501

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

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

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

Jo Ann Rose
638 Hampton Woods Drive
Marion, OH 43302

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**Arsenal Resources
Johnson TFP 40 205**

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

Mineral Owner(s) (continued):

Nancy Lee Munn
528 Hopetown Road
Chillicothe, OH 45601

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

Sandra K. Wilson
31 Woodburn Drive
Fairmont, WV 26554

Coal Owner or Lessee:

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

Consolidated Coal Company
1000 Consol Energy Drive
Canonsburg, PA 15317

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

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

Date of Notice: 1-28-19 Date Permit Application Filed: 1-31-19

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

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: 571690.244
County: Taylor Northing: 4345810.424
District: Flemington Public Road Access: CR 17, Oral Lake Road
Quadrangle: Rosemont Generally used farm name: Johnson
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 Address: 6031 Wallace Road Extension, Suite 300
Telephone: 724-940-1218 Wexford, PA 15090
Email: kdavis@arsenalresources.com Facsimile: 304-848-9134

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

October 24, 2018

Jill M. Newman
Deputy Commissioner

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

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

Johnson TFP 40 205 Well Site

Dear Mr. Martin,

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

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT for DOH District 4 and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

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

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

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

Well Name # Johnson TFP 40 205			
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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APPROVED
WVDEP OOG
2/12/2019



LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none"> --- EXISTING TREE LINE --- EXISTING ROAD --- EXISTING RIGHT-OF-WAY --- PROPERTY LINE --- SAFETY FENCE --- EXISTING FENCE --- EXISTING ELECTRICAL --- EXISTING GAS LINE --- EXISTING WATER LINE --- PROPOSED GAS LINE --- EXISTING WATER TIE --- FILL LIMITS --- CUT LIMITS --- TIE BENCH (WITH CHAIN) --- ROADWAY CENTERLINE --- SAFETY BENCH --- LIMITS OF DISTURBANCE --- EXISTING UTILITY TIE --- PROPOSED SUMP --- PROPOSED UNDERDRAIN TIE | <ul style="list-style-type: none"> --- EXISTING INTERMEDIATE CONTIGUOUS LINE --- PROPOSED INTERMEDIATE CONTIGUOUS LINE --- PROPOSED INTERMEDIATE CONTIGUOUS LINE --- EXISTING DITCH --- CHANNEL FLOW DIRECTION --- STREAM --- DELINEATED STREAM --- DELINEATED WITH AN UNDESIGNATED BOUNDARY --- 12' COMPOST FILTER SOCK (IFS) --- 24' COMPOST FILTER SOCK (IFS) --- SURVEY BENCH (BEST) --- EXISTING SPOT ELEVATION --- PROPOSED SPOT ELEVATION --- EXISTING STRUCTURE --- ROCK CHECK DAM |
|---|---|

NOTES

1. TOPOGRAPHIC INFORMATION OBTAINED FROM ENE (DATA) (MGS 11W)
2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPS AND SHOULD BE USED AS REFERENCE ONLY
3. THE PROPERTY AFFECTED BY THIS DEVELOPMENT ARE LOCATED IN THE MAP NUMBER INDICATED. ALL RIGHTS AND EASES ARE SHOWN AS TO THE DATE OF THIS PLAN. THE LIMITS OF DISTURBANCE PROVIDED WITH THIS DEVELOPMENT IS LOCATED IN 2006 (M) AS DETERMINED BY THE (DEP)
4. REFERENCE SURVEY AND BENCHMARK INFORMATION ARE INDICATED BY THE MAP NUMBER
5. NO GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED AS PART OF THE DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON CLEARANCE CONDITIONS AND MATERIAL ENCOUNTERED.
6. PROPOSED CUT AND FILL SLOPES ARE TO BE GRADED AT 2:1 UNLESS OTHERWISE NOTED.
7. PLEASE OBSERVE CONTROL SURVEYS ON ADJACENT SITES AND OTHERS.
8. LIMITS OF DISTURBANCE IS AN NOTICE
9. ALL Delineated Wetlands are within the 100-foot Buffer Zone. THE SHADING AREAS WILL HAVE SAFETY FENCE INSTALLED. REFER TO PLANS FOR LOCATIONS.

1:50000
 1:10000
 1:5000
 1:2500
 1:1000
 1:500
 1:250
 1:100
 1:50
 1:25
 1:10
 1:5
 1:2
 1:1

PROJECT NO.	18
DATE	2/12/2019
DESIGNED BY	WVDEP
CHECKED BY	WVDEP
APPROVED BY	WVDEP
PROJECT NAME	JOHNSON TEPIC WELL SITE
CLIENT	ARSENAL
LOCATION	JOHNSON TEPIC WELL SITE
SCALE	AS SHOWN
PROJECT NO.	18



