

#### 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 Jim Justice , Governor Austin Caperton , Cabinet Secretary www.dep.wv.gov

Wednesday, November 15, 2017 WELL WORK PERMIT Horizontal 6A / New Drill

ARSENAL RESOURCES LLC 6031 WALLACE ROAD EXTENSION SUITE 300

WEXFORD, PA 15090

Re: Permit approval for PRITT SOUTH 211

47-033-05903-00-00

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

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

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

James A. Martin

Chief

Operator's Well Number: PRITT SOUTH 211 Farm Name: IRA & LAURA PRITT

U.S. WELL NUMBER: 47-033-05903-00-00

Horizontal 6A / New Drill

Date Issued: 11/15/2017

Promoting a healthy environment.

API Number: 33-05903

### 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**

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

API Number: <u>33-05903</u>

## **PERMIT CONDITIONS**

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

WW-6B (04/15)

API NO. 47-033 -	
OPERATOR WELL	NO. Pritt South 211
Well Pad Name:	Pritt South

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

1) Well Operator: Arsenal Re	sources	494519412	Harrison	Simpson	Brownton
		Operator ID	County	District	Quadrangle
2) Operator's Well Number: Pri	itt South 211	Well Pa	d Name: Pritt	South	
3) Farm Name/Surface Owner:	Ira and Laura Pr	itt Public Ros	ad Access: Co	unty Route	17
4) Elevation, current ground:	1,352.00' Ele	evation, proposed	post-construct	ion: 1,354.	80'
5) Well Type (a) Gas Other	X Oil _	Und	erground Store	ige	
The second second	llow X	Deep	-		
6) Existing Pad: Yes or No	No	<del></del>			
7) Proposed Target Formation(s) Marcellus Shale, 7799.0ft (TVD Heel)					al) - 7899.0ft (TVD Toe)
8) Proposed Total Vertical Depti	h: 7,883 ft				
9) Formation at Total Vertical D	and the second second second	shale			
10) Proposed Total Measured De	epth: 15,104 ft				
11) Proposed Horizontal Leg Les	ngth: 6,595.20	ft			
12) Approximate Fresh Water St	rata Depths:	400 ft			
13) Method to Determine Fresh 1 14) Approximate Saltwater Dept		setting wells reported water d	epths (033-00660, 033-0	00950, 033-00960, 03	3-00976, 033-00980, 033-03262)
15) Approximate Coal Seam Dep	oths: Bakerstown 483', Brush	r Creek 582', Upper Freeport 643'	Lower Freeport 703', Uppe	r Kitlanning 778', Middle	Kittanning 838', Lower Kittanning 851'
16) Approximate Depth to Possil	ole Void (coal min	ne, karst, other):	None		
17) Does Proposed well location directly overlying or adjacent to		Yes	No	_ X	
(a) If Yes, provide Mine Info:	Name:				
	Depth:				
	Seam:				
	Owner:				

047-033-05903 API NO. 47- 033 -

OPERATOR WELL NO. Pritt South 211

Well Pad Name: Pritt South

#### 18)

(04/15)

#### CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	New	H-40	94#	80'	80'	CTS
Fresh Water	13.375"	New	J-55	54.5#	450'	450'	CTS
Coal							
Intermediate	9.625"	New	J-55	40#	1500'	1500'	CTS
Production	5.5"	New	P-110	20#	15,104'	15,104'	TOC @ 1,350'MD
Tubing							
Liners							

SDW 8/24/2017

ТҮРЕ	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	36"			0	Type 1, 3% Calcium	1.20
Fresh Water	13.375"	17.5"	0.38"	2730	900	Class A, 3% CaCl2	1.20
Coal					0		
Intermediate	9.625"	12.25"	0.395"	3950psi	1500	Class A, 2% CaCl2	1.29
Production	5.5"	8.5-8.75	0.361"	12,640psi	9500	Type 1	1.64/1.32
Tubing					5000		
Liners			1		N/A		

#### **PACKERS**

Kind:		- 11111
Sizes:		
Depths Set:		

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WW-6B (10/14)

API NO. 47- 033		
<b>OPERATOR WELL</b>	NO.	Pritt South 211
Well Pad Name:	Pritt S	outh

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 24" casing and grout 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- ½" intermediate hole to the programmed depth, run 9-5/8" casing and cement to surface. The rig with then continue to drill a 8- ¾" hole to a designed Pilot Hole Depth, log the well, and then set a cement kick-off plug from Pilot hole TD to designed kick-off point. Once the plug has cured, the plan is to then start drilling the curve and lateral section to the programmed total measured depth, run 5 ½" 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.

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- 21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 29.78 Department of
- 22) Area to be disturbed for well pad only, less access road (acres): 9.15 Environmental Protection
- 23) Describe centralizer placement for each casing string:

24"- 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  $\frac{1}{2}$ " – one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 1,400'; there will be no centralizers from 1.400' to surface.

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

24" will be grouted from 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 Type 1 cement, & no greater than 3% calcium chloride. The 5-1/2" production string will be cemented back to 1,150' (+/- 200' above the casing shoe for the 9-5/8") with Type 1 or Class A cement retarder (to extend pumpability) cellophane flaked for fluid loss, Bentonite gel as an extender (increased pumpability and fluid loss), a defoaming agent to decrease cement foaming during mixing to insure the cement is of proper weight to placement and possibly a gypsum gas blocking additive to aid in blocking/gas migration (in combination with other additive mentioned here, helps cement achieve a "right-angle" set) during the plastic phase of the cement set-up.

25) Proposed borehole conditioning procedures:

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

\*Note: Attach additional sheets as needed.



#### Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near Arsenal Resources hydraulic fracturing in Harrison County, WV prior to hydraulic fracturing at the following Arsenal Resources wells on the Pritt South 211 Pad.

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 7,900'TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formation (approximately 4,600' 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 or other anomalies are identified.

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#### 2. Reporting

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

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Click or tap to enter a date.

Alliance Petroleum Corporation Address State

RE: Click or tap here to enter text.

Dear Sir/Madam,

Arsenal Resources has developed a Marcellus pad Pritt South 201 Pad, located in Harrison 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 7,900' 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 Pritt South 201 Pad during the Quarter of 2017. 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.
- 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 304-926-0499.

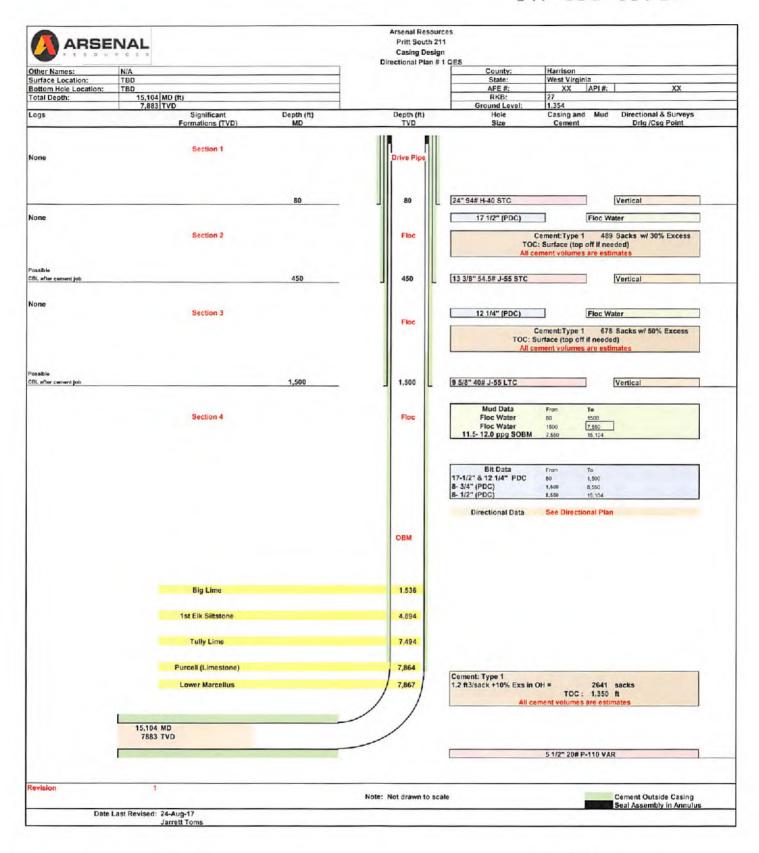
Sincerely,

Kelly Davis Permitting Specialist

		Area of Reviev	Area of Review ReportPritt South Pad,211 Lateral,Harrison County, WV	h Pad,211	Lateral, Harris	sonCou	nty, WV	
II Name	API Number	Operator Name / Address	Well Type	Latitude	Longitude	Total Depth	Perforated Formation(s)	Producing Z
Pritt 1	033-00500-P	Petroleum Development Corp.	Plugged/06/06/2002	39.244727	-80.190531	2450	Big Injun, Fifth	
n Smith 1	033-00494	Alliance Petroleum Corporation	Existing	39.24777	-80.194053	4515	Benson	

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API Number 47 -	033	1
Operator's	Well No	Pritt South 211

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

WV Danartment of

Operator Name Arsenal Resources	OP Code 494519412
Watershed (HUC 10) Beards Run & Pigtail Run	Quadrangle Brownton
Do you anticipate using more than 5,000 bbls of water to co Will a pit be used? Yes No	
If so, please describe anticipated pit waste: Prod	
Will a synthetic liner be used in the pit? Yes	
Proposed Disposal Method For Treated Pit Wastes	5DW 8/24/2017
Land Application Underground Injection ( UIC Per	8/24/2017
Reuse (at API Number Various	)
Off Site Disposal (Supply form V	WW-9 for disposal location)
Will closed loop system he used? If so describe: Yes The close	ed loop system will contain all of the drilling medium and drill cuttings on location to than be taken to a landfill.
	ontal)? Air, freshwater, oil based, etc
-If oil based, what type? Synthetic, petroleum, etc.	
	olymer sticks, Soda Ash, Sodium Bicarbonate, Defoamer, Base Oil, Emulsifiers, Lime, & Barite
Drill cuttings disposal method? Leave in pit, landfill, remove	ved offsite, etc. Landfill
-If left in pit and plan to solidify what medium will	be used? (cement, lime, sawdust) N/A
-Landfill or offsite name/permit number? Advanced	d Disposal Services, Chestnut Valley Landfill
	d Gas of any load of drill cuttings or associated waste rejected at any ded within 24 hours of rejection and the permittee shall also disclose
on August 1, 2005, by the Office of Oil and Gas of the West provisions of the permit are enforceable by law. Violation law or regulation can lead to enforcement action.  I certify under penalty of law that I have personapplication form and all attachments thereto and that, but	nd conditions of the GENERAL WATER POLLUTION PERMIT issued. Virginia Department of Environmental Protection. I understand that the s of any term or condition of the general permit and/or other applicable ally examined and am familiar with the information submitted on this assed on my inquiry of those individuals immediately responsible for its true, accurate, and complete. I am aware that there are significant stillity of time or imprisonment.
Company Official Signature WWS	
Company Official (Typed Name) William Veigel	
Company Official Title Designated Agent	
Subscribed and sworn before me this 25 TH day of	AUGUST . 20 17
and a land	M.CORODIMAMAMAMAMAMAMAMAMAMAMAMAMAMAMAMAMAMAMA
My commission expires $9/15/2021$	No ary Public OFFICIAL SEAL NOTARY PUBLIC STATE OF WEST VIRGINIA CAROLINDA FLANAGAN

Operator's Well No. Pritt South 211

Proposed Revegetation Treatm	nent: Acres Disturbed 29.78	Prevegetation pH _	6.8 average
Lime 4	Tons/acre or to correct to pH	6.0-7.5	
Fertilizer type 10-2	0-20		
Fertilizer amount_50	0 lbs	/acre	
Mulch_2	Tons/ac	ere	
	Seed	<u>Mixtures</u>	
Ten	porary	Permane	nt
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Rye	40	Swisher Meadow Mix	
A			
Field Bromegrass	40		
	40 168		
Field Bromegrass Winter Rye Winter Wheat  Attach: Maps(s) of road, location, pit a provided). If water from the pit acreage, of the land application	168 180 and proposed area for land applicate will be land applied, include dimentarea.	tion (unless engineered plans including ensions (L x W x D) of the pit, and dir	g this info have been mensions (L x W), and
Field Bromegrass Winter Rye Winter Wheat  Attach: Maps(s) of road, location, pit a provided). If water from the pit acreage, of the land application Photocopied section of involve	168 180 and proposed area for land applicant will be land applied, include diminarea.  Ed 7.5' topographic sheet.	ensions (L x W x D) of the pit, and di	mensions (L x W), and
Field Bromegrass Winter Rye Winter Wheat  Attach: Maps(s) of road, location, pit a provided). If water from the pit acreage, of the land application Photocopied section of involve Plan Approved by:  Plan Approved by:  Comments:  Pre-seed /	168 180  and proposed area for land applicate will be land applied, include dimension area.  and 7.5' topographic sheet.	ensions (L x W x D) of the pit, and di	nably possible
Field Bromegrass Winter Rye Winter Wheat  Attach: Maps(s) of road, location, pit a provided). If water from the pit acreage, of the land application Photocopied section of involve Plan Approved by:  Plan Approved by:  Pre-seed / per regulation. Upg	168 180  and proposed area for land applicate will be land applied, include dimension area.  and 7.5' topographic sheet.	reas as soon as reasoreded per WV DEP E&S	nably possible
Field Bromegrass Winter Rye Winter Wheat  Attach: Maps(s) of road, location, pit a provided). If water from the pit acreage, of the land application Photocopied section of involve Plan Approved by:  Plan Approved by:  Comments:  Pre-seed /	168 180  and proposed area for land applicate will be land applied, include dimension area.  and 7.5' topographic sheet.	ensions (L x W x D) of the pit, and div ereas as soon as reason eded per WV DEP E&S Pl	nably possible manual, if



## SITE SAFETY PLAN

### **Pritt South #211 WELL PAD**

911 Address:

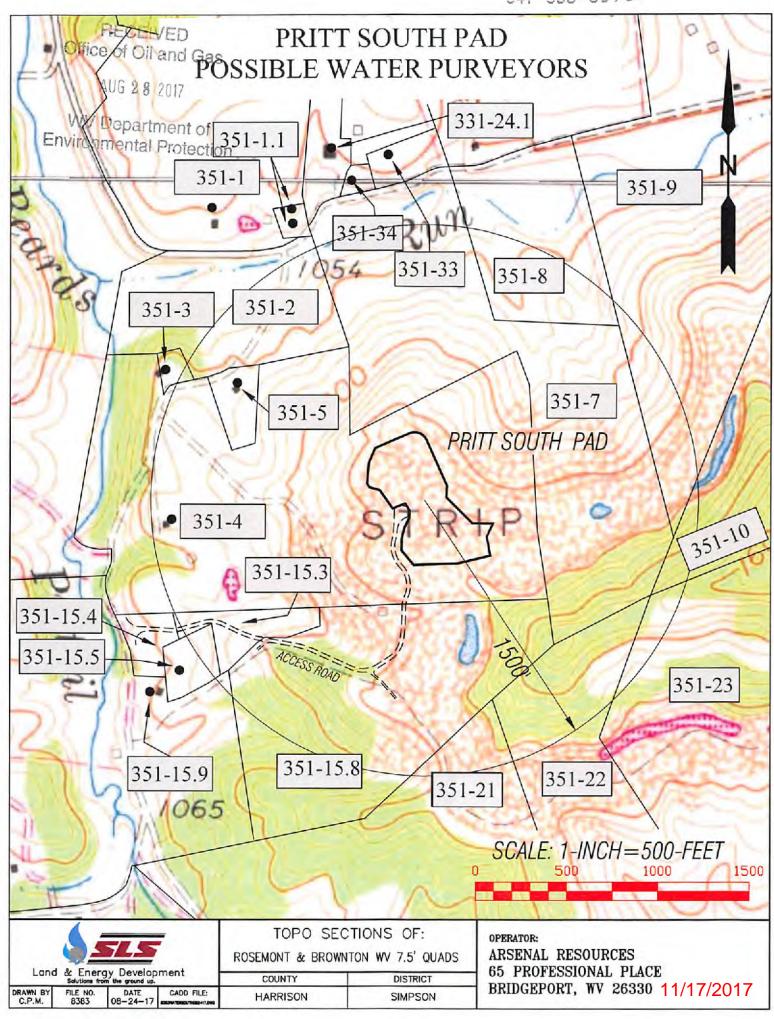
3460 Green Valley Road

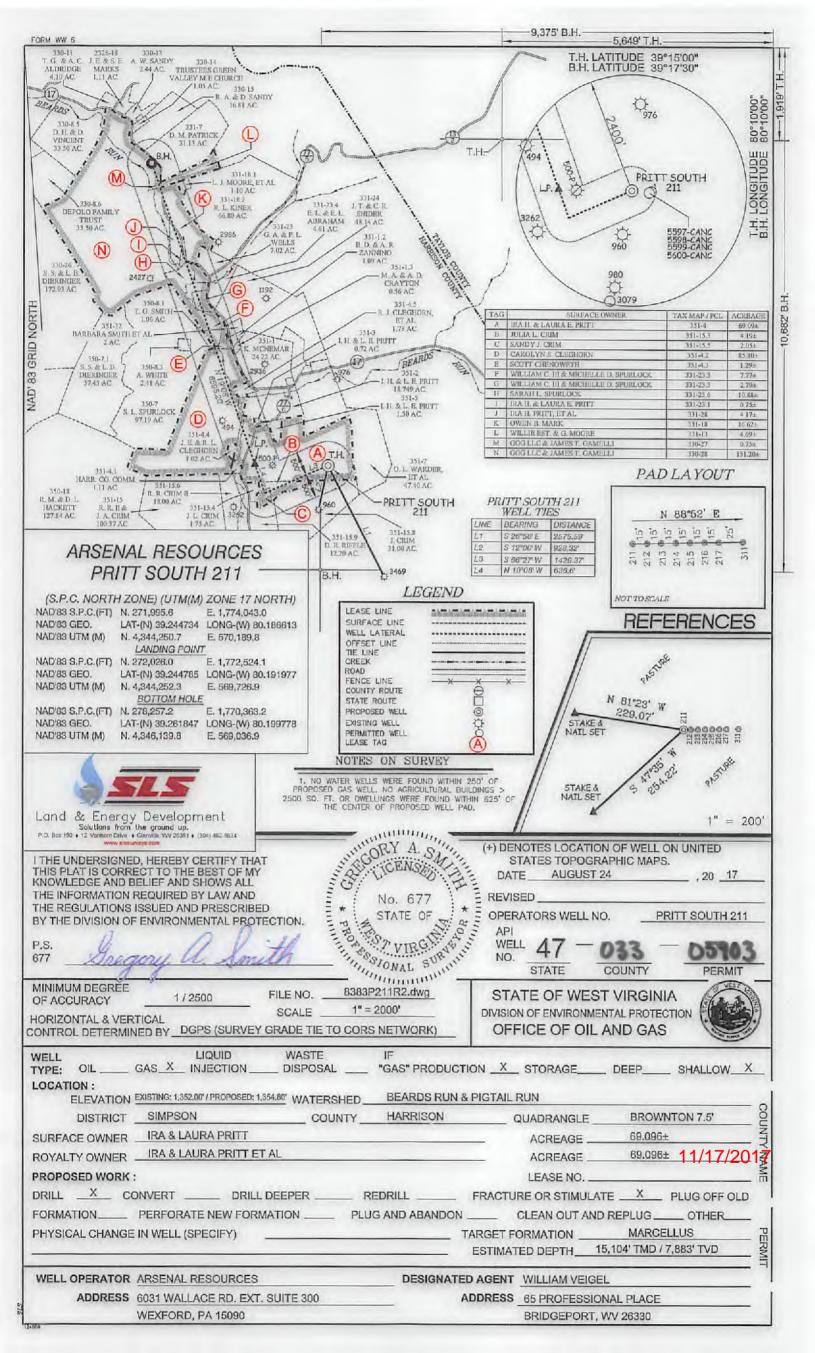
Bridgeport, WV 26330

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WW-6A1 (5/13)

Operator's Well No.	Pritt South 211
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#### 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

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

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

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

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

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Office of Oil and Gas

Well Operator: Arsenal Resources

By: Its: William Veigel

AUG 2 8 2017

Environmental Protection

Designated Agent

WV Department of

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11/17/2017

<sup>\*</sup> See Attached

	HA HA	Attachment to WW-6A1. Pritt South 211			
Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
A [Lease 00006622 (WVL03143.000)]	Ira Pritt and Laura E. Pritt, Husband and Wife	Carrizo ( Marcellus) LLC	15.00%	1448 / 804 1579/26	92.06
	Carrizo (Marcellus) LLC	ACP II Marcellus LLC and Carrizo (Marcellus) LLC		1460/1083	
	Carrizo (Marcellus) LLC and ACP II Marcellus LLC	PDC Mountaineer, LLC		1518/395	
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
B, C [Lease 00003826 (WVL00289.001)]	Stella P. Crim, widow	Union Carbide Corporation	12.50%	853/83	151
	Union Carbide Corporation	Creslenn Oil Company		897/286	
	Creslenn Oil Company	Delta Producing Corporation		925/629	
	Delta Producing Corporation	Petroleum Corporation of America		967/575 977/168	
	Petroleum Corporation of America	Petroleum Development Corporation		977/153	
	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
D [Lease 00003834 (WVL00297.000)]	Glen Smith and Helen Nadine Smith, his wife	Delta Producing Corporation	12.50%	943/109 956/81	09
RECEIVED Office of Oil and Gas	Delta Producing Corporation	Petroleum Corporation of America		977/168	
AHG 9 8 2017	Petroleum Corporation of America	Petroleum Development Corporation		977/153	
WAY BOARD LOIL	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
Environmental Protection	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
D [Lease 00004357 (WVL00554.000)]	Glen Smith and Helen Nadine Smith, his wife	Union Carbide Corporation	12.50%	853/131 956/81	09
1 1/1	Union Carbide Petroleum Corporation	Delta Producing Company		1587/416	
7,					

047-033-05903

M					20		2.79		2.906	92.06				41.14		
041-053-05903	977/168	977/153	1440/364	59/1263	1478/469 1582/994 1594/1118	59/1263	1479/1143	59/1263	1599/90	1448/804	1460/1083	1518/395	59/1263	1134/87	1440/364	59/1263
•							12.50%		12.50%	15.00%				12.50%		
	Petroleum Corporation of America	Petroleum Development Corporation	PDC Mountaineer, LLC	River Ridge Energy, LLC	PDC Mountaineer, LLC	River Ridge Energy, LLC	PDC Mountaineer, LLC	River Ridge Energy, LLC	Mar Key, LLC	Carrizo ( Marcellus) LLC	ACP II Marcellus LLC and Carrizo (Marcellus) LLC	PDC Mountaineer, LLC	River Ridge Energy, LLC	Petroleum Development Corporation	PDC Mountaineer, LLC	River Ridge Energy, LLC
	Delta Producing Corporation	Petroleum Corporation of America	Petroleum Development Corporation	PDC Mountaineer, LLC	Clair Chenoweth	PDC Mountaineer, LLC	James V. Brockleman, Il and Andrea N. Brockleman, husband and wife as joint tenants with the right of survivorship as at common law, and not as tenants in common	PDC Mountaineer, LLC	Ira Pritt and Laura E. Pritt, his wife	Ira Pritt and Laura E. Pritt, husband and wife	Carrizo (Marcellus) LLC	Carrizo (Marcellus) LLC and ACP II Marcellus LLC	PDC Mountaineer, LLC	Bernard F. Joseph and Frenna J. Joseph, his wife	Petroleum Development Corporation	PDC Mountaineer, LLC
PECEIVED	Office of Oil and Gas	AUG 28 2017	WV Department of	Environmental Protection	E, F, H [Lease No. 00004978 (WVL00904.000)]		G [Lease No. 00004982 (WVL00908.000)]		l [Lease 00007905]	J [Lease No. 00006622 (WVL03143.000)]				K [Lease 00004344 (WVL00550.001)]		

K [Lease 00007842]	Mark Rodney Nuzum, a married man dealing in his sole and separate property	Mar Key, LLC	12.50%	1597/404	37.78
K [Lease 00007845]	Janielle Elizabeth Williams, a single woman	Mar Key, LLC	12.50%	1599/318	37.78
К [Lease 00007846]	Terry Lewis Nuzum, a single man	Mar Key, LLC	12.50%	1598/1179	37.78
L [Lease 00003783 (WVL00265.000)]	Goldie Moore, widow	Petroleum Development Corporation	12.50%	1085/439	30
	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
M [Lease 00007828]	James T. Gamelli, married dealing in his sole and separate property	Mar Key, LLC	15.00%	1597/337	0.75
N [Lease 00007205]	James T. Gamelli	Mar Key, LLC	15.00%	1576/220	149.44
N [Lease 00007225]	Edwin L. King	Mar Key, LLC	15.00%	1576/507	149.44
Oral Lake [Lease 00007183]	West Virginia Department of Transportation, Division of Highways	Mar Key, LLC	20.00%	1569/12	12.41

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## West Virginia Secretary of State — Online Data Services

#### **Business and Licensing**

Online Data Services Help

### **Business Organization Detail**

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

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#### MAR KEY LLC

Office of Oil and Gas

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Organiza	ation Info	rmation				WV.Department of Environmental Protection		
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	

Authorized	
Shares	
Silates	

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	RECEIVED Office of Oil and Gas AUG 2 8 2017
Notice of Process Address	CORPORATION SERVICE COMPANY 209 WEST WASHINGTON STREET CHARLESTON, WV, 25302	WV Department of Environmental Protecti
Principal Office Address	6031 WALLACE ROAD EXTENSION SUITE 300 WEXFORD, PA, 15090 USA	
/pe	Address	

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

Annual Reports	
Date filed	-
1	1/17/2017

Page 3 of 3

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

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

Thursday, February 23, 2017 — 9:08 AM

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#### Agreement to Drill, Complete and Operate Oil & Gas Wells

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

- 1. Term: This Agreement is effective from the Effective Date until terminated by Arsenal on the one hand or River Ridge and River Ridge Holdings on the other hand with 30 days' written notice to the other Party or Parties, as applicable (the "Term").
- 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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AUG 28 2017

## Agreement to Drill, Complete and Operate Oil & Gas Wells

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

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

[Signature Page Follows]

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

MOUNTAINEER KEYSTONE LLC

Name: 264-1 Km/

Title: CEO

PDC MOUNTAINEER, LLC

Name: 24 Kal

Title: Caro

PDC MOUNTAINEER HOLDINGS, LLC

Name: PLAK.

Title: Co

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People Powered. Asset Strong.

May 18, 2017

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

RE: Ownership of Roadways; Pritt South Pad

Mr. Martin:

In preparation of filing a permit application for the above referenced well, the Title Department of Arsenal Resources has conducted a thorough title examination in order to determine the ownership of the oil and gas underlying all roadways crossed by the proposed wells. The findings of the title examinations show that the roadways crossed by the proposed wells are right of ways, with the oil and gas being owned and covered by the leaseholds identified on the plat for the proposed wells.

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

Senior Title Attorney

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AUG 28 2017

WV Department of Environmental Protection

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

047-033-05903

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

Date of Notic	ce Certification: 8/25/17	API No. 47- 033			
	7-3/:-	Operator's Well No	o. Pritt South 211		
		Well Pad Name:			
Notice has I	oeen given:				
Pursuant to th		§ 22-6A, the Operator has provided the required pa	rties with the Notice Forms listed		
State:	West Virginia	Easting: 570,189.8	3		
County:	Harrison	IIIMINAD 85	4,344,250.7		
District:	Simpson	Public Road Access: County R	oute 17		
Quadrangle:	Brownton	Generally used farm name: Ira Pritt	Ira Pritt		
Watershed:	Beards Run & Pigtail Run				
of giving the requirements Virginia Code of this article	surface owner notice of entry to su of subsection (b), section sixteen of e § 22-6A-11(b), the applicant shall the have been completed by the applican	ection sixteen of this article; (ii) that the requirementarize pursuant to subsection (a), section ten of the fifthis article were waived in writing by the surfacender proof of and certify to the secretary that the fact.  Determine the secretary that the secretary that the fact.	is article six-a; or (iii) the notice ace owner; and Pursuant to West notice requirements of section ten		
that the Ope	rator has properly served the require		OOG OFFICE USE		
*PLEASE CHI	ECK ALL THAT APPLY		ONLY		
☐ 1. NO	TICE OF SEISMIC ACTIVITY or	■ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	RECEIVED/ NOT REQUIRED		
☐ 2. NO	TICE OF ENTRY FOR PLAT SURV	VEY or  NO PLAT SURVEY WAS CONDUCTOR	TED RECEIVED		
■ 3. NO	TICE OF INTENT TO DRILL or	☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or	RECEIVED/ NOT REQUIRED		
		WRITTEN WAIVER BY SURFACE OWN (PLEASE ATTACH)	IER		
■ 4. NO	FICE OF PLANNED OPERATION	RECEIVED	RECEIVED		
■ 5. PUE	BLIC NOTICE	Office of Oil and Gas	RECEIVED		
■ 6. NO	TICE OF APPLICATION	AUG 28 2017	■ RECEIVED		

#### Required Attachments:

WV Department of Environmental Protection

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.

By:

Its:

#### 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 line and imprisonment.

Well Operator: Arsenal Resources

William Veigel

Designated Agent

Telephone: 724-940-1218

Address: 6031 Wallace Road Extension, Suite 300

Wexford, PA 15090

Facsimile: 304-848-9134

Email: keddy@arsenalresources.com

OFFICIAL SEAL

NOTARY SINCTARY PUBLIC

STATE OF WEST VIRGINIA

CAROLINDA FLANAGAN

PO 60x 603

Lumberport WY 26386

My Commission Expires September 15, 2021

Subscribed and sworn before me this 25th day of AUG. 2017.

Notary Public

My Commission Expires 9/

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 <a href="https://deprivacyofficer@wv.gov">deprivacyofficer@wv.gov</a>.

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AUG 28 2017

API NO. 47- 033 OPERATOR WELL NO. Pritt South 211
Well Pad Name: Pritt South

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

Notice Time Requirement: notice shall be provided no later t	han the filing date of permit application.
Date of Notice: 8/25/17 Date Permit Application Filed:	1/25/17
Notice of:	
✓ PERMIT FOR ANY ✓ CERTIFICATE OF A	PPROVAL FOR THE
	F AN IMPOUNDMENT OR PIT
Delivery method pursuant to West Virginia Code § 22-6A-	10(b)
☐ PERSONAL ☐ REGISTERED ☑ MET	THOD OF DELIVERY THAT REQUIRES A
SERVICE MAIL REC	EIPT OR SIGNATURE CONFIRMATION
sediment control plan required by section seven of this article, and the surface of the tract on which the well is or is proposed to be lot oil and gas leasehold being developed by the proposed well work, described in the erosion and sediment control plan submitted purs operator or lessee, in the event the tract of land on which the well more coal seams; (4) The owners of record of the surface tract or well work, if the surface tract is to be used for the placement, con impoundment or pit as described in section nine of this article; (5 have a water well, spring or water supply source located within or provide water for consumption by humans or domestic animals; a proposed well work activity is to take place. (c)(1) If more than th subsection (b) of this section hold interests in the lands, the application of the sheriff required to be maintained pursuant to section provision of this article to the contrary, notice to a lien holder is not a subsection to the section of the sheriff required to the contrary, notice to a lien holder is not a section to the section of the section to the contrary, notice to a lien holder is not a section to the section of the section that article to the contrary, notice to a lien holder is not a section to the section that article to the contrary, notice to a lien holder is not a section to the section that article to the contrary, notice to a lien holder is not a section to the section that the subsection that the subsection that the section that the subsection that the section that the subsection that the section	at or signature confirmation, copies of the application, the erosion and at the well plat to each of the following persons: (1) The owners of record of peated; (2) The owners of record of the surface tract or tracts overlying the person if the surface tract is to be used for roads or other land disturbance as an at to subsection (c), section seven of this article; (3) The coal owner, proposed to be drilled is located [sic] is known to be underlain by one or tracts overlying the oil and gas leasehold being developed by the proposed astruction, enlargement, alteration, repair, removal or abandonment of any of Any surface owner or water purveyor who is known to the applicant to be thousand five hundred feet of the center of the well pad which is used to and (6) The operator of any natural gas storage field within which the ree tenants in common or other co-owners of interests described in the meight, article one, chapter eleven-a of this code. (2) Notwithstanding any of notice to a landowner, unless the lien holder is the landowner. W. Va. provide the Well Site Safety Plan ("WSSP") to the surface owner and any ag as provided in section 15 of this rule.
☐ Application Notice ☐ WSSP Notice ☐ E&S Plan Notice	
☑ SURFACE OWNER(s) /	☐ COAL OWNER OR LESSEE
Name: Ira H. Pritt & Laura E. Pritt	Name: See Attached List
Address: 3444 Green Valley Road Bridgeport, WV 26330	Address:
Name:	COAL OPERATOR
Address:	Name:
	Address:
SURFACE OWNER(s) (Road and/or Other Disturbance)	3.400.000
Name: See Attached List	☑ SURFACE OWNER OF WATER WELL
Address:	AND/OR WATER PURVEYOR(s)
	Name: See Attached List
Name:	Address:
Address:	
- CURRACE OUNTEDA A TOTAL POLA	OPERATOR OF ANY NATURAL GAS STORAGE FIELD
☑ SURFACE OWNER(s) (Impoundments or Pits) Name: Oran Lee Warder	Name:
Address: 2381 Silverado Drive	Address:
Weatherford, TX 76087	*Please attach additional forms if necessary CEIVED
	Office of Oil and Gas

AUG 28 2017

## RECEIVED Office of Oil and Gas

API NO. 477-033-05903
OPERATOR WELL NO. Prill South 211
Well Pad Name: Prill South

AUG 28 2017

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 all impoundment or pit.

This Notice State Lands

This Notice Shall Include:

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

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

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

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

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

#### Well Location Restrictions

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

047-033-05903 API NO. 47-033 -

OPERATOR WELL NO. Pritt South 211

Well Pad Name: Pritt South

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

#### Water Well Testing:

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

#### **Water Testing Laboratories:**

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

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

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

#### **Written Comment:**

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

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

Office of Oil and Gas

AUG 28 2017

WV Dapartment of 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.

API NO. 47-033 OPERATOR WELL NO. Pritt South 211

Well Pad Name: Pritt South

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

#### Permit Denial or Condition

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

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

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

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

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Office of Oil and Gas

AUG 28 2017

API NO. 47- 033 -

OPERATOR WELL NO. Pritt South 211

Well Pad Name: Pritt South

Notice is hereby given by:

Well Operator: Arsenal Resources

Telephone: 724-940-1218 Email: keddy@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 <a href="mailto:deprivacyofficer@wv.gov">deprivacyofficer@wv.gov</a>.

OFFICIAL SEAL.
NOTARY PUBLIC
STATE OF WEST VIRIGINIA
CAROLINDA FLANAGAN
PO Box 603
Lumberport WV 26386
My Commission Expires September 15, 2021

Subscribed and sworn before me this 25<sup>TH</sup> day of AUG 2017

Notary Public

My Commission Expires\_

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AUG 28 2017

# Arsenal Resources Pritt South Well Pad WW-6A Notice of Application (Attachment)

#### Surface Owner(s) by (Road and/or Other Disturbance):

Ira H. Pritt & Laura E. Pritt (Drill Site & Access Road) 3444 Green Valley Road
Bridgeport, WV 26330

Della R. Riffle (Access Road)

11 Crim Lane
Bridgeport, WV 26330

Julia Crim (Access Road) / 75 Crim Lane
Bridgeport, WV 26330

Sandy Crim (Access Road)
75 Crim Lane
Bridgeport, WV 26330

#### **Coal Owner, Operator or Lessee:**

Heirs of Virginia A. Tetrick Estate d/b/a, Tetrick Mineral Properties, J.V. 92 16<sup>th</sup> Street Wheeling, WV 26003

I.L. Morris
P.O. Box 397
Glenville, WV 26351

Edith Gans Burns / 264 South Lake Road Columbia, SC 29223

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AUG 28 2017

#### **Coal Owner, Operator or Lessee, continued:**

Rebecca Turner, William & Robert Snyder

Title Building, Suite 400

110 Saint Paul Street

Baltimore, MD 21202

Mike Ross, Inc.
P.O. Box 219
Coalton, WV 26257

Spartan Exploration Company P.O. Box 316 Mt. Pleasant, MI 48858

Ryan C. Radtka

205 Mystic Drive

Morgantown, WV 26508

Helen M. Burton

P.O. Box 8179

Nutter Fort, WV 26301

CoalQuest Development, LLC/ 100 Tygart Drive Grafton, WV 26354

#### Water Purveyors:

Kevin McNemar 1048 Indiana Ave. Stonewood, WV 26301

Lucas Johnson etal C/O Thomas Johnson RR 4 Box 560 Bridgeport, WV 26330

Ira & Laura Pritt 3444 Green Valley Road Bridgeport, WV 26330 RECEIVED
Office of Oil and Gas

AUG 28 2017

#### **Water Purveyors, continued:**

Oran Warder etal 2381 Silverado Drive Weatherford, TX 76087

Renee Johnson 511 Beards Run Road Bridgeport, WV 26330

Ronald & Jody Crim/ 2825 Green Valley Road Bridgeport, WV 26330

Julia Crim / 75 Crim Lane Bridgeport, WV 26330

Sandy Crim / 75 Crim Lane Bridgeport, WV 26330

Della R. Riffle

11 Crim Lane
Bridgeport, WV 26330

Ecosystem Investment
Partners III, LLC
2002 Clipper Park Road, Suite 201
Baltimore, MD 21211

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

Joyce Bailey etal PO Box 4 Rosemont, WV 26424

Joshua Thompson / 143 Beards Run Road Bridgeport, WV 26330 RECEIVED
Office of Oil and Gas

AUG 28 2017

WW-6A4 (1/12)

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

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

Date of Notic	Requirement: Notice shall be provided at ce: 8/25/17 Date Pern	least TEN (10) days prior to filing a nit Application Filed:	permit application ECEIVED  17 Office of Oil and Gas
Delivery met	hod pursuant to West Virginia Code § 22	2-6A-16(b)	
			AUG 28 2017
☐ HAND	■ CERTIFIED MAIL		74.4.5
DELIVE	ERY RETURN RECEIPT REQ	UESTED	WV Department of
receipt request drilling a hore of this subsect subsection mand if availab	V. Va. Code § 22-6A-16(b), at least ten day sted or hand delivery, give the surface owner izontal well: <i>Provided</i> . That notice given pution as of the date the notice was provided by be waived in writing by the surface owner, facsimile number and electronic mail ad	er notice of its intent to enter upon the pursuant to subsection (a), section tent to the surface owner: <i>Provided, hower</i> . The notice, if required, shall includess of the operator and the operator	ne surface owner's land for the purpose of in of this article satisfies the requirements never, That the notice requirements of this add the name, address, telephone number,
	reby provided to the SURFACE OW		
Name: Ira H. Pr	Green Valley Road	Name: Address:	
Bridgeport, WV 2		Address:	
State:	wner's land for the purpose of drilling a hor West Virginia	그 이 그리고 있는 이 가입에 이번 그리고 그 없었다. 그 그리고 있다면 없었다면 얼마나 없는데 되었다.	570,189.8
County:	Harrison	Northing:	4,344,250.7
District:	Harrison Simpson	Public Road Access:	
District: Quadrangle:		Public Road Access:	4,344,250.7
County: District: Quadrangle: Watershed:	Simpson	Public Road Access:	4,344,250.7 County Route 17
District: Quadrangle: Watershed: This Notice Pursuant to V facsimile nur related to hor	Simpson Brownton	Public Road Access: Generally used farm name:  notice shall include the name, addreperator and the operator's authorize Secretary, at the WV Department of	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters,
District: Quadrangle: Watershed: This Notice Pursuant to V facsimile nur related to hor located at 601	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the orizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (36)	Public Road Access: Generally used farm name:  notice shall include the name, addreperator and the operator's authorize Secretary, at the WV Department of	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters,
District: Quadrangle: Watershed: This Notice Pursuant to V facsimile nur related to hor located at 601	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the opizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (36th preby given by:	Public Road Access: Generally used farm name:  notice shall include the name, addreperator and the operator's authorize Secretary, at the WV Department of	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters,
District: Quadrangle: Watershed: This Notice Pursuant to V facsimile nur related to hor located at 601 Notice is he Well Operato	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the opizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (36th preby given by:	Public Road Access: Generally used farm name:  notice shall include the name, addreserator and the operator's authorize Secretary, at the WV Department of 04-926-0450) or by visiting www.de	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters, p.wv.gov/oil-and-gas/pages/default.aspx.
District: Quadrangle: Watershed:  This Notice Pursuant to V facsimile nur related to hor located at 601  Notice is he Well Operato Address: Wexford, PA 150	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the orizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (30 reby given by:  Arsenal Resources 6031 Wallace Road Extension, Suite 300	Public Road Access:  Generally used farm name:  notice shall include the name, addreserator and the operator's authorize Secretary, at the WV Department of 04-926-0450) or by visiting www.de  Authorized Representative:  Address:  Bridgeport, WV 26330	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters, p.wv.gov/oil-and-gas/pages/default.aspx.  William Veigel
District: Quadrangle: Watershed:  This Notice Pursuant to V facsimile nur related to hor located at 601  Notice is he Well Operato Address: Wexford, PA 150 Telephone:	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the orizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (30 reby given by:  Arsenal Resources 6031 Wallace Road Extension, Suite 300	Public Road Access: Generally used farm name:  notice shall include the name, addrese perator and the operator's authorize Secretary, at the WV Department of 04-926-0450) or by visiting www.de  Authorized Representative: Address: Bridgeport, WV 26330 Telephone:	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters, p.wv.gov/oil-and-gas/pages/default.aspx.  William Veigel
District: Quadrangle: Watershed: This Notice Pursuant to V facsimile nur related to hor located at 601 Notice is he Well Operato Address:	Simpson Brownton Beards Run & Pigtail Run  Shall Include: West Virginia Code § 22-6A-16(b), this makes and electronic mail address of the opizontal drilling may be obtained from the 57th Street, SE, Charleston, WV 25304 (36th preby given by:  r: Arsenal Resources 6031 Wallace Road Extension, Suite 300	Public Road Access:  Generally used farm name:  notice shall include the name, addreserator and the operator's authorize Secretary, at the WV Department of 04-926-0450) or by visiting www.de  Authorized Representative:  Address:  Bridgeport, WV 26330	4,344,250.7  County Route 17  Ira Pritt  ess, telephone number, and if available, d representative. Additional information f Environmental Protection headquarters, p.wv.gov/oil-and-gas/pages/default.aspx.  William Veigel  65 Professional Place, Suite 200

#### 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 <a href="deprivacyofficer@wv.gov">deprivacyofficer@wv.gov</a>.

WW-6A5 (1/12)

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

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

Date of No	tice:8/25/17 Date Pe	rmit Application Filed:	8/25/1	7
Delivery m	ethod pursuant to West Virginia (	Code § 22-6A-16(c)		
	TIFIED MAIL URN RECEIPT REQUESTED	☐ HAND DELIVERY		
return recei the planned required to drilling of a damages to (d) The not of notice.	pt requested or hand delivery, give to l operation. The notice required by be provided by subsection (b), section a horizontal well; and (3) A propose the surface affected by oil and gas of	the surface owner whose land y this subsection shall include on ten of this article to a sur- sed surface use and compen- operations to the extent the de- given to the surface owner	d will be used for ide: (1) A copy face owner whos sation agreement amages are com	cation, an operator shall, by certified mail or the drilling of a horizontal well notice of of this code section; (2) The information se land will be used in conjunction with the nt containing an offer of compensation for pensable under article six-b of this chapter, sted in the records of the sheriff at the time
	ess listed in the records of the sheriff			
	Pritt & Laura E. Pritt	Name:		
The second secon	44 Green Valley Road	Addres	SS:	
Bridgeport, WV	26330	_		
State: County: District:	on the surface owner's land for the pu West Virginia Harrison Simpson	urpose of drilling a horizont  UTM NAD  Public Road	83 Easting: Northing:	act of land as follows: 570,189.8 4,344,250.7 County Route 17
Quadrangle	Brownton	Generally us	ed farm name:	Ira Pritt
Watershed:	Beards Run & Pigtail Run			
Pursuant to to be provi horizontal v surface affe information	ded by W. Va. Code § 22-6A-10(b well; and (3) A proposed surface use ected by oil and gas operations to the related to horizontal drilling may s, located at 601 57th Street, SE,	<ul> <li>to a surface owner whose and compensation agreement and extent the damages are of the obtained from the Secretary</li> </ul>	e land will be usent containing ar compensable und stary, 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

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 <a href="deprivacyofficer@wv.gov">deprivacyofficer@wv.gov</a>.

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Office of Oil and Gas

AUG 28 2017

WW-6AW (1-12)

API NO. 47-077	<u>C</u>	5903
OPERATOR WE	LL NO.	See Attached
Well Pad Name:	Pritt South	

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

## VOLUNTARY STATEMENT OF NO OBJECTION

#### Instructions to Persons Named on Page WW-6A

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

#### **Comment and Waiver Provisions**

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.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

#### VOLUNTARY STATEMENT OF NO OBJECTION

I, Mike Ross provisions list	hereby state that I have read above, and that I have received copies of a	Notice of A	pplication, an App	plication for a Well Work Permit on Form
WW-6A and	attachments consisting of pages one (1) thro	ugh	, including t	he erosion and sediment control plan, if
	the well plat, all for proposed well work on the	tract of land	as follows:	-
State:	West Virginia	UTM NAI	) 83 Easting:	See Attached
County:	Harrison		Northing:	See Attached
District:	Simpson	Public Ros		County Route 17
Quadrangle:	Brownson	Generally :	used farm name:	Îra Priti
Watershed:	Beards Run & Pigtali Run			
I further state issued on thos	that I have no objection to the planned work de- e materials.	scribed in the	ese materials, and I	have no objection to a permit being
*Please check	the box that applies		FOR EXECUTI	ON BY A NATURAL PERSON
☐ SURFAC	E OWNER	į	Signature:	
☐ SURFACE OWNER (Road and/or Other Disturbance)		Print Name:	RECEIVED Office of Oil and Gas	
□ SURFAC	E OWNER (Impoundments/Pits)			
COAL O	WNER OR LESSEE			ON BY A CORPORATION, ETCP 1 8 2017
COAL O	PERATOR		By: Its:	WV Department of Environmental Protection
□ WATER	PURVEYOR		Signature:	Tike Post
□ OPERAT	OR OF ANY NATURAL GAS STORAGE	E FIELD	Date:	7-29-18

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 <a href="mailto:deprivacyofficer@wv.gov">deprivacyofficer@wv.gov</a>.



#### WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

# **Division of Highways**

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

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

Jim Justice Governor

October 31, 2017

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

Subject: DOH Permit for the Ira Pritt Well Pad, Harrison County
Pritt South 211

Dear Mr. Martin,

This well site will be accessed from a Permit #04-2015-0617 transferred to Arsenal Resources for access to the State Road for a well site located off of Harrison County Route 77/6 SLS.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT 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, P.E.

Regional Maintenance Engineer

Cc: Kelly Davis

ARSENAL Resources

CH, OM, D-4

File

Pritt South 211				
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	HCI - 7.5%	7647-01-0	

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Office of Oil and Gas

AUG 28 2017

# PRITT SOUTH SITE PLAN ARSENAL RESOURCES

206, (PROPOSED WELLS NO. 201, 202, 203, 204, 205, 301, 211, 212, 213, 214, 215, 216, & 311) WATERS OF BEARDS RUN AND PIGTAIL RUN THE 3 SITUATE

CENTER OF PRITT SOUTH WELL PAD





2502 CRANBERRY SQUARE PHONE. (304) 777-2940

JUUA CRIM TM 351 PAR 15.3 TOTAL PROPERTY AREA: 4.19 AC TOTAL DISTURBED AREA: 2.77 AC

LARSON DESIGN GROUP

ENGINEER

65 PROFESSIONAL PLACE

SUITE 200

ORAN WARDER
TM 351 PAR 7
TOTAL PROPERTY AREA: 47.40 AC
TOTAL DISTURBED AREA: 5.49 AC

ARSENAL RESOURCES

OPERATOR

IRA PRITT TN 351 PAR 4 TOTAL PROPERTY AREA: 69,06 AC TOTAL DISTURBED AREA: 14,57 AC

15.5

15.3

5

MAP 351 PARCELS 4, 7,

SURFACE OWNER:

SIMPSON DISTRICT

TAX PARCEL:

PROJECT NAME: PRITT SOUTH

PROJECT INFORMATION

PHONE: (304) 842-3597 BRIDGEPORT, WV 25330

JULIA CRIM TM 351 PAR 15.8 TOTAL PROPERTY AREA: 31 AC TOTAL DISTURBED AREA: 6.90 AC

MORGANTOWN, WV 26508

BROWNTON QUADRANGE WEST VIRGINIA SCALE: 1" = 2000

SMITH LAND SURVEYING, INC.

SURVEYOR

TN 351 PAR 15.5 TOTAL PROPERTY AREA: 2.05 AC TOTAL DISTURBED AREA: 0.05 AC

SANDY CRIM

PHONE: (304) 462-5634

GLENVILLE, WY 26351

12 VANHORN DRIVE

MISS Utility of West Virginia 1-1800-25-4649 West Virginia State Law (Seetin XIV: Chother 24-C) Requires that you call the business dost before you dig in the state of West Virginia. IT'S THE LAM!



6/2/2017 700

-80.192380 (NAD 83) LONGITUDE: ACCESS ROAD ENTRANCE LATITUDE: 39.241841 OCATION COORDINATES

(NAD 83) -80.186800 LONG/TUDE: CENTER OF ABOVEGROUND STORAGE 39.245319 LATITUDE:

(NAD 83) -80,185139 39.244714 LONGITUDE: LATITUDE

(NAD 83) -80.183541 CENTER OF ASSOCIATED WASTE WATER PIT LONGITUDE 39.245265 LATITUDE:

STORAGE TANK ARE INDIMIDIAL MARCELLUS THE WELL PAD, ASSOCIATED PIT, AND ABOVECROUND BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF IN SHALE GAS WELLS.

ARSENA! RESOL 501 Professional Place Suite 200 Bridgeport, WV 26330 Bridgeport, WV 26330 TOPHONE 304 842,3597

RESOURCES

AC SIE DISTURBANCE COMPUTATIONS.
PRITT SCUTH WELL FAD = 9.15 AC
ABOVGROUND STORGE TANK PAD = 3.33.
ASSOCIATED WASTE WAITE PIT = 4.38 AC
ACCESS ROAD TO WELL PADS = 10.67 AC ACCESS ROAD TO AST / PIT = 1.65 ACTOTAL SITE DISTURBANCE = 29.78 ACTIMBER CLEARING AREA = 16.30 ACTIMBER CLEARING AREA = 16.

TRANSPORTATION
OF CONSTRUCTION ARBENAL RESOURCES WILL OBTAIN AN ENCROACHMENT PERMIT MAI-109) FROM THE WEST VIRIGINIA DEPARTMENT OF TRANSPORT DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRU ENTRANCE PERMIT

MISS UTILITY OF WEST MEGINA WAS NOTED FOR THE LOCATING OF UTILITIES PRICE TO THIS FROLECT DESIGN; TRICKET #150819344. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRICE TO START OF THE PROJECT. MISS UTILITY STATEMENT FLOODPLAIN NOTE

HAPPERON COUNTY, WERT VIRGULA COVER SHEET

Larson Design Group - Architects Engineers Surveyor

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT IS NOT LOCATED WITHIN THE EXSTINCT FLAM LOCATED LIMITS OF THIS LOCATION IN HARRISON COUNTY.

ENVIRONMENTAL NOTES
WELLAND DELINEATIONS WERE PERFORMED ON MARCH 17, 2015, WARCH 11, 2015, APPIL 6. 2015, MAY 8, 2015 AND MARCH 17, 2015, APRIL 6. 2015, APRIL 6. 2015, APPIL 6. APPIL 7. 2015, APPIL 6. APPIL 7. 2015, APPIL 7. 2015,

A GEOTECHNICAL INVESTIGATION OF THE PROPOSED SITE WAS CONDUCTED BY G.A. COVEY ENGINEERING ON JULY 17 THROUGH JULY 20, 2012. THE REPORT PREPARED BY G.A. COVEY ENGINEERING, DATED JULY 2012. REFLECTS THE RESULTS OF THE SUBSURACE INVESTIGATION. THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS REPORT WAS USED IN THE PROPARATION OF THESE PLANS. PLEASE REPER TO THE SUBSURFACE INVESTIGATION OF THESE PLANS.

1 OF 37 6 Energy Develops OK 123'O

10793-005

TO THERE ARE NO WELLANDS WITHIN 100 FEET OF THE WELL PAD LOO.

2. THERE ARE NO WELLANDS WITHIN 100 FEET OF THE WELL PAD LOO.

3. THERE ARE NO FRENCHMALLY STREAMS, LAKES, PONDS, OR RESENTED WITH 100 FEET OF THE WELL PAD AND LOO.

4. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE WELL PAD AND LOO.

5. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE WELL PAD AND LOO.

5. THERE ARE NO GROUNDWATER INTAKE STREAMS WITHIN 1000 FEET OF THE WELL PAD.

6. THERE ARE NO GOODPIED DWELLING STREAMS WITHIN 6.25 FEET OF THE WITHIN 6.25 FEET OF THE CENTER OF THE WELL PAD.

7. THERE ARE NO GOROLUTARAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 6.25 FEET OF THE CENTER OF THE WELL PAD.

WASTE WATER PIT CROSS SECTIONS ACCESS ROAD CROSS SECTIONS

RECLAMATION PLAN

DETAILS

WELL PAD CROSS SECTIONS

15-18 19-20 21-24 25-37

10-14

ACCESS ROAD PROFILE

SITE LAYOUT

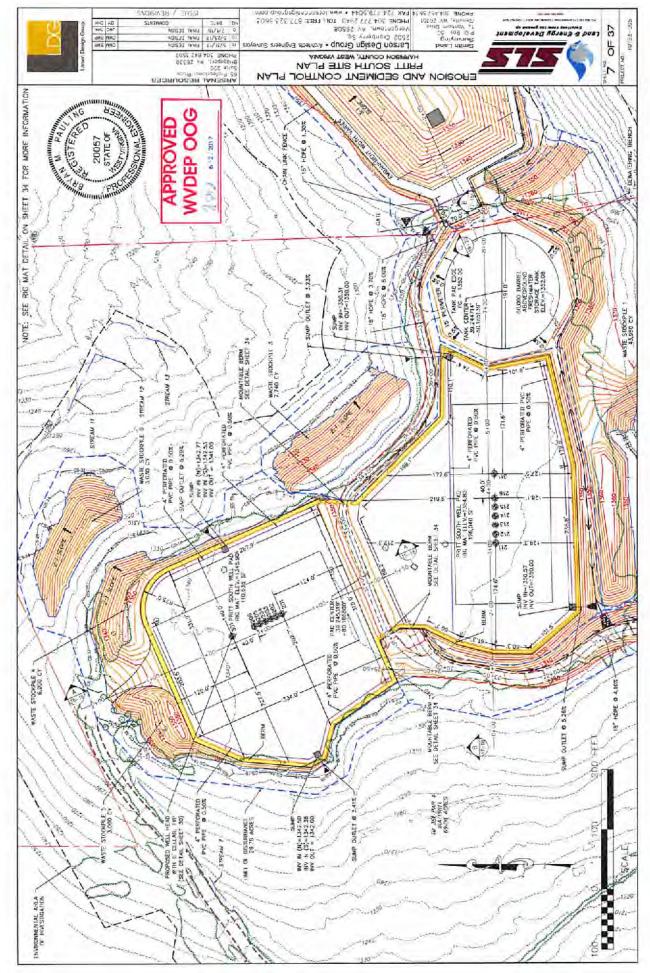
OVERALL PLAN SHEET INDEX

GENERAL NOTES

2-3 5-8 0

COVER SHEET

SHEET INDEX





Office of Oil and Gas

West Virginia Department of Environmental Protection Office of Oil & Gas 601 57th Street SE Charleston, WV 25304-2345

DEP Office	e Use only
Date Received by Oil & Gas:	8-28-17
Assigned Impoundment ID #:	033-WPA-0009A

## Permit Associated Impoundment / Pit Registration

Instruction: This form is to be used to register impoundments or waste pits, greater than 5,000 bbls, that are associated with a WVDEP, Office of Oil and Gas, well drilling permit. An associated impoundment or pit means it has been designed and included in the well drilling permit application, will follow the reclamation time frame of well work permit, and will be approved in conjunction with the well work permit. An impoundment ID number will be assigned by WVDEP, Office of Oil and Gas, to all impoundments and pits. This impoundment ID number will be sent to the applicant following receipt of this form by WVDEP. Please reference this impoundment ID number with all future correspondence and reference to this impoundment. Conditions as described in W.Va. State Rule §35-4-21 will be followed as it relates to impoundments and pits.

#### Section 1 - Operator Information

Operator Name:	Arsenal Resources		
Operator ID:	494519412		
Address: Street	65 Professional Place Suite 200		
City:	Bridgeport	State: WV	Zip: 26330
Contact Name:	Larry "Eddie" Carder	Contact Title:	Regulatory Affairs Manager
Contact Phone:	304-629-6309	Contact Email:	ecarder@arsenalresources.com

#### Section 2 – Engineering / Design Contractor Information

Company Name:	Smith Land Surveyin	g, Inc. & Lars	on Design	Group	0	
Address: Street	12 Vanhorn Dr.					
City:	Glenville		State:	WV	Zip:	26351
Contact Name:	Chris Moyers		Contact	Title:	Sr. Design C	oordinator
Contact Phone:			Contact E	Email:	cmoyers@sls	surveys.com
Certifying Professional E	ngineer: Bryan Pau	ling				
Professional Engineer R	legistration Number:	20057				

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WV Department of Page 1 of 4 Environmental Protection 11/17/2017





Office of Oil and Gas

#### Section 3 - Impoundment / Pit Information

Type of Structure. Check one of two choices below:  ☐ Freshwater Impoundment  ■ W  Note: Any waste in a pit will make it a waste pit.	aste Pit
Name of Structure (Company Name :) Pritt South Associated Pi	it
County: Harrison District:	
USGS 7.5' Quad Map Name: Brownton	
Farm Name: Pritt	
Pad Name: Pritt South Pad	
Surface Owner Name: Oran Warder & Ira Pritt	
Physical Description of Location: The Pritt South Associated Pit is located.	ted the east side of Harrison County Route 77/6 near the ridge.
With the access road entrance being 0.28 miles +/- north of the junction	n of County Routes 77/6 & 23/4.
(Note: Give general location, example: 2 miles south of Smalltown, WV on Rt. 22,	left on Buffalo Creek)
Watershed (nearest perennial): Beards Run	
Distance (Drainage Distance) to nearest perennial stream: 1400	0'+/-
Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxx	· · · · · · · · · · · · · · · · · · ·
Latitude: 39.245265 Longitude (Use negative sign	1010
	14312 N
Access Road Coordinates (junction of state highway access)	nn)· -80.192459
Latitude: 39.243282 Longitude (Use negative signature Signature) Longitude (Use negative signature) Longitude (Use negati	911/5
UTM Coordinates :	14085 N
Approximate Dimensions	
Length: 612' +/- Width: 200' +/-	Height: 32.9 RECEIVED
Note: If irregularly shaped, give approximate dimensions of long axis.	
Total Capacity – Provide all units of measure below:	Office of Oil and G
Barrels: 387,574 Gallons: 16,278,095	Acre-Feet: 49.96
	Acre Feet: 49.96 AUG 2.8 2017  WV Department o
Capacity with 2' Freeboad – Provide all units of measure below:	WV Danartman
Barrels: 340,964 Gallons: 14,320,480	_ Acre-Feet: 43.95 Environmental Protec
	- version — The tec
Incised volume:	
Barrels: 39,572 Gallons: 1,662,011	Acre-Feet: 5.10
Net impounded volume: (Total volume less incised volume.)	
Barrels: 348,002 Gallons: 14,616,084	Acre-Feet: 44.86
	lune 2017
Note: No construction may begin on Associoated impoundment u	until WVDEP issues the drilling permit. At least 7
calendar days prior to confirmed construction start date, notify the inspector of construction start date. Use form IMP-2. "Notification	



**Section 4 - Associated Well Numbers and API Numbers.** List associated well numbers and API number. API numbers may not be assigned at time of registering this impoundment, if so list as pending.

Well Number(s):	API Number(s) – If issued:
See Attached	

Section 5 - Required Information Checklist To Register Permit Associated Impoundments or Pits. Include the following information and plans with application.

- Engineered Construction Plans, certified by WV Registered P.E.
- Erosion and Sediment Control Plan, certified by WV Registered P.E.
- Reclamation Plan, certified by WV Registered P.E.

#### Section 6 – Dam Standard Qualifying Evaluation

×	The design of this structure has been evaluated by the applicant to determine it does NOT qualify to be
	defined as a dam, under W.Va Rule §47-34. If the design of this structure qualifies it to be defined as a dam,
	all permits regulating dams will be required prior to registering the structure with the Office of Oil and Gas.
	The dam standard, from the WVDEP, Div. Of Water and Waste, is available for review at:
	http://www.dep.wv.gov/WWE/ee/ds/Pages/default.aspx

Section 7 –Comments	– Provide any additional	I comments concerning this project

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#### Section 8 - Application Certification

I hereby certify that the information listed above is true and accurate. I understand that this pit/impoundment is to be constructed only in a location appropriate for the storage of water, including wastewater, and will be constructed in accordance with plans designed and certified by a West Virginia registered professional engineer. I further recognize that all required plans have been submitted to the Office of Oil and Gas. I understand that after construction, and prior to any fluid being placed in the pit/impoundment, it shall be inspected by a West Virginia registered professional engineer to ensure compliance with the certified design and construction plan, and that the professional engineer shall certify that this structure was constructed in accordance with design and construction plans. I understand that such certification shall be in writing to the Chief and that no fluids may be placed in the pit/impoundment until the certification has been filed with the chief. I agree that this pit/impoundment shall be constructed, maintained, operated and closed in accordance with all applicable laws and rules, including the requirements of W. Va. Code R § 35-4-2.

Name: Brunn Paling	
Title: Dieschar	
Signature:	
	m
Taken, subscribed and swørn to before me this,	y of <u>V/ay</u> 20 <u>17</u>
Notary Public: Lungler a. Cumpbe	$\mathcal{L}^{0}$
My commission expires: 4/18/2/	
Notary Seal:	
COMMONWEALTH OF PENNSYLVANIA	RECEIVED
NOTARIAL SEAL Kristen Ann Campbell, Notary Public	Office of Oil and Gas
Armstrong Twp., Lycoming County My Commission Expires April 18, 2021	
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES	AUG 2 8 2017
Section 9. Submittal Instructions	WV Department of Environmental Protection
Submit original paper copy of application to:	Total I Totalion
West Virginia Department of Environmen Office of Oil and Gas	tal Protection
Impoundment Registration	
601 57 <sup>th</sup> Street, SE Charleston WW 25304	
Charleston WW 25304	
Email PDF file format of this application and all related engineering Plan	
Depimpoundments@wv.gov	

### IMP 1A - Section 4 - Associated Well Numbers and API Numbers

Well Numbers	
Pritt 201	
Pritt 202	
Pritt 203	
Pritt 204	
Pritt 205	
Pritt 206	
Pritt 207	
Pritt 301	
Pritt 211	
Pritt 212	
Pritt 213	
Pritt 214	
Pritt 215	
Pritt 216	RECEIVED
Pritt 217	Office of Oil and Gas
Pritt 311	AUG 28 2017
API Numbers	WV Department of Environmental Protection
Not Yet Assigned by the WV DEP	