

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 40 204

47-091-01356-00-00

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

Operator's Well Number:

JOHNSON TFP 40 204 RENEE JOHNSON

Farm Name:

U.S. WELL NUMBER: 47-091-01356-00-00

Horizontal 6A New Drill

Date Issued: 3/20/2019

API Number:	03/22/2019
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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.

	API Numbe

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.

PERMIT CONDITIONS



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 204.

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 5,000' 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:

- Inspect their surface equipment prior to fracturing to establish integrity and establish prefrac well conditions.
- Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure.
- 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

 RECEIVED Gas 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.

RECEIVED
Office of Oil and Gas

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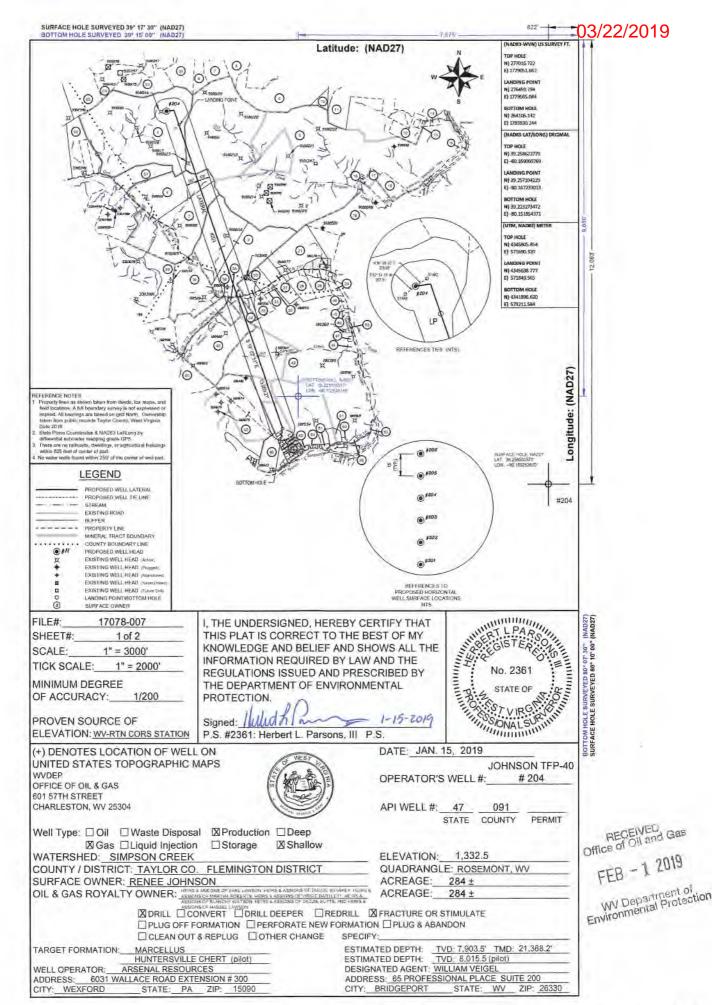
Area of Review Report - __Johnson TFP40_____ Pad, ____204__ Lateral, _____ Taylor____ County, WV

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
Sinsel 4	091-00123	Alliance Petroleum Corporation	Existing	39.252857	-80.165912	4924	Benson	NA
Stewart 2A	091-01005	Alliance Petroleum Corporation	Existing	39.242262	-80.164901	4955	Fourth, Benson	NA
Stewart 2	091-00110	Braxton Oil & Gas Corp.	Existing	39.244788	-80.160125	4715	Benson	NA
Stewart 1	001-00699	Braxton Oil & Gas Corp.	Existing	39.239031	-80.159989	4746	Benson	NA

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WV Department of Environmental Protection



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Diff	JOHNSON RENEE STEWART FARM LLC EIP III WEST VIRGINIA LLC EIP III WEST VIRGINIA LLC CES FARMS LIMITED LIABI STEWART FARM LLC SEESE ROBERT & BRENDA WOLFE LARRY, ROBERT W WOLFE LARRY, ROBERT W GES GES AND LOWING HIS GES AND LOWING HIS	WNER NAME	7 8 9 10 11 12 13 14 15 16	PARCEL NUMBER 031-04-8-22 031-04-8-23 031-04-8-23 031-04-8-35 031-04-8-23 031-04-8-35 031-04-8-81 031-04-8-81 031-04-8-81 031-04-8-81 031-04-8-90.1 031-04-9-37.1 031-04-9-37.1 031-04-11-17 031-04-11-15 031-04-11-5 031-04-12-5 031-04-12-5 031-04-12-5 031-04-12-5 031-04-12-7 031-04-12-7 031-04-12-7 031-04-12-7 031-04-10-10-10-10-10-10-10-10-10-10-10-10-10-	GRAY RANDAI MARKS BETTY COALQUEST O BLOSSER PATH SIMMONS HUL STEWART BAR SIEVART BAR SINSEL FRANC FELTON MICH BARTLETT HILL HOWARD CYA ANDERSON DO BECKWITH LU REISON HELE RAVIS JERRY L RAVIS JERRY L PROPST PAUL CLEAVENGER MOSESSO JOU KRIZNER FRAI CLEAVENGER CEQUEL COM SHIRLEY A FRI RENEE JOHNS COUNTY ROU SWIGER ARGI COUNTY ROU SWIGER ARGI CLEAVENGER COUNTY ROU SWIGER ARGI COUNTY ROU SWIGER ARGI CLEAVENGER CLEAVENGER CELLENDER COUNTY ROU SWIGER ARGI CLEAVENGER CELLENDER COUNTY ROU SWIGER ARGI CLEAVENGER CLEAVENGER CELLENDER COUNTY ROU SWIGER ARGI CLEAVENGER CLEAVENGER CEUGLE COM SHIRLEY A FRI RENEE JOHNS COUNTY ROU SWIGER ARGI CLEAVENGER CLEAVENGER CELLENDER CHEMPART COUNTY ROU SWIGER ARGI CLEAVENGER CLEAVE	P EVELOPMENT LLC RICK BETAL NTER BARA JEAN BER COMPANY N L HURST MARY M BE ESTATE ESTATE LLARD LEONARD D LEONARD D LEONARD D LEONARD D N, JR N & SAMITH JOANN Y & SURV MILC BALC BARAY HWS JR & AMYR HWS JR & AMYR HWS LE B Y & DONETTA NA TRUST NK A & RENEE B HWS PLAT WALNICATIONS LLC MUNICATIONS	
SHEET#: 2 SCALE: 1"= TICK SCALE: 1 MINIMUM DEGREI OF ACCURACY: PROVEN SOURCE ELEVATION: wv-R1 (+) DENOTES LOC UNITED STATES T WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25 Well Type: □ Oil □ Gas WATERSHED: SI COUNTY / DISTRI SURFACE OWNER	Zenor	P.S. #2361: Herbert L ON APS	ECT TO BELIEF UIRED AN OF EN' Parso Parso ep allow RICT	O THE BES AND SHOVE BY LAW AI ID PRESCRIVIRONMEN Ons, III P.S	T OF MY WS ALL THE ND THE RIBED BY ITAL I-15-2019 DATE: JAN. 1 DEPERATOR'S API WELL #: QUADRANGLI ACREAGE: ACREAGE: ACREAGE:	JOHNSON TFP-4: WELL #: # 204 47	RECEIVED Office of Oil and Gas FEB = 1 2019
TARGET FORMATION		OF MASSELL MAS	R DR	FORMATION SPECIFY: ESTIMATE ESTIMATE DESIGNA	DEPTH: TV ED DEPTH: TV ED DEPTH: TV TED AGENT: WII	(D: 7,903.5' TMD: 21,368.2' (D: 8,015.5 (pilot)	WV Department of Environmental Protection
CITY: WEXFORD	STATE: PA					STATE: WV ZIP: 26330	



Click or tap to enter a date.

Braxton Oil and 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 #204, 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 #204, 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.
- Inspect or install master valves rated to 3,000 psi or other necessary equipment for wellhead integrity.
- 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 304-926-0449.

Sincerely,

Kelly Davis Permitting Specialist

Office of Oil and Gas

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WW-6B (04/15)

API NO. 47-091 - 03/22/2019 OPERATOR WELL NO. Johnson TFP 40 204

Well Pad Name: Johnson TFP 40

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

1) Well Operat	or: Arsena	l Resource	es	494519412	Taylor	Flemingt	Rosemont
				Operator ID	County	District	Quadrangle
2) Operator's V	Well Number	r: Johnson	TFP 40 2	04 Well Pa	ad Name: Jol	hnson TFP 40	
3) Farm Name	/Surface Ow	ner: Renee	Johnson	Public Ro	oad Access: C	CR 17, Oral La	ike Road
4) Elevation, c	urrent groun	d: 1338.	79' EI	evation, proposed	d post-constru	ection: 1332.5	
5) Well Type	(a) Gas	X	Oil	Une	derground Sto	orage	
	Other						·
	(b)If Gas	Shallow	X	Deep			
() E-1-4' D-	1. X7XI	Horizontal	. <u>X</u>				
6) Existing Pac				1 771 1	_	• •	
	_			ipated Thickness ttom- 7,916.5ft, Antic			ed Pressure- 0.5 psi/ft
				ateral), 8,015.5' (
9) Formation a				Shale (Lateral)		Chert (Pilot)	
10) Proposed T		-	21,368.2	ft		· · · · · · · · · · · · · · · · · · ·	
11) Proposed F	Horizontal Le	eg Length:	13,069.3	ft			
12) Approxima	ate Fresh Wa	iter Strata D	epths:	45.5', 132.5', 1	87.5', 219.5'	817.5',1102.5	,
13) Method to	Determine F	resh Water	Depths: (Offsetting wells reported	d water depths (09	91-00116, 091-0011	7, 091-00118, 091-00120)
14) Approxima							
15) Approxima	ate Coal Sear	m Depths:	ik Lick-322.5',Harlem-396.5'	Bakerstown-477.5', Brush Creek-577.5', Upper	r Freeport-630.5", Lower Freeport-697	2.5', Upper Kittanning-760.5', Middle Kit	tanning-825.5', Lower Kittanning-845.5', Clarion-876.5'
16) Approxima	ate Depth to	Possible Vo	id (coal m	ine, karst, other):	None Know	n	
17) Does Propodirectly overly				ms Yes	1	_{No} None Kno	own
<u> </u>							
(a) If Yes, pro	ovide Mine I						n RECENT
		Dept					Office of Oil and Gas
		Seam	-				FEB - 1 2019
		Own	er:				Environmental Protection
							Environmental Protection

WW-6B (04/15) 4709101356 API NO. 47- 091 - 03/22/2019

OPERATOR WELL NO. Johnson TFP 40 204

Well Pad Name: Johnson TFP 40

18)

CASING AND TUBING PROGRAM

ТҮРЕ	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	i = ii						1
Intermediate	9.625	New	J-55	40	2,050	2,050	CTS
Production	5.5	New	P-110	23	21,368	21,368	TOC @ 1,900
Tubing			T in				
Liners	1-1	1					

Lmrd L. Skeyvlch 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% CaCl2	1.2
Fresh Water	13.375	17.5	0.38	2,730	900	Class A, 3% CaCl2	1.2
Coal				7-5-17-14			
Intermediate	9.625	12.25	0.395	3,950	1,500	Class A, 3% CaCl2	1.29
Production	5.5	8.5-8.75	0.415	14,520	9,500	Class A/50:50 Poz	1.29/1.34
Tubing					5,000		
Liners					N/A		

PACKERS

Kind:	
Sizes:	
Depths Set:	Office of Oil and o
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OPERATOR WELL NO. Johnson TFP 40 204

Well Pad Name: Johnson TFP 40

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 ½" 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- 1/2" intermediate hole to the programmed depth, run 9-5/8" casing and cement to surface. The rig with then continue to drill an 8-3/4" hole to a designed pilot hole depth, then trip out of hole to run wireline logs. A cement kick-off plug will then be set from bottom of the pilot hole to the designed KOP. We will then drill off the cement plug and 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 ½" - 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 profit or placement and possibly gypsum gas blocking additive to aid in blocking/gas migration (in combination with other additive mentioned here, here company achieve gas a "right angle" set) during the plastic phase of the cement set-up.

25) Proposed borehole conditioning procedures:

W Department of Environmental Protection 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.

	Well Name # Johnson TFP 40 204				
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	Used to improve rheological properties of cement			
	Dispersant				
Additive #7:	Cellulose	Help with fluid loss			

Office of Oil and Gas
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03/22/2019 Arsenal Resources ARSENAL Johnson TFP 40 204 Casing Design Directional Plan # 1 QES Taylor
West Virginia
XX API #: Other Names: Surface Location: Bottom Hole Location: Total Depth: County: State: AFE #: RKB: XX 27 1,332 TBD 21,368 MD (ft) 7,903 TVD (ft) **Ground Level** Casing and Mud Directional & Surveys
Cement Drig /Csg Point Depth (ft) TVD Logs Significant Formations (TVD) Depth (ft) MD Size Section 1 26" 102.7# Vertical 80 17 1/2" (PDC) Cement: Class A 489 Sack TOC: Surface (top off if needed) Section 2 489 Sacks W/ 30% Excess Floc 13 3/8" 54.5# J-55 STC CBL after c 1,175 1,175 Vertical 12 1/4" (PDC) Floc Water Floc 678 Sacks w/ 50% Excess Cement: Class A 678 Sa TOC: Surface (top off if needed) CBL after cement job 9 5/8" 40# J-55 LTC Vertical 2,050 2,050 From 80 2050 7,298 Section 4 Floc Floc Water Floc Water 2050 7,298 21,368 11.5- 12.0 ppg SOBM Bit Data To 17-1/2" & 12 1/4" PDC 8- 3/4" (PDC) 8- 1/2" (PDC) 2,050 2.050 8,298 See Directional Plan Directional Data ОВМ Big Lime 1.509 1st Elk Siltstone 4,884 **Tully Lime** 7,551 Purcell (Limestone) 7,880 Cement: Class A: 50/50 POZ 1.2 ft3/sack +10% Exs in OH = Lower Marcellus 7.883 3728 sacks TOC: 1,900 ft 21,368 MD 5 1/2" 23# P-110 VAR Cement Outside Casing Note: Not drawn to scale

Date Last Revised: 31-Oct-18

Jarrett Toms

Office of Oil and Gas

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WV Department of Environmental Protection

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API	Number	47 -	091
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Operator's Well No. Johnson TFP40 204

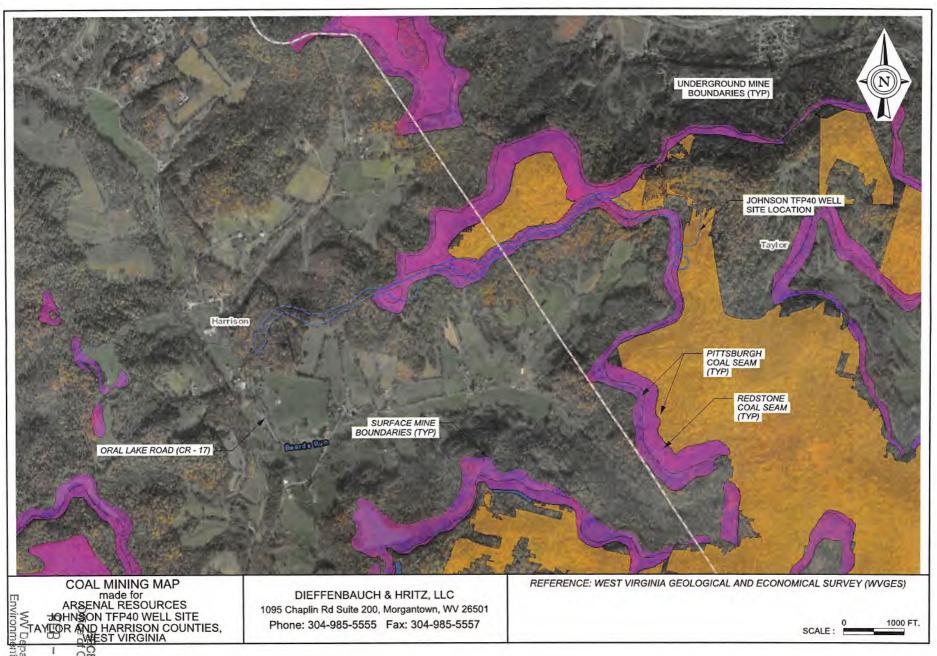
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

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 Will a pit be used? Yes No	o complete the proposed well work? 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 Was	stes:
Land Application	
Underground Injection (UIC	
Reuse (at API Number_Variou Off Site Disposal (Supply for Other (Explain	rm WW-9 for disposal location)
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.
	prizontal)? Air, freshwater, oil based, etc. Ventical: Freshwater, Hanizontal: Oil based mid.
-If oil based, what type? Synthetic, petroleum,	etc. Synthetic
Additives to be used in drilling medium? Bentonite, Soap 8	& Polymer Sticks, Soda Ash, Sodium Bicarbonate, Defoamer, Base Oil, Emulsifiers, Lime, Barite
Drill cuttings disposal method? Leave in pit, landfill, rer	
-If left in pit and plan to solidify what medium v	
-Landfill or offsite name/permit number? Mead	owfill Landfill / Waste Management, Apex Landfill, and Wesmoreland Sanitary Landfill
Permittee shall provide written notice to the Office of Oi West Virginia solid waste facility. The notice shall be prowhere it was properly disposed.	l and Gas of any load of drill cuttings or associated waste rejected at any ovided within 24 hours of rejection and the permittee shall also disclose
on August 1, 2005, by the Office of Oil and Gas of the W provisions of the permit are enforceable by law. Violat law or regulation can lead to enforcement action. I certify under penalty of law that I have perapplication form and all attachments thereto and that	is and conditions of the GENERAL WATER POLLUTION PERMIT issued West Virginia Department of Environmental Protection. I understand that the tions of any term or condition of the general permit and/or other applicable sonally examined and am familiar with the information submitted on this based on my inquiry of those individuals immediately responsible for on is true, accurate, and complete. I am aware that there are significant possibility of fine or imprisonment.
Company Official Signature	Office of City
Company Official (Typed Name) William Veigel	on and Ga
Company Official Title Designated Agent	FEB ~ 1 2019
Subscribed and sworn before me this day	y of November 20 18
My commission expires September	OFFICIAL SEAL A Divideary Public, State Of West Virginia KELLY A DAVIS 2142 Elk City Road Jane Lew, WV 26378 My Commission Expires September 18, 2023

Arsenal	Resources
A SCHOL	I VOSUUI COS

Fertilizer type 10-20-20 Fertilizer amount 1000 Mulch 3-4 Tempor Seed Type Orchard Grass Rye Clover Timothy Attach: Maps(s) of road, location, pit and provided). If water from the pit wil acreage, of the land application are Photocopied section of involved 7. Plan Approved by: Re-seed and	rary lbs/acre 129 93 24 45 proposed area for land apill be land applied, included.	DepH 6.4 lbs/acrelbs/acre	lbs/acre 129 93 24 45 ding this info have been
Tempor Seed Type Orchard Grass Rye Clover Timothy Attach: Maps(s) of road, location, pit and provided). If water from the pit will acreage, of the land application are Photocopied section of involved 7. Plan Approved by: Re-seed and	rary lbs/acre 129 93 24 45 proposed area for land apill be land applied, included.	Seed Mixtures Seed Type Orchard Grass Rye Clover Timothy pplication (unless engineered plans included)	lbs/acre 129 93 24 45 ding this info have been
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per regulation. Upgra	ade erosion and	sediment control measure	es where needed
per the West Virginia	Erosion and S	Sediment Control Field Ma	anual.
			Office
Title: OILH GAS		Date: 1/-/4-/	'8 FEB
	INSPECTOR	Date: //-/9-/	



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NOTES TO USERS

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FLOOD INSURANCE RATE MAP

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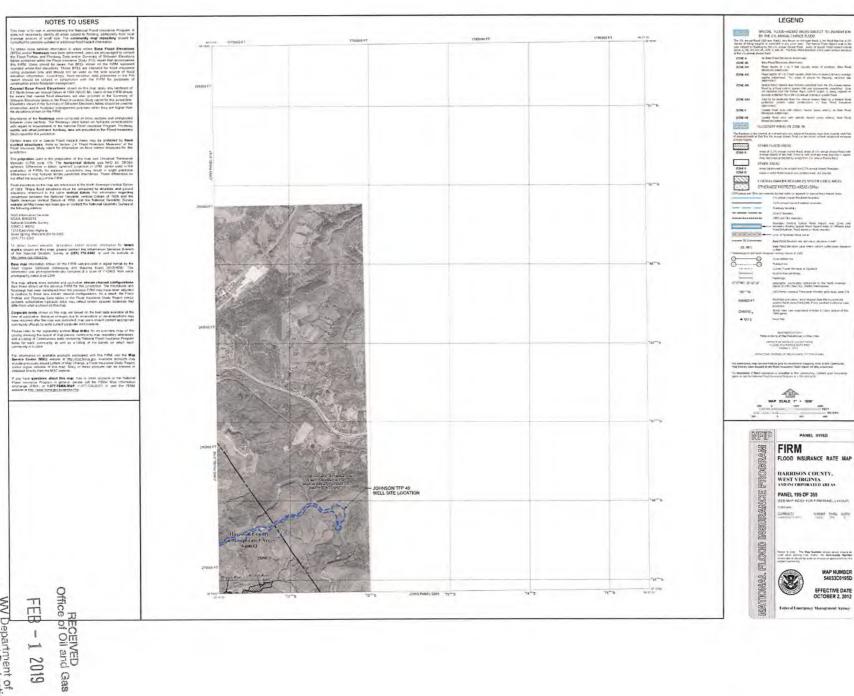
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NATIONAL FLOCO INSURANCE

MAP NUMBER \$4091C0095E MAP REVISED AUGUST 2, 2011

Federal Emergency Management Age



WV Department of Environmental Protection

2019

NOTES TO USERS

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NFIP PANEL 0189D ENSURANCE PROGRAM FIRM FLOOD INSURANCE RATE MAP HARRISON COUNTY, WEST VIRGINIA AND INCORPORATED AREAS

PANEL 189 OF 355

MATTIONIAL FLOOD

MAP NUMBER 54033C0189D

EFFECTIVE DATE OCTOBER 2, 2012

WW Department of Environmental Protection Office of FEB Oil and Gas (mark 2019



SITE SAFETY PLAN

IOHNSON TFP 40 WELL PAD #204

911 Address:

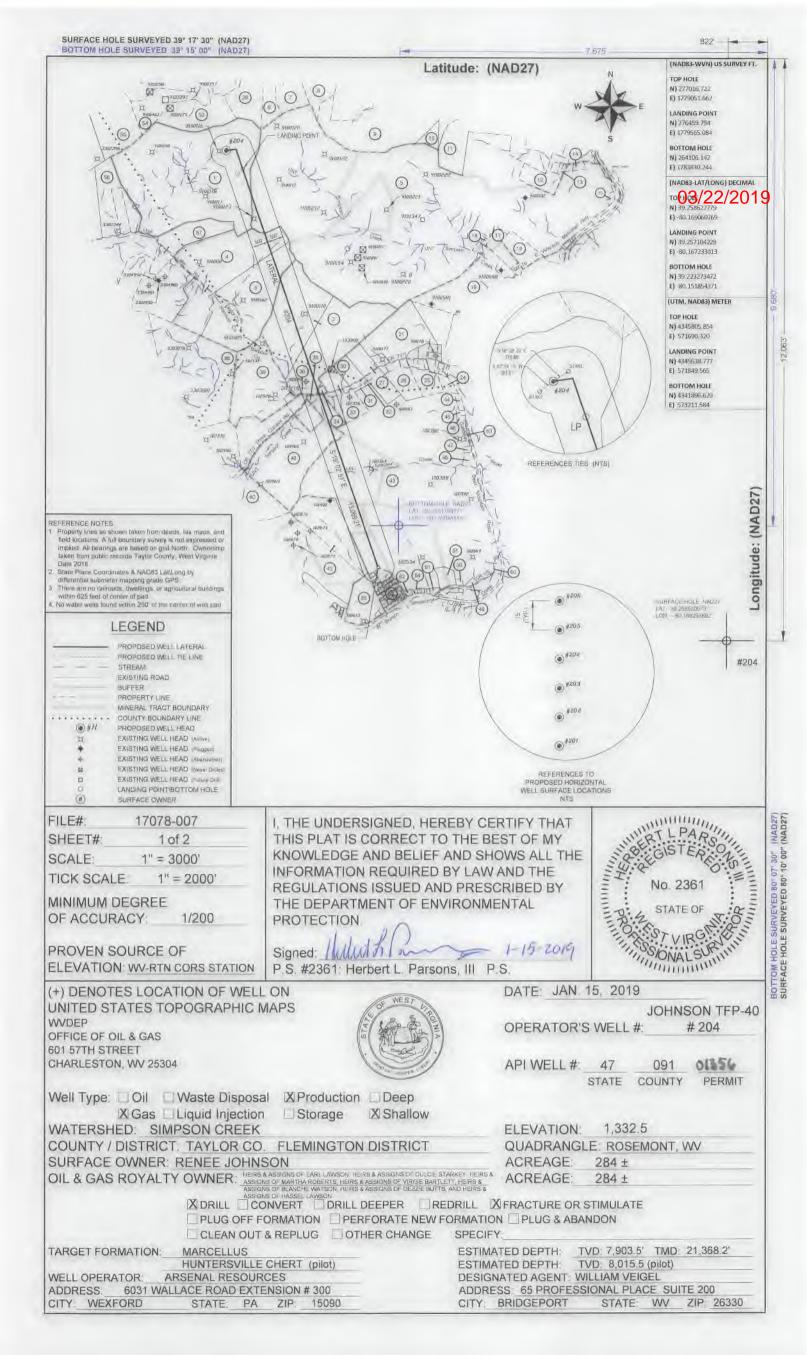
1241 Beards Run Rd

Bridgeport, WV 26330

Smoot L. Sheywood

RECEIVED Office of Oil and Gas

FEB - 1 2019



SURFACE PARCEL OWNER INFORMATION ADJOINER PARCEL OWNER INFORMATION ID# PARCEL NUMBER OWNER NAME ID# PARCEL NUMBER OWNER NAME 033-15-331-27 JOHNSON RENEE GRIPPIN JAMES S & ELAINE M 091-04-8-22 STEWART FARM LLC 091-04-8-23 GRAY RANDALL & RITA 033-15-351-13 EIP III WEST VIRGINIA LLC 8 091-04-8-35 MARKS BETTY P 033-15-351-12 EIP III WEST VIRGINIA LLC 091-04-8-29 COALQUEST DEVELOPMENT LLC CFS FARMS LIMITED LIABILITY CO 10 091-04-8-105 BLOSSER PATRICK B ETAL 001-09-9-6 34 STEWART FARM LLC 11 091-04-8-81 SIMMONS HUNTER SEESE ROBERT & BRENDA HWS 40 001-09-9-20 091-04-8-83 STEWART BARBARA JEAN 43 WOLFE LARRY, ROBERT WOLFE & STANLEY WOLFE ET UXES, 13 091-04-8-84 STEWART BARBARA JEAN 03/22/2019 SINSEL FRANCES E 14 091-04-8-90 1 15 091-04-9-37.1 FELTON MICHAEL B & TARA L BARTLETT HILDA & MILTON D 091-04-11-19 17 091-04-11-17 HOWARD CYNTHIA D 18 091-04-11-1.1 ANDERSON DANIEL & KAREN SIMPSON JOHN E 19 091-04-11-17.3 21 091-04-11-5.5 BECKWITH LUMBER COMPANY 091-04-11-7.5 24 NELSON HELEN L HURST MARY M. RAVIS JERRY LEE ESTATE 25 091-04-11-6 26 091-04-11-5.1 RAVIS JERRY L ESTATE 27 091-04-11-3 PROPST PAUL 091-04-8-21 CARLYLE G MILLARD 30 091-04-11-2 PROPST PAUL 31 001-09-9-8 CLEAVENGER LEONARD D 001-09-9-8.2 CLEAVENGER LEONARD D 33 001-09-9-7 CROUSE ORLAN, JR 091-04-11-4 35 SEESE BRENDA K &SMITH JOANN V & SURV STEWART FARM LLC 001-09-9-4 39 001-09-9-1 STEWART FARM LLC 42 001-09-11-1 POLINO ENTERPRISES INC. MADDIX MICHAEL RET UX 001-09-9-17.1 45 001-09-9-11 SALTIS STEVE IR & AMY HWS 001-09-9-12 SALTIS STEVE JR & AMY R HWS MURPHY GEORGE H JR & TAMELA J, HWS 001-09-9-13 001-09-9-22.2 WOLFE MICHAEL B 48 49 001-09-12-4.2 KNOTTS TERRY & DONETTA 001-09-12-14 MOSESSO JOHN A TRUST 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 gnd North. Ownership taken from public records Taylor County, West Virginia. 001-09-9-22.3 KRIZNER FRANK A & RENEE B HWS 51 52 CLEAVENGER PLAT 091-04-7-9 CEQUEL COMMUNICATIONS LLC 53 091-04-7-27 CEQUEL COMMUNICATIONS LLC 54 Date 2018.
State Plane Coordinates & NAD83 LanLong by differential submeter mapping grade GPS.
There are no railroads, dwellings, or agricultural buildings wattin 625 feet of center of pad.
No water wells found within 250° of the center of well pad. 55 091-04-7-8 SHIRLEY A FRUM, CLINTON A FRUM, ET UX RENEE JOHNSON 033-15-351-9 56 033-15-351-10 RENEEJOHNSON 60 RIGHT-OF-WAY COUNTY ROUTE 1/6 BEAR MOUNTAIN ROAD SWIGER ARGYLE C 001-09-12-4 61 LEGEND 001-09-12A-9 ELMOND MUREL L (L/E) 63 RIGHT-OF-WAY **GALLOWAY STATE ROUTE 76** 001-09-12A-91 DELANEY V GRACE & KRISTI J FREEMAN, WROS 64 PROPOSED WELL TIE LINE 001-09-12-27 WOLFE LARRY MICHAEL STREAM EXISTING ROAD 001-09-10.2 V NNA OLHTIMS BUFFER PROPERTY LINE MINERAL TRACT BOUNDARY COUNTY BOUNDARY LINE PROPOSED WELL HEAD ●#H EXISTING WELL HEAD (Active EXISTING WELL HEAD (Plugged) EXISTING WELL HEAD (Alternoon EXISTING WELL HEAD (Never Dr EXISTING WELL HEAD (FI LANDING POINT/BOTTOM HOLE SURFACE OWNER No. 2361

STATE OF SONAL SUMMER SONAL SUMER SONAL SUMER SONAL SUMMER SONAL SUMER SONAL SUMER SONAL SUMER SONAL SUMER SONAL SUMMER SONAL SUMER SON FILE#: 17078-007 I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY SHEET#: 2 of 2 KNOWLEDGE AND BELIEF AND SHOWS ALL THE 1" = 3000" SCALE: INFORMATION REQUIRED BY LAW AND THE 1" = 2000 TICK SCALE: REGULATIONS ISSUED AND PRESCRIBED BY MINIMUM DEGREE THE DEPARTMENT OF ENVIRONMENTAL 1/200 OF ACCURACY: PROTECTION. Signed: /www.fi 1-15-2019 PROVEN SOURCE OF **ELEVATION: WV-RTN CORS STATION** P.S. #2361: Herbert L. Parsons, III P.S. DATE: JAN. 15, 2019 (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS JOHNSON TFP-40 WVDEP OPERATOR'S WELL# # 204 OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25304 091 01354 API WELL #: 47 STATE COUNTY PERMIT Well Type: ☐ Oil ☐ Waste Disposal X Production ☐ Deep X Gas Liquid Injection X Shallow Storage 1,332.5 WATERSHED: SIMPSON CREEK ELEVATION: QUADRANGLE: ROSEMONT, WV COUNTY / DISTRICT: TAYLOR CO. FLEMINGTON DISTRICT ACREAGE: SURFACE OWNER: RENEE JOHNSON 284 ± ACREAGE: OIL & GAS ROYALTY OWNER: 284 ± ASSIGNS OF MARTHA ROBERTS, HEIRS & ASSIGNS OF VIRGIE BARTLETT, HEIRS & ASSIGNS OF BLANCHE WATSON, HEIRS & ASSIGNS OF DEZZIE BUTTS, AND HEIRS & X DRILL CONVERT DRILL DEEPER REDRILL X FRACTURE OR STIMULATE PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE SPECIFY ESTIMATED DEPTH: TVD: 7,903.5' TMD: 21,368.2' ESTIMATED DEPTH: TVD: 8,015.5 (pilot) DESIGNATED AGENT: WILLIAM VEIGEL TARGET FORMATION: MARCELLUS HUNTERSVILLE CHERT (pilot) WELL OPERATOR: ARSENAL RESOURCES

6031 WALLACE ROAD EXTENSION # 300

STATE

ADDRESS:

WEXFORD

65 PROFESSIONAL PLACE SUITE 200

STATE: WV

ZIP: 26330

ADDRESS:

BRIDGEPORT

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

Environmental Protection 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

Mus

Page 1 of

Letter Designation/Number	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
Designation on Plat			,,		
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), Leoma Chandler (Widow), and Ellenor Whitman & Paul Whitman (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	
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 Company		95/112	
m	Eastern American Energy Company	Energy Corporation of America		438/429	
- 2	Energy Corporation of America	Greylock Production, LLC		178/401	
9n 7 9	Greylock Production, LLC	Mar Key, LLC		179/96	
PECEIVED Office of Oil and Gas FEB - 1 2019 W Dep 28 ment of on the protection (00008 Protection	H. Dotson Cather and Diana Cather	NRM Petroleum	12.50%	1076/518	226

	Actacimie	ent to WW-6A1, Johnson TFP 40 204		· · · · · · · · · · · · · · · · · · ·	
	NRM Petroleum	Natural Resources Management		Unrecorded, Secretary	
		Corporation		of State	
	Natural Resources Management	Edisto Resources Corporation		Unrecorded, Secretary	
	Corporation	Edisto Resources Corporation		of State	
	NRM Operating Company, L.P., a				
	Delaware limited partnership,				
	Edisto Resources Corporation, a	Eastern American Energy			
	Delaware corporation, NRM 1984-B	Corporation		1216/558	
	Income Ltd., a Texas limited	Corporation			
	partnership, and NRM				
	1984-D Income Ltd.				
	Eastern American Energy	Energy Corporation of America		59/879	
	Corporation	Energy Corporation of America			
	Energy Corporation of America	Mar Key LLC		1596/1233	
3, 4	Laura Goff Davis, Harold Dotson				
(00008217)	Cather and Diane Goff Cather, his	NRM Petroleum Corporation	12.50%	1076/550	225
(00008217)	wife				
	NRM Petroleum	Natural Resources Management		Unrecorded, Secretary	
		Corporation		of State	,,,
	Natural Resources Management	Edisto Resources Corporation		Unrecorded, Secretary	
	Corporation			of State	
	NRM Operating Company, L.P., a				
	Delaware limited partnership,				
	Edisto Resources Corporation, a	Eastern American Energy			
	Delaware corporation, NRM 1984-B	Corporation		1216/558	
	Income Ltd., a Texas limited	corporation			
	partnership, and NRM		•		
	1984-D Income Ltd.				
	Eastern American Energy	Energy Corporation of America		59/879	
	Corporation				
	Energy Corporation of America	Mar Key LLC		1596/1233	
5	A. Brooks Fleming and Winnie	Union Drilling, Inc. and Allerton			
(00006028)	Fleming, his wife and Georgia L.	Miller	12.50%	33/79	890
(0006028) <u>m</u>	Fleming, Widow	Willei]	
Office of Oil FEB - 1 WV Departmental F	Allerton Miller	Union Drilling		5/191	

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	nt to ww-bA1, Johnson 1FP 40 204			
Union Drilling, Inc,	Equitable Resources Exploration, Inc.		9/427	
Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		10/79	:
Equitable Resources Energy Company	Enervest East Limited Partnership		22/181	
Enervest East Limited Partnership	The Houston Exploration Company		27/99	
The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		27/426	
Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		31/427	
Stewart Farm, LLC	Mar Key, LLC	15.00%	179/25	1.4
CoalQuest Development, LLC	Mar Key, LLC	15.00%	181/240	26
John A. Mosesso and Mary K. Mosesso, his wife	Union Drilling, Inc.	12.50%	79/55	98
Union Drilling, Inc.	Equitable Resources Exploration, Inc.		325/219	
Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
Equitable Resources Energy Company	Fuel Resources Production and Development Company		116/81	
Fuel Resources Production and Development Company	The Houston Exploration Company		383/187 (also 136/162)	
The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.		404/381	
Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC		16/637 (also 447/129)	·
Virginia C. McDonald	Union Drilling and Allerton Miller	12.50%	47/443	114
Allerton Miller	Union Drilling, Inc.		98/11	
Union Drilling, Inc.	Equitable Resources Exploration, Inc.		325/219	
Equitable Resources Exploration, Inc.	Equitable Resources Energy Company		328/171	
	Equitable Resources Exploration, Inc. Equitable Resources Energy Company Enervest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Stewart Farm, LLC CoalQuest Development, LLC John A. Mosesso and Mary K. Mosesso, his wife Union Drilling, Inc. Equitable Resources Exploration, Inc. Equitable Resources Energy Company Fuel Resources Production and Development Company The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Virginia C. McDonald Allerton Miller Union Drilling, Inc. Equitable Resources Exploration,	Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Energy Company Enervest East Limited Partnership The Houston Exploration Company The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Stewart Farm, LLC CoalQuest Development, LLC John A. Mosesso and Mary K. Mosesso, his wife Union Drilling, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Energy Company Fuel Resources Production and Development Company The Houston Exploration Company The Houston Exploration Company The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Loin Drilling and Allerton Miller Union Drilling, Inc. Equitable Resources Exploration, Inc.	Union Drilling, Inc, Equitable Resources Exploration, Inc. Equitable Resources Energy Company Enervest East Limited Partnership Enervest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Stewart Farm, LLC Stewart Farm, LLC Mar Key, LLC John A. Mosesso and Mary K. Mosesso, his wife Union Drilling, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Development Company The Houston Exploration Company The Houston Exploration Company Fuel Resources Production and Development Company The Houston Exploration Company The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Equitable Resources Exploration, Inc.	Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Energy Company Enervest East Limited Partnership The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Petroleum, Inc. Stewart Farm, LLC Mar Key, LLC John A. Mosesso and Mary K. Mosesso, his wife Union Drilling, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Exploration, Inc. Equitable Resources Energy Company Fuel Resources Production and Development Company The Houston Exploration Company The Houston Exploration Company The Houston Exploration Company Seneca-Upshur Petroleum, Inc. Seneca-Upshur Pet

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	Equitable Resources Energy Fuel Resources Production and 116/81			
	Company	Development Company	110/81	
	Fuel Resources Production and Development Company	The Houston Exploration Company	383/187	
1	The Houston Exploration Company	Seneca-Upshur Petroleum, Inc.	404/381 (139/48)	
	Seneca-Upshur Petroleum, Inc.	Seneca-Upshur Petroleum, LLC	16/637	

West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

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MAR KEY LLC

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

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	w	Excess Acres		
At Will Term	Α	Member Managed	MBR	
At Will Term Years		Par Value		Office of Oil and

Authorized Shares	

Addresses			
Туре	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		
ype	Address		

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

	Office of Oil and Gas
Annual Reports	FEB - 1 2019
Date filed	Environmental Protection
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Date filed	
5/8/2012	
6/28/2013	
4/28/2014	
6/30/2015	
6/20/2016	
3/30/2017	

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 Holdings"), 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

Name: Joel E. Symonds

Title: Vice President - Land

RIVER RIDGE ENERGY, LLC

Name: Joel E. Symonds

Title: Vice President - Land

RIVER RIDGE HOLDINGS, LLC

Name: Joel E. Symonds

Title: Vice President - Land

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SENECA-UPSHUR PETROLEUM, LLC

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

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	w	Excess Acres	0	
At Will Term	Α	Member Managed	MBR	
At Will Term Years		Par Value		
Authorized Shares				

Addresses		
Туре	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	
Туре	Address	

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

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

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	
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Date filed		-
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1999		

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

Wednesday, July 18, 2018 — 1:13 PM

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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,

Coty Brandon Title Manager

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03/22/2019

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

	ce Certification: 1-28-19	API No	0, 47- 091 -	
		Operat	tor's Well No. John	son TFP40 204
		Well P	ad Name: Johnson	TFP40
Notice has l				
		22-6A, the Operator has provided th	e required parties v	with the Notice Forms listed
	tract of land as follows: West Virginia	Uartin	z: 571690.320	
State: County:	Taylor	UTM NAD 83 Easting		
District:	Flemington	Public Road Access:	CR 17, Oral Lake	Road
Quadrangle:	Rosemont	Generally used farm nam		
Watershed:	Simpson Creek			
of giving the requirements Virginia Cod	surface owner notice of entry to su of subsection (b), section sixteen o	ection sixteen of this article; (ii) that the urvey pursuant to subsection (a), sect of this article were waived in writing ender proof of and certify to the secre at.	ion ten of this arti	cle six-a; or (iii) the notic wner; and Pursuant to Wes
	West Virginia Code § 22-6A, the Op	perator has attached proof to this Noti	ca Cartification	
that the Ope	rator has properly served the require		ec certification	OOG OFFICE USE ONLY
*PLEASE CH	rator has properly served the require		CAUSE NO	
that the Ope	Trator has properly served the require ECK ALL THAT APPLY FICE OF SEISMIC ACTIVITY or	d parties with the following: NOTICE NOT REQUIRED BE	CCAUSE NO DUCTED	ONLY □ RECEIVED/
*PLEASE CHI 1. NO 2. NO	Trator has properly served the require ECK ALL THAT APPLY FICE OF SEISMIC ACTIVITY or	Description of the pollowing: NOTICE NOT REQUIRED BE SEISMIC ACTIVITY WAS CONDE	CAUSE NO DUCTED S CONDUCTED CAUSE	ONLY RECEIVED/ NOT REQUIRED
*PLEASE CHI 1. NO 2. NO	TICE OF ENTRY FOR PLAT SURV	d parties with the following: ■ NOTICE NOT REQUIRED BE SEISMIC ACTIVITY WAS COND VEY or □ NO PLAT SURVEY WA ■ NOTICE NOT REQUIRED BE NOTICE OF ENTRY FOR PLAT S	CAUSE NO DUCTED S CONDUCTED CAUSE SURVEY	ONLY RECEIVED/ NOT REQUIRED RECEIVED/
*PLEASE CHI 1. NO 2. NO 3. NO	TICE OF ENTRY FOR PLAT SURV	d parties with the following: ■ NOTICE NOT REQUIRED BE SEISMIC ACTIVITY WAS COND /EY or □ NO PLAT SURVEY WA ■ NOTICE NOT REQUIRED BE NOTICE OF ENTRY FOR PLAT S WAS CONDUCTED or □ WRITTEN WAIVER BY SUR	CAUSE NO DUCTED S CONDUCTED CAUSE SURVEY	ONLY RECEIVED/ NOT REQUIRED RECEIVED/
*PLEASE CHI 1. NO 2. NO 3. NO	Trator has properly served the require ECK ALL THAT APPLY FICE OF SEISMIC ACTIVITY or FICE OF ENTRY FOR PLAT SURV	d parties with the following: ■ NOTICE NOT REQUIRED BE SEISMIC ACTIVITY WAS COND /EY or □ NO PLAT SURVEY WA ■ NOTICE NOT REQUIRED BE NOTICE OF ENTRY FOR PLAT S WAS CONDUCTED or □ WRITTEN WAIVER BY SUR	CAUSE NO DUCTED S CONDUCTED CAUSE SURVEY	ONLY RECEIVED/ NOT REQUIRED RECEIVED/ NOT REQUIRED

Required Attachments:

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

03/22/2019

Certification of Notice is hereby given:

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

Well Operator: Arsenal Resources
By: William Veigel
William Veigel
Telephone: 724-940-1218

Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090

Facsimile: 304-848-9134

Email: kdavis@arsenalresources.com

NOTARY SEAL

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

Subscribed and sworn before me this 28th day of January 2019

elly a. Davis Notary Pub

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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4709101356
API NO. 47-091 - 03/22/2019
OPERATOR WELL NO. Johnson TEP40 204
Well Pad Name: Johnson TEP40

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

Notice Time Require	ement: notice shall be prov	ided no later than the filing date of permit application.
Date of Notice: <u>-28</u> Notice of:	Date Permit Applica	tion Filed: 1-31-19
PERMIT FOR A	ANY CERTIE	ICATE OF APPROVAL FOR THE
WELL WORK		RUCTION OF AN IMPOUNDMENT OR PIT
Delivery method nu	rsuant to West Virginia C	odo \$ 22.64 10(b)
Denvery method put	isdant to west virginia C	ode § 22-0A-10(b)
☐ PERSONAL	☐ REGISTERED	✓ METHOD OF DELIVERY THAT REQUIRES A
SERVICE	MAIL	RECEIPT OR SIGNATURE CONFIRMATION
the surface of the tract oil and gas leasehold be described in the erosion operator or lessee, in the more coal seams; (4) I well work, if the surfact impoundment or pit as have a water well, spriprovide water for consproposed well work as subsection (b) of this street of the sheriff reprovision of the sheriff reprovision of this article Code R. § 35-8-5.7.a swater purveyor or surface.	on which the well is or is preeing developed by the proportion and sediment control plan he event the tract of land on the owners of record of the sectract is to be used for the preest described in section nine of any or water supply source lownption by humans or dome tivity is to take place. (c)(1) section hold interests in the lacequired to be maintained pure to the contrary, notice to a requires, in part, that the operace owner subject to notice a	this article, and the well plat to each of the following persons: (1) The owners of record of oposed to be located; (2) The owners of record of the surface tract or tracts overlying the sed well work, if the surface tract is to be used for roads or other land disturbance as submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, which the well proposed to be drilled is located [sic] is known to be underlain by one or urface tract or tracts overlying the oil and gas leasehold being developed by the proposed blacement, construction, enlargement, alteration, repair, removal or abandonment of any this article; (5) Any surface owner or water purveyor who is known to the applicant to cated within one thousand five hundred feet of the center of the well pad which is used to estic animals; and (6) The operator of any natural gas storage field within which the lift more than three tenants in common or other co-owners of interests described in unds, the applicant may serve the documents required upon the person described in the suant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any then holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. rator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any not water testing as provided in section 15 of this rule.
		&S Plan Notice ☑ Well Plat Notice is hereby provided to:
SURFACE OWNE	R(s)	COAL OWNER OR LESSEE
Name: Renee Johnson Address: 511 Beards Rui	Pond	Name: See Attached Address:
Bridgeport WV 26330	Titoau	Addicss,
Name:		COAL OPERATOR
		Address:
	R(s) (Road and/or Other Di	sturbance)
Address:		
Address:		Address:
. 1441035		OPERATOR OF ANY NATURAL GAS STORAGE FIELD
SURFACE OWNE	R(s) (Impoundments or Pits	
Name: Renee Johnson		Address:
	n Road	RECEIVED.
Bridgeport WV 26330		Trease attach additional forms it necessary
		EED × 2040

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OPERATOR WELL NO. Johnson Well Pad Name: Johnson TFP40

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 of Oil and Gas Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gey/qiland-gas/pages/default.aspx.

WV Department of Well Location Restrictions

Environmental Protection

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing rotection 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

03/22/2019

OPERATOR WELL NO. Johnson TFP40 204

Well Pad Name: Johnson TFP40

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:

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Office of Oil and Gas**

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

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WV Department of Environmental Protection

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

WW-6A (8-13) API NO. 47- 091 - 03/22/2019
OPERATOR WELL NO. Johnson TFP40 204
Well Pad Name: Johnson TFP40

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.

Office of Oil and Gas

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WW-6A (8-13)

API NO. 47-091 - 03/22/2019
OPERATOR WELL NO. Johnson TFP40 204
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 deepprivacyofficer@wv.gov.

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

Subscribed and sworn before me this 28th day of January 2019

Notary Public

My Commission Expires September 18, 2023

Office of Oil and Gas
FEB - 1 2019

WV Department of Environmental Protection

Arsenal Resources Johnson TFP 40 204 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 RECEIVED
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Arsenal Resources Johnson TFP 40 204 WW-6A Notice of Application, Attachment (Page 2 of 2)

Water Purveyors (continued):

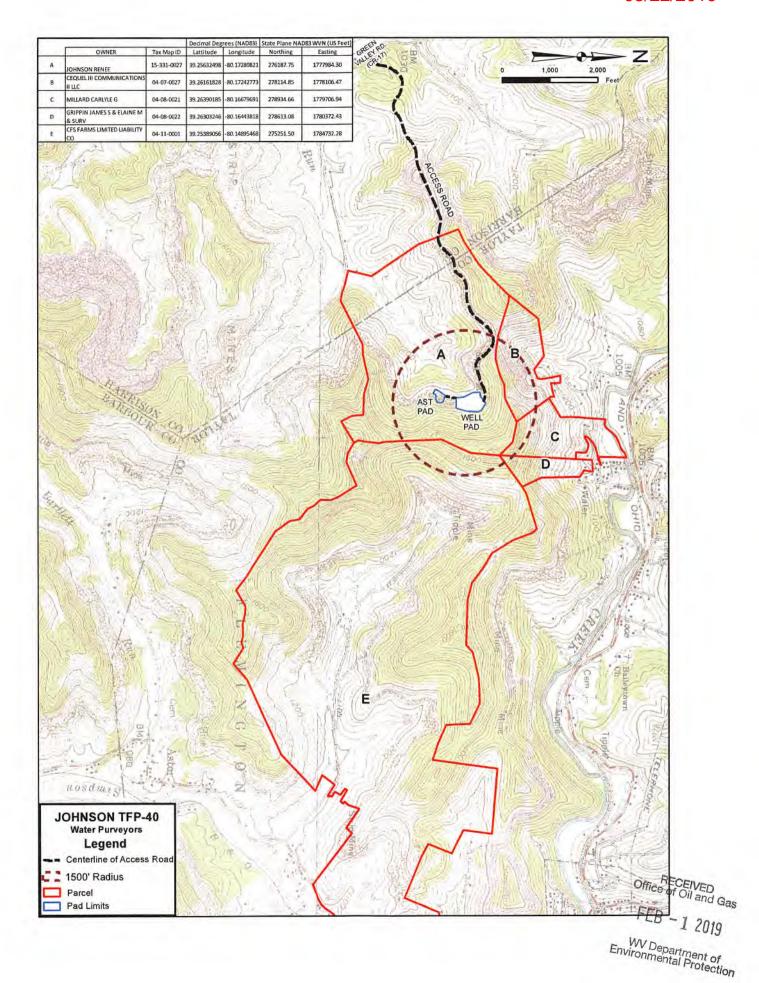
Carlyle G Millard 413 High St Bridgeport, WV 26330

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
Α	JOHNSON RENEE	15-331-0027	511 Beards Run Road, Bridgeport, WV 26330
В	CEQUEL III COMMUNICATIONS II LLC	04-07-0027	520 Maryville Centre DR Suite, Saint Louis, MO 63141
С	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



WW-6A3 (1/12)

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

entry Date of Notice	e 11/8/2017 Date of Pl	lanned Entry: 11/15/2017	ys out no more man	FORT 1-FIV	E (45) days prior to
	od pursuant to West Virginia				
☐ PERSON		■ METHOD OF DEL	IVEDV THAT DE	OLIDEC A	
SERVICE		RECEIPT OR SIGN		~	
on to the surface but no more the beneath such to owner of mine and Sediment (Secretary, while enable the surface	est Virginia Code § 22-6A-10(a) be tract to conduct any plat surve an forty-five days prior to such e fact that has filed a declaration prals underlying such tract in the Control Manual and the statutes of statement shall include contact ace owner to obtain copies from	eys required pursuant to this are entry to: (1) The surface owner oursuant to section thirty-six, an county tax records. The notice and rules related to oil and gas ct information, including the ac	ticle. Such notice slands of such tract; (2) to ticle six, chapter two shall include a state exploration and pro-	hall be provide o any owner or venty-two of the tement that copoduction may be	d at least seven days lessee of coal seams is code; and (3) any bies of the state Erosion be obtained from the
	by provided to:				
■ SURFAC			OWNER OR LES		
Name: Renee Jo	hnson	Name: See	Attached		
Address: 511 Be Bridgeport, WV 2633	Ch.				
Address:		■ MINE	ERAL OWNER(s)		
		Name: See	Attached		
Name:		Address:			
Address:		*please attack	n additional forms if nec	essary	
	eby given: est Virginia Code § 22-6A-10(a) n the tract of land as follows: West Virginia Taylor Flemington	Approx. Latiti Public Road A Watershed:	ude & Longitude: Access:		59049
Quadrangle:	Rosemont	Generally use	d farm name:	Johnson	
may be obtaine Charleston, W	tate Erosion and Sediment Conted from the Secretary, at the WV 25304 (304-926-0450). Copithe Secretary by visiting www.d	 Department of Environmenta ies of such documents or additi 	l Protection headqu ional information re	arters, located	at 601 57 th Street, SE, ntal drilling may be
Notice is her	eby given by:				Office of Oil and Gas
Well Operator		Address:	6031 Wallace Road Exte	nsion, Suite 300	
Telephone:	724-940-1218	7777	Wexford, PA 15090	TOTAL SOUTH SEC.	FEB - 1 2019
Email:	kdavis@arsenalresources.com	Facsimile:	304-848-9134		WV Department of Environmental Protection

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 40 204 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 Office of Oil and Gas

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WV Department of Environmental Protection

Arsenal Resources Johnson TFP 40 204

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

Office of Oil and Gas
FEB - 1 2019

WV Department of Environmental Protection

WW-6A5 (1/12) 47091013 56
Operator Well No. 307878 7549 7750 019

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

Date of Notic	e: 1-28-19 Date Po	ermit A	pplication Filed:	-31-19	
Delivery met	hod pursuant to West Virginia	Code §	22-6A-16(c)		
CERTII	FIED MAIL		HAND		
	N RECEIPT REQUESTED	-	DELIVERY		
Pursuant to V return receipt the planned of required to be drilling of a l damages to th (d) The notice of notice.	V. Va. Code § 22-6A-16(c), no la requested or hand delivery, give peration. The notice required be provided by subsection (b), section provided by subsection (c), section records a propose a surface affected by oil and gas as required by this section shall be be provided to the SURFACE is listed in the records of the sherif obnison	the surfi y this s on ten co sed surfi operation e given	ace owner whose land ubsection shall include of this article to a surface use and compens us to the extent the dato the surface owner a	will be used for le: (1) A copy use owner whos ation agreemen mages are comp t the address lis	cation, an operator shall, by certified mail or the drilling of a horizontal well notice of of this code section; (2) The information are land will be used in conjunction with the at containing an offer of compensation for pensable under article six-b of this chapter, sted in the records of the sheriff at the time
operation on State: County: District:	Vest Virginia Code § 22-6A-16(c) the surface owner's land for the p West Virginia Taylor Flemington	, notice ourpose	of drilling a horizonta UTM NAD 8 Public Road	well on the tra Easting: Northing:	well operator has developed a planned act of land as follows: 571690,320 4345805.854 CR 17, Oral Lake Road Johnson
Quadrangle: Watershed:	Rosemont Simpson Creek	_	Generally use	u farm name.	Johnson
Pursuant to W to be provide horizontal we surface affect information r	ed by W. Va. Code § 22-6A-100 ill; and (3) A proposed surface us ed by oil and gas operations to the elated to horizontal drilling may located at 601 57th Street, SE,	b) to a e and co he extended be obtain	surface owner whose ompensation agreement the damages are co ained from the Secret	land will be un the containing are compensable und ary, at the WV	code section; (2) The information required used in conjunction with the drilling of a noffer of compensation for damages to the der article six-b of this chapter. Additional Department of Environmental Protection or by visiting

needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. On needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. On 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.

| Office of Oil and Gas | FEB - 1 2019



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

October 24, 2018

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

> 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 40 204 Well Site

Dear Mr. Martin,

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

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

Very Truly Yours,

Gary K. Clayton

Regional Maintenance Engineer

Central Office Oil & Gas Coordinator

Kelly Davis Cc:

ARSENAL Resources

CH, OM, D-4

File

Office of Oil and Gas

FEB - 1 2019

	Well Name # Johnson TFP 40 204							
	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	Al-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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EROSION & SEDIMENT CONTROL PLAN JOHNSON TFP 40 WELL SITE

HARRISON AND TAYLOR COUNTY, WEST VIRGINIA FOR



	COD SUMA	MARY	
PARCEL	ACERAGE	PARCEL	ACTRAG
COUNTRY ROUTE 17 [GREEN VALLEY ROAD]	0.02	WARDER GRAN LEE 17-15-311-0025-0008-0000	2.65
SNIDER JOHN TROY & CYNTHIA R 17-15-131-0024-0000-0000	5,48	WARDER DRAN LEE 17-15-331-0026-0000-0000	1.73
HENDERSON CLEET II 17-15-331-0019-0000-0000	2.36	10 HN SON RENEE 17-15-353-0009-0000-0000	1.17
HENDERSON CLES TH 17-15-331-0021-0000-0000	0.22	17-15-331-0027-0000-0000	17.70
	TOTAL		31.56

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

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

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

SPRING.

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

THE CENTER OF THE PAD IS AT LEAST 825 FEET FROM AGRICULTURA BUILDINGS LARGER THAN 2500 SQUARE FEET.

ACCESS ROAD	21.27
WELLPAD	6.89
TANK PAD	4.58
STOCKPILE	4.50
TOTAL	31.56



750' 0 1000' 2000 SCALE

PROJECT NO. 17078-007

JANUARY 2019

DIEFFENBAUCH & HRITZ, LLC

Superadio 1-31-19



	INDEX	
DRAWING NO.	TITLE	
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6 - 8	SOILS PLAN	
9-11	OVERALL SITE PLAN	
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27	AST / MANIFOLD PAD CROSS-SECTIONS	
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28 - 30	SITE REVEGITATION PLAN	
21-23	SITE RESTORATION PLAN	
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Office of Oil and Gas

FEB - 1 2019

WW Department of Environmental Protection

HARRISON AND TAYLOR COUNTY, WEST VIRGINIA FOR

1	VI	R	S	E	N	14	A	L	op.
R	E	8	.0.	A.J.	B	C	E	9	

	LOD SUMS	AART .	
PARCEL	ACERAGE	PARCEL	ACERAGE
COUNTRY ROUTE 17 (GREEN VALLEY ROAD)	9.02	WARDER GRAN (SE 17/15-381-0023-0000-0000	2.85
SHIDER JOHN TROY & CYNTHIA H 17-15-331-0024-0000-0000	946	WARDER DRAN (#E 17-15-191-0026-0000-0000	1.71
HENDIRSON CLEET III 17-15-331-0019-0000-0000	7,36	/OHNSON RENE4 17:15:351.0009-0000-0000	3.17
HENDERSON CLEET II 17-15-131-0021-0000-0000	0.27	17-15-111-0027-0000-0000	(2.20
	TOTAL		33.56

THE PAD AND LOD (INCLUDING EAS CONTROL FEATURES) (S WITHIN 100 FEET

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

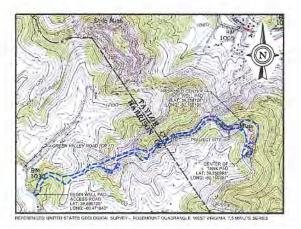
THE PAD AND LOD (INCLUDING EAS CONTROL FEATURES) IS NOT WITHIN 1000 FEET TO A GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY.

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

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

THE GENTER OF THE PAD IS AT LEAST 625 FEET FROM AGRICULTURA BUILDINGS LARGER THAN 2500 SQUARE FEET.

ACCESS ROAD	21.27
WELL PAD	6.20
TANKPAD	1.59
STUCKPRE	4.50
TOTAL	33.56



750' 0 1000' 2000' SCALE

PROJECT NO. 17078-007

JANUARY 2019

DIEFFENBAUCH & HRITZ, LLC





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