



 west virginia department of environmental protection

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

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

Friday, March 1, 2019
 WELL WORK PERMIT
 Horizontal 6A / New Drill

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

Re: Permit approval for GAMELLI HSOG 204
 47-033-05934-00-00

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: GAMELLI HSOG 204
 Farm Name: JAMES T. GAMELLI ET AL
 U.S. WELL NUMBER: 47-033-05934-00-00
 Horizontal 6A New Drill
 Date Issued: 3/1/2019

PERMIT CONDITIONS

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

CONDITIONS

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

03/01/2019

API Number: _____

PERMIT CONDITIONS

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

WW-6B
(04/15)

API NO. 47-033 - 03/01/2019

OPERATOR WELL NO. Gamelli HSOG 204

Well Pad Name: Gamelli HSOG

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

1) Well Operator: Arsenal Resources 494519412 Harrison Simpson Rosemont
Operator ID County District Quadrangle

2) Operator's Well Number: Gamelli HSOG 204 Well Pad Name: Gamelli HSOG

3) Farm Name/Surface Owner: James T. Gamelli et al Public Road Access: CR 17

4) Elevation, current ground: 1,130.20' Elevation, proposed post-construction: 1,140.50'

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

(b) If Gas Shallow Deep _____
Horizontal _____

*SDw
10/29/2018*

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale, 7,238' (TVD Top) - 7,338' (Bottom), 100 ft, 0.5 psi/ft

8) Proposed Total Vertical Depth: 7,317'

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 22,632.3'

11) Proposed Horizontal Leg Length: 14,878.22'

12) Approximate Fresh Water Strata Depths: 96', 246', 366', 671'

13) Method to Determine Fresh Water Depths: Offsetting wells water depths (033-02428, 033-02986)

14) Approximate Saltwater Depths: 1400'

15) Approximate Coal Seam Depths: Eik Lick-00', Harlem-175', Bakerstown-253', Brush Creek-355', Upper Freeport-422', Lower Freeport-475', Upper Kittanning-538', Middle Kittanning-617', Lower Kittanning-641', Clarion-662'

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

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

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

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18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	26	New	H-40	102.7	80	80	CTS
Fresh Water	13.375	New	J-55	54.5	750	750	CTS
Coal							
Intermediate	9.625	New	J-55	40	2450	2450	CTS
Production	5.5	New	P-110	23	22,632	22,632	TOC @ 2,300
Tubing							
Liners							

*SIW
10/29/2018*

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	26	36			0	Class A, 3% CaCl2	1.2
Fresh Water	13.375	17.5	0.38	2730	900	Class A, 3% CaCl2	1.2
Coal							
Intermediate	9.625	12.25	0.395	3950	1500	Class A, 3% CaCl2	1.29
Production	5.5	8.5-8.75	0.415	14520	9500	Class A/50.50 Poz	1.29/1.34
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

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

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

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

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21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 19.4 WV Department of Environmental Protection

22) Area to be disturbed for well pad only, less access road (acres): 7.4

23) Describe centralizer placement for each casing string:

26"- No centralizers 13 3/8" – one bow spring centralizer on every other joint 9 5/8" – one bow spring centralizer every third joint from TD to surface 5 1/2" – one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 2,550'; there will be no centralizers from 2,550 to surface.

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

26" will be circulated to surface. The 13 3/8" casing will be cemented to surface with Class A cement and no greater than 3% CaCl (calcium chloride). The 9 5/8" casing will be cemented to surface with Class A cement, & no greater than 3% calcium chloride. The 5 1/2" production string will be cemented back to 2,300' (+/- 150' above the casing shoe for the 9 5/8") with Class A and 50/50 Poz cement retarded (to extend pumpability) cellophane flaked for fluid loss, Bentonite gel as an extender (increased pumpability and fluid loss), a defoaming agent to decrease cement foaming during mixing to insure the cement is of proper weight to placement and possibly gypsum gas blocking additive to aid in blocking/gas migration (in combination with other additive mentioned here, helps cement achieve a "right angle" set) during the plastic phase of the cement set-up.

25) Proposed borehole conditioning procedures:

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

*Note: Attach additional sheets as needed.

Gamelli HSOG 204		
CEMENT ADDITIVES		
	Name	Purpose
Additive #1:	Bentonite	Helping fluid loss, reducing free water
Additive #2:	Calcium Chloride	Accelerator for low temp application
Additive #3:	Celloflake	Loss circulation additive
Additive #4:	Gypsum	Used for thixotropic properties
Additive #5:	Lignosulfonate	Low temp cement retarder
Additive #6:	Naphthalene Based Dispersant	Used to improve rheological properties of cement
Additive #7:	Cellulose	Help with fluid loss

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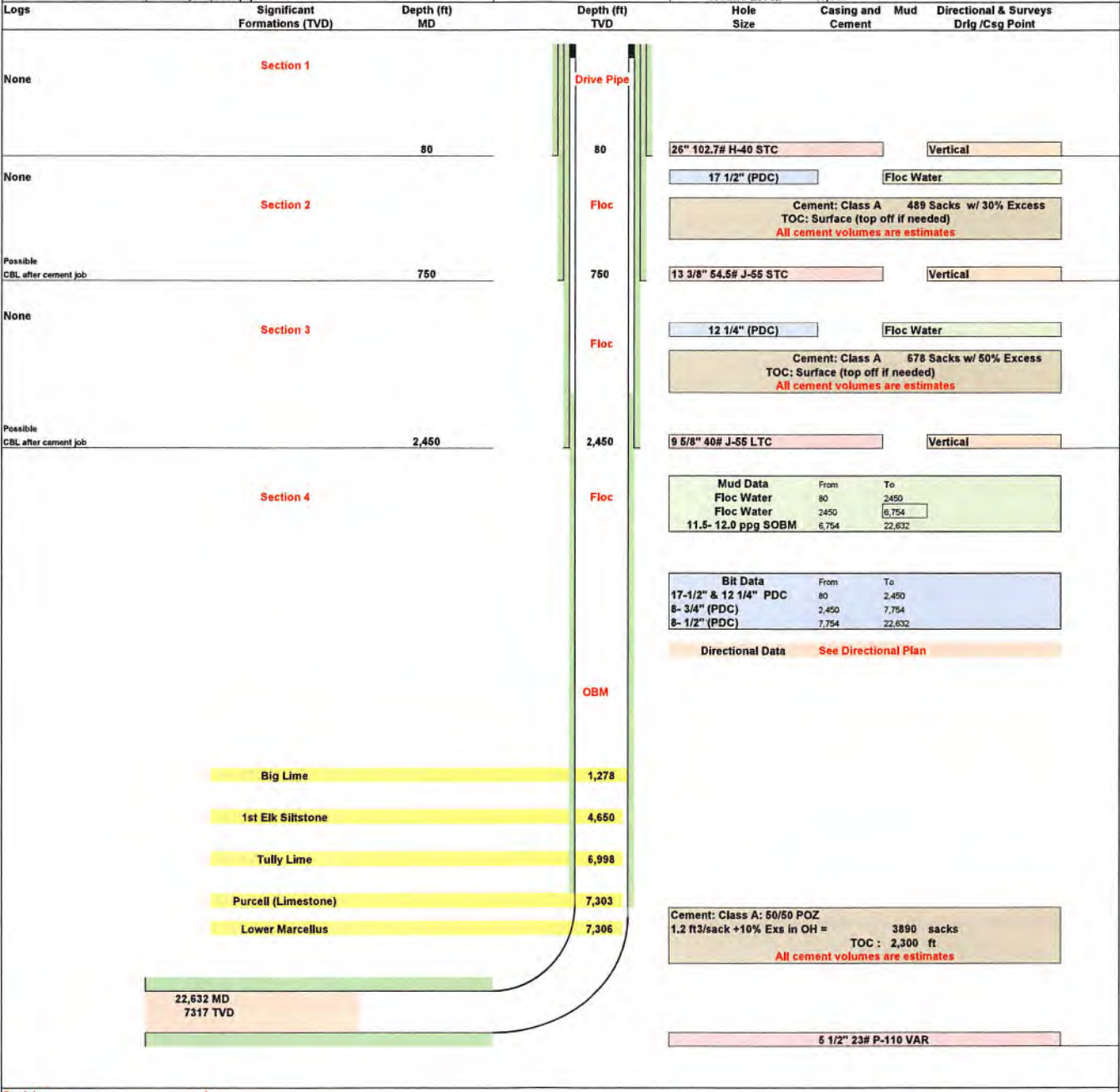
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Arsenal Resources
Gamelli HSOG 204
Casing Design
Directional Plan # 2 QES

Other Names:	N/A
Surface Location:	TBD
Bottom Hole Location:	TBD
Total Depth:	22,632 MD (ft) 7,317 TVD (ft)

County:	Harrison
State:	West Virginia
AFE #:	XX API #: XX
RKB:	27
Ground Level:	1,141



Revision 1
Note: Not drawn to scale
Cement Outside Casing Seal Assembly in Annulus
Date Last Revised: 30-Aug-18
Jarrett Toms

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Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near Arsenal Resources hydraulic fracturing in Harrison County, WV prior to hydraulic fracturing at Gamelli HSOG pad, 204 well number.

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 7,400' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Benson formations (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:

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

03/01/2019



2. Reporting

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

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Area of Review Report - **Gamelli HSOG** Pad, **204** Lateral, **Harrison** County, WV

Well Name	API Number	Operator Name / Address	Well Type	Latitude	Longitude	Total Depth	Perforated Formation(s)	Producing Zones not Perforated
Thompson 1	033-00981	Alliance Petroleum Corporatio	Existing	39.237611	-80.19144	4439	Benson	NA
Crim 3	033-03262	Alliance Petroleum Corporatio	Existing	39.242406	-80.193701	4550	Bradford, Benson	NA
Smith 1	033-00494	Alliance Petroleum Corporatio	Existing	39.24777	-80.194053	4515	Benson	NA
Snider 3002	033-00660	Petroleum Development Corp	Existing	39.250373	-80.197961	2399	Fifth	NA
Dawson 1	033-02427	Ross & Wharton Co., Inc.	Existing	39.255474	-80.202502	4480	Benson	NA

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App. Attachment "A"

03/01/2019



Click or tap to enter a date.

Ross & Wharton Co., Inc.

Address

State

RE: Click or tap here to enter text.

Dear Sir/Madam,

Arsenal Resources has developed a Marcellus pad, Gamelli HSOG, well #204, 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 7,400 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 Gamelli HSOG pad, #204, during the Quarter of 2019. We have identified conventional natural gas wells operated by your company within 500' (lateral distance) of our newly planned wells. Plats for each well on this pad are attached.

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

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

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

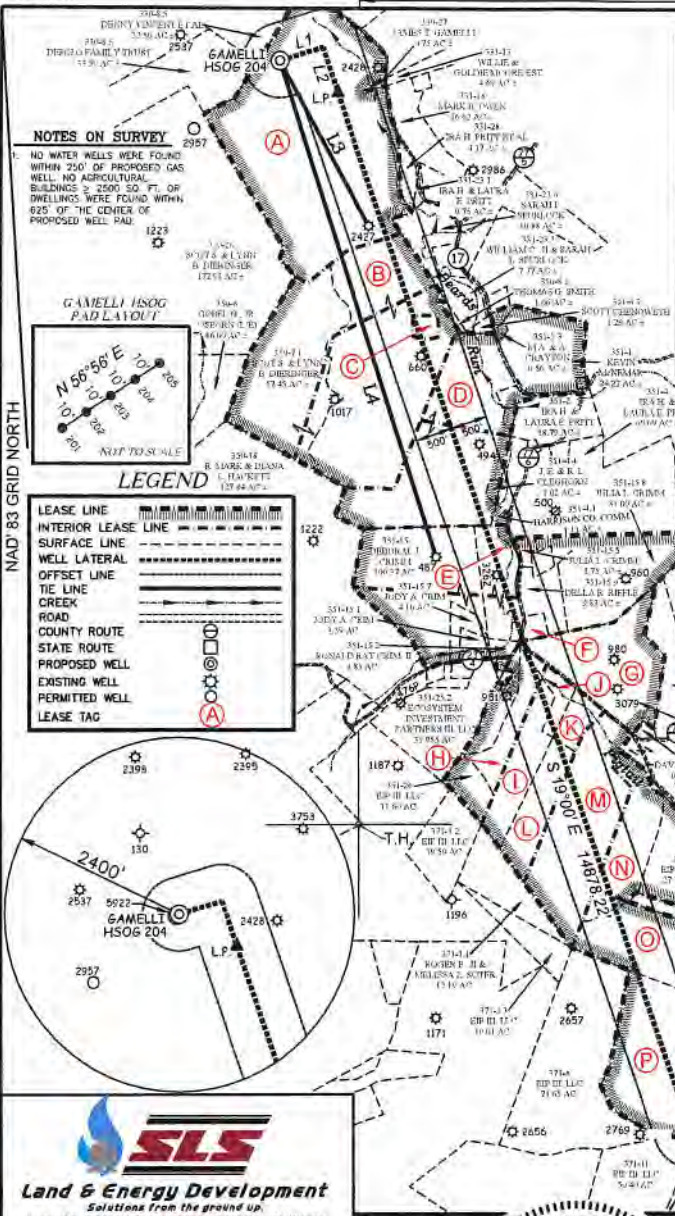
Sincerely,

Kelly Davis
Permitting Specialist

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ARSENAL RESOURCES GAMELLI HSO6 204

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT)	N. 278,099.8	E. 1,769,102.0
NAD'83 GEO.	LAT-(N) 39.281387	LONG-(W) 80.204228
NAD'83 UTM (M)	N. 4,346,085.4	E. 568,853.5

LANDING POINT

NAD'83 S.P.C.(FT)	N. 277,673.4	E. 1,769,897.3
NAD'83 GEO.	LAT-(N) 39.260234	LONG-(W) 80.201408
NAD'83 UTM (M)	N. 4,345,959.5	E. 568,897.9

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 263,805.5	E. 1,774,740.4
NAD'83 GEO.	LAT-(N) 39.221713	LONG-(W) 80.183925
NAD'83 UTM (M)	N. 4,341,688.1	E. 570,444.7

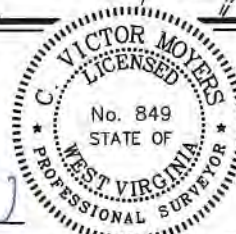
TAG	SURFACE OWNER	TAX MAP PARCEL	ACREAGE
A	JAMES T. GAMELLI ET AL	330-20	151.20±
B	SARAH L. SPURLOCK	350-7	97.19±
C	RAY ANDREW WHITE	350-8, 3	2.41±
D	CAROLYN S. CLEGHORN	351-2	85.80±
E	RONALD RAY CRIM, II	351-15, 6	18.00±
F	JOSHUA A. & AMANDA D. BROWN	351-15, 10	2.37±
G	GERALD W. BUENER ET AL	351-20	40.25±
H	ROGER P. II & MELISSA L. SUTER	351-26, 1	13.10±
I	ROGER P. II & MELISSA L. SUTER	351-27, 1	19.87±
J	GERALD W. BUENER ET AL	351-27	5.22±
K	GERALD W. BUENER ET AL	351-28	6.85±
L	ROGER P. II & MELISSA L. SUTER	351-28, 1	18.46±
M	ROGER P. II & MELISSA L. SUTER	351-29	54.00±
N	ROGER P. II & MELISSA L. SUTER	351-41	27.66±
O	ECOSYSTEM INVESTMENT PARTNERS III, LLC	371-1	93.98±
P	ECOSYSTEM INVESTMENT PARTNERS III, LLC	371-9	105.48±

GAMELLI HSO6 204 WELL TIES

LINE	BEARING	DISTANCE
L1	N 73°11' E	613.55'
L2	S 19°00' E	638.62'
L3	S 28°44' E	2551.17'
L4	S 17°47' E	7053.16'



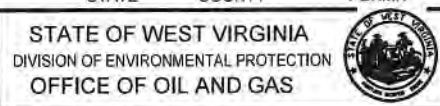
I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.



P.S. C. Victor Moyers
849

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE OCTOBER 26, 20 18
 REVISED _____
 OPERATORS WELL NO. GAMELLI HSO6 204
 API WELL NO. 47 - 33 - 05934
 STATE PA COUNTY BRIDGEPORT PERMIT _____

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8597P204.dwg
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'



WELL TYPE: OIL _____ GAS X LIQUID WASTE _____ INJECTION _____ DISPOSAL _____ "GAS" PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X

LOCATION:
 ELEVATION EXISTING: 1,130.20' / PROPOSED: 1,140.50' WATERSHED BEARDS RUN
 DISTRICT SIMPSON COUNTY HARRISON QUADRANGLE ROSEMONT 7.5'

SURFACE OWNER JAMES T. GAMELLI ET AL. ACREAGE 151.20±
 ROYALTY OWNER JAMES T. GAMELLI ET AL. ACREAGE 151.20±

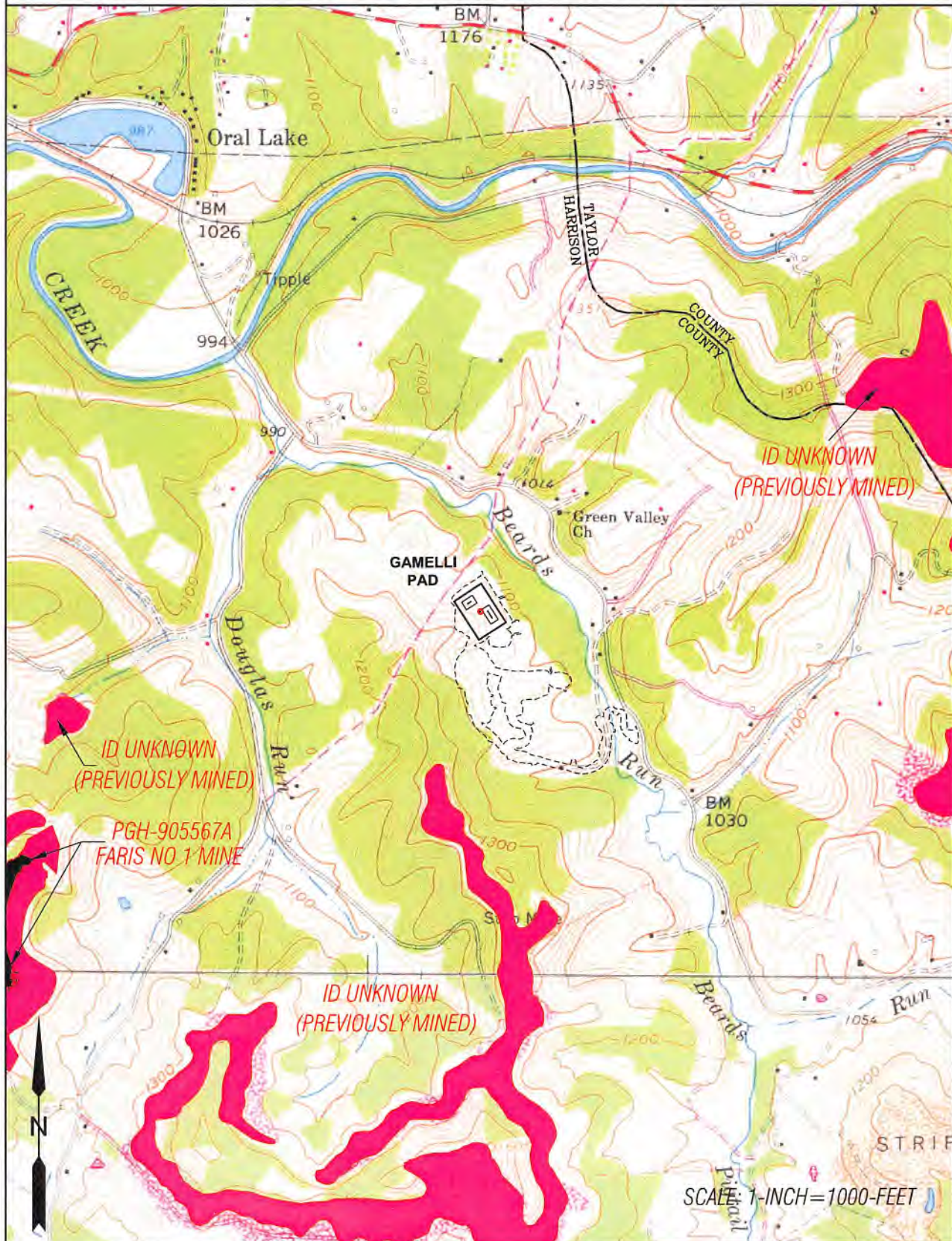
PROPOSED WORK:
 DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE X PLUG OFF OLD _____
 FORMATION _____ PERFORATE NEW FORMATION _____ PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____ OTHER _____
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH 22,632.3' TMD / 7,317' TVD


WELL OPERATOR ARSENAL RESOURCES DESIGNATED AGENT WILLIAM VEIGEL
 ADDRESS 6031 WALLACE RD. EXT. SUITE 300 ADDRESS 65 PROFESSIONAL PLACE
WEXFORD, PA 15090 BRIDGEPORT, WV 26330

AOR- Attachment "A"

**GAMELLI PAD
NEAREST PERMITTED COAL MINES
AS OF 10-05-2017
PER WVDEP/WVGES MAPPING**

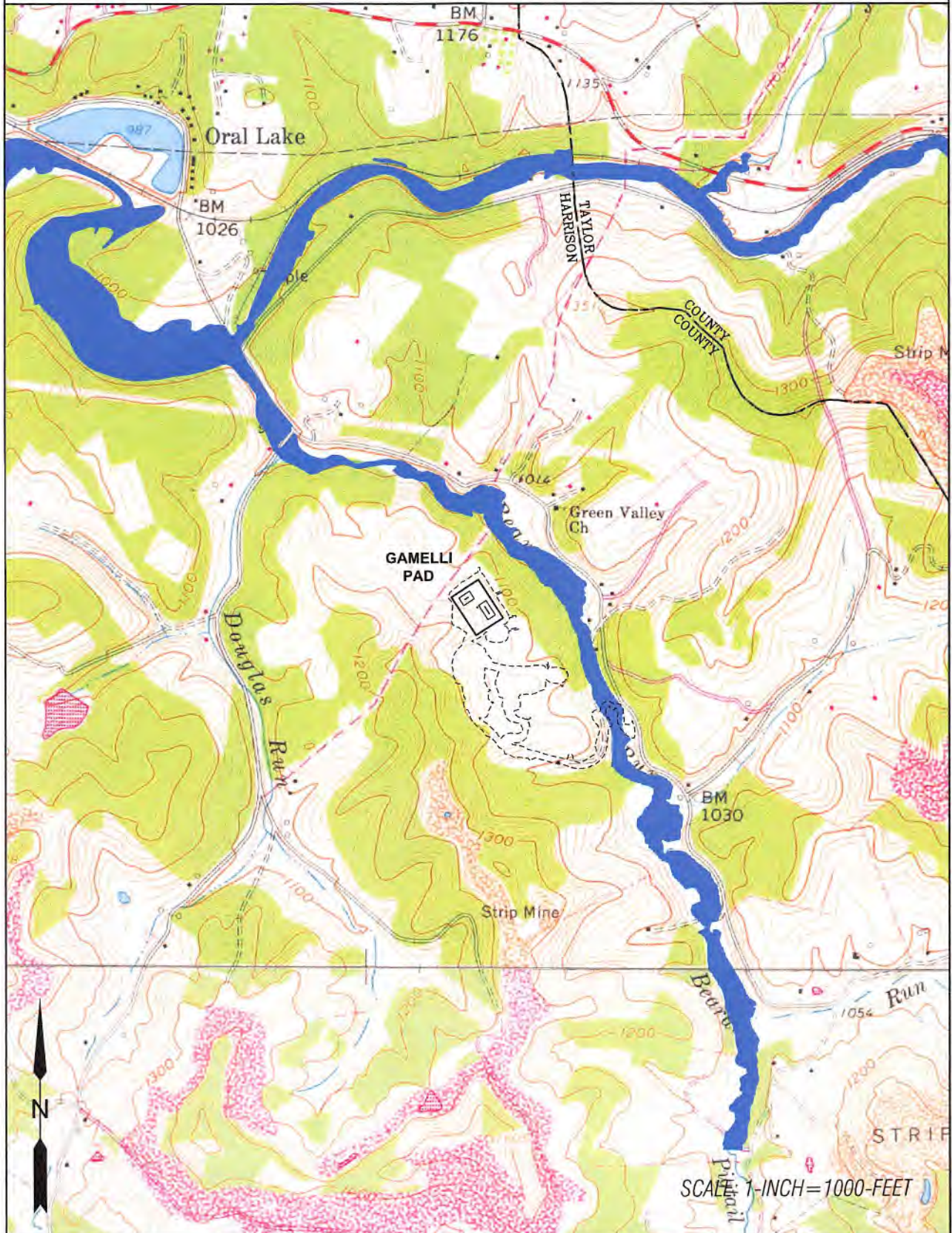
03/01/2019




				TOPO SECTION OF: ROSEMONT & BROWNTON WV 7.5' QUADRANGLES		OPERATOR: ARSENAL RESOURCES 65 PROFESSIONAL PLACE, SUITE 200 BRIDGEPORT, WV 26330	
				COUNTY	DISTRICT		
DRAWN BY: K.G.M.	FILE NO: 8597	DATE: 10-05-17	CADD FILE: E587 COAL.DWG	HARRISON	SIMPSON - OUTSIDE		

GAMELLI PAD
 FLOOD ZONE MAPPING
 PER FEMA MAPPING
 54033C0189D

03/01/2019



 <p>SLS Lead & Energy Development <small>Building from the ground up</small></p>				TOPO SECTION OF: ROSEMONT & BROWNTON WV 7.5' QUADRANGLES		OPERATOR: ARSENAL RESOURCES 65 PROFESSIONAL PLACE, SUITE 200 BRIDGEPORT, WV 26330	
				COUNTY	DISTRICT		
DRAWN BY K.G.M.	FILE NO. 8597	DATE 10-05-17	CADD FILE: 8097 FLOOD.DWG	HARRISON	SIMPSON - OUTSIDE		

WW-9
(4/16)

API Number 47 - 033 - _____
Operator's Well No. Gamelli HSOG 204

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Arsenal Resources OP Code 494519412

Watershed (HUC 10) Beards Run Quadrangle Rosemont

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: Produced water

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 60 ml

Proposed Disposal Method For Treated Pit Wastes:

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

*SDW
10/29/2018*

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

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

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

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

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

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

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

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

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

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

Company Official Signature _____

Company Official (Typed Name) William Veigel

Company Official Title Designated Agent

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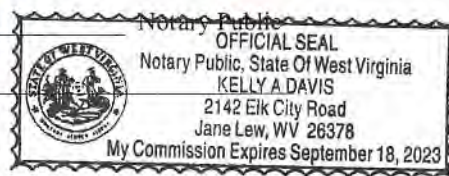
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Subscribed and sworn before me this 29th day of October, 20 18

Kelly A. Davis

My commission expires September 18, 2023



Arsenal Resources

Proposed Revegetation Treatment: Acres Disturbed 19.4 Prevegetation pH 6.8 Average

Lime 2.67 Tons/acre or to correct to pH 6.4

Fertilizer type 10-20-20

Fertilizer amount 1000 lbs/acre

Mulch 3-4 Tons/acre

Seed Mixtures

Temporary

Permanent

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

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: S. J. [Signature]

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

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Title: OOG Inspector Date: 10/24/2018

Field Reviewed? () Yes () No



SITE SAFETY PLAN

Gamelli HSOG #204 WELL PAD

911 Address:

4423 Green Valley Rd
Bridgeport, WV 26330

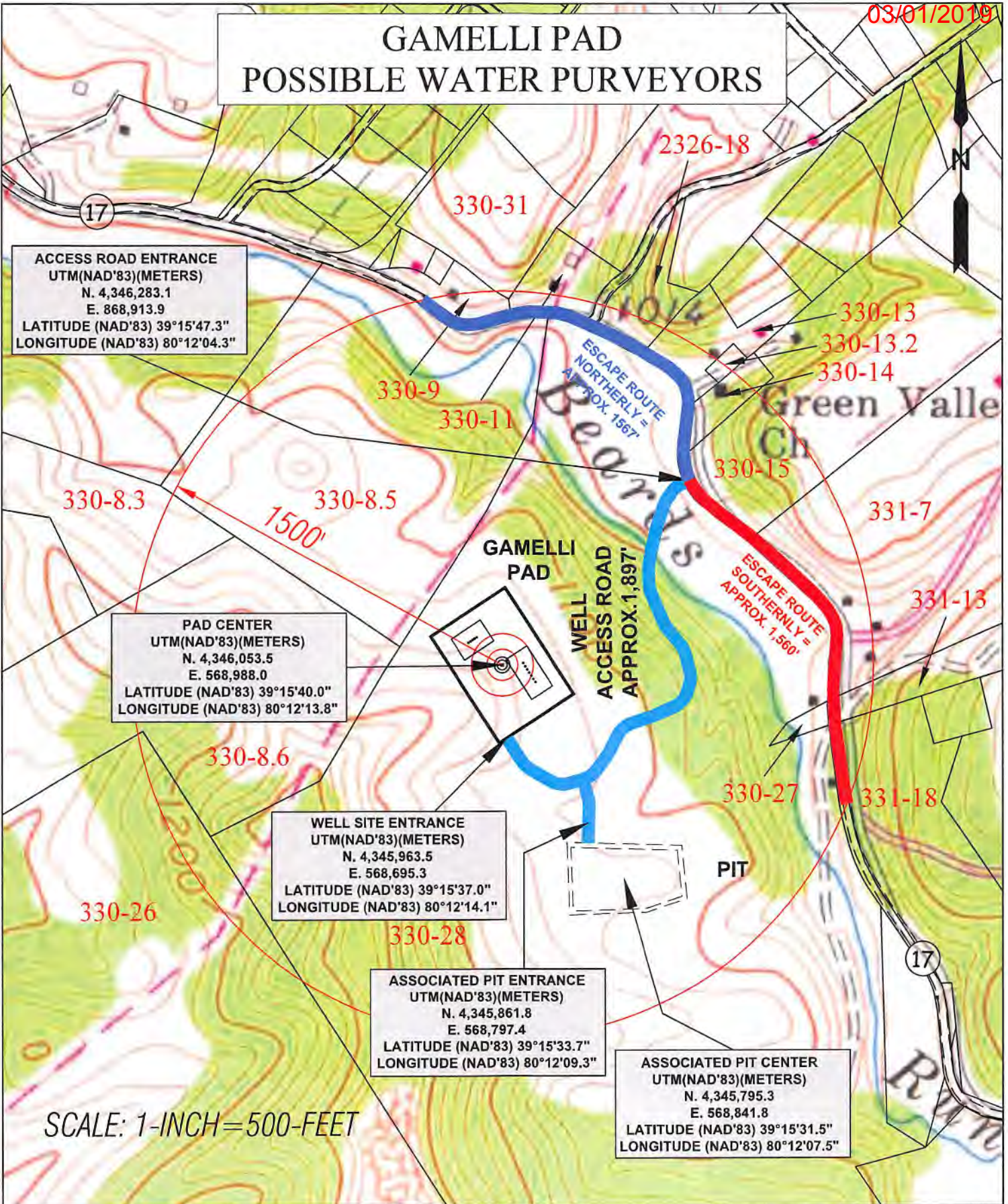
SDW
10/29/2018

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GAMELLI PAD POSSIBLE WATER PURVEYORS



ACCESS ROAD ENTRANCE
UTM(NAD'83)(METERS)
N. 4,346,283.1
E. 868,913.9
LATITUDE (NAD'83) 39°15'47.3"
LONGITUDE (NAD'83) 80°12'04.3"

PAD CENTER
UTM(NAD'83)(METERS)
N. 4,346,053.5
E. 568,988.0
LATITUDE (NAD'83) 39°15'40.0"
LONGITUDE (NAD'83) 80°12'13.8"

WELL SITE ENTRANCE
UTM(NAD'83)(METERS)
N. 4,345,963.5
E. 568,695.3
LATITUDE (NAD'83) 39°15'37.0"
LONGITUDE (NAD'83) 80°12'14.1"

ASSOCIATED PIT ENTRANCE
UTM(NAD'83)(METERS)
N. 4,345,861.8
E. 568,797.4
LATITUDE (NAD'83) 39°15'33.7"
LONGITUDE (NAD'83) 80°12'09.3"

ASSOCIATED PIT CENTER
UTM(NAD'83)(METERS)
N. 4,345,795.3
E. 568,841.8
LATITUDE (NAD'83) 39°15'31.5"
LONGITUDE (NAD'83) 80°12'07.5"

SCALE: 1-INCH = 500-FEET

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Land & Energy Development
Solutions From the Ground Up

DRAWN BY K.G.M.	FILE NO. 8597	DATE 9-28-18	CADD FILE: 2018WATERPURVEYOR.DWG
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TOPO SECTIONS OF:
ROSEMONT WV 7.5' QUAD

COUNTY	DISTRICT
HARRISON	SIMPSON-OUTSIDE

OPERATOR:
ARSENAL RESOURCES
65 Professional Place, Suite 200
Bridgeport, WV 26330



Possible Water Purveyors within 1,500 feet of Gamelli Pad

MAP	PARCEL	OWNER	ADDRESS
330	8.3	DEPOLO JOHN L	PO BOX 4610 , BRIDGEPORT , WV 26330
330	8.5	VINCENT DENNY HAROLD & DONNA	3139 GREGORYS RUN RD , CLARKSBURG , WV 26301
330	8.6	DEPOLO FAMILY TRUST C/O JOHN DEPOLO	PO BOX 4610 , BRIDGEPORT , WV 26330
330	9	MYERS RONALD E & LAURA L	RR 5 BOX 116M , BRIDGEPORT , WV 26330
330	11	ALDRIDGE THOMAS G & ANNA C	161 CLEER RD , BRIDGEPORT , WV 26330
330	13	SANDY A WALTER	4960 GREEN VALLEY RD , BRIDGEPORT , WV 26330
330	13.2	CUMBERLEDGE GEORGE E & JANET C	4960 GREEN VALLEY RD , BRIDGEPORT , WV 26330
330	14	TRUSTEES GREEN VALLEY M E CHURCH	UNKNOWN
330	15	SANDY RICHARD A & DOREEN	200 BLUE RIDGE DR , BRIDGEPORT , WV 26330
330	26	DIERINGER SCOT S & LYNN B	894 MAPLE LAKE RD , BRIDGEPORT , WV 26330
330	27	KING EDWIN L & JAMES T GAMELLI - C/O GOG LLC & JAMES T GAMELLI	821 CIRCLE DR , MOUNT CLARE , WV 26408
330	28	KING EDWIN L & JAMES T GAMELLI - C/O GOG LLC & JAMES T GAMELLI	821 CIRCLE DR , MOUNT CLARE , WV 26408
330	31	LAMOUREUX KENNETH & REBECCA	64 TRAILS END RD , BRIDGEPORT , WV 26330
331	7	PATRICK DAVID MARK	4724 GREEN VALLEY RD , BRIDGEPORT , WV 26330
331	13	MOORE WILLIE ESTATE & GOLDIE	PO BOX 55 , HEPZIBAH , WV 26369
331	18	OWEN MARK B	130 OWEN LN , BRIDGEPORT , WV 26330
2326	18	MARKS JONATHON E & STEPHANIE A	PO BOX 179 , BRIDGEPORT , WV 26330

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ARSENAL RESOURCES GAMELLI HSOG 204

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT) N. 278,099.8 E. 1,769,102.0
NAD'83 GEO. LAT-(N) 39.281387 LONG-(W) 80.204228
NAD'83 UTM (M) N. 4,346,085.4 E. 568,653.5

LANDING POINT

NAD'83 S.P.C.(FT) N. 277,673.4 E. 1,769,102.0
NAD'83 GEO. LAT-(N) 39.280234 LONG-(W) 80.201408
NAD'83 UTM (M) N. 4,345,959.5 E. 568,897.9

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 263,605.5 E. 1,774,740.4
NAD'83 GEO. LAT-(N) 39.221713 LONG-(W) 80.183925
NAD'83 UTM (M) N. 4,341,698.1 E. 570,444.7

03/01/2019

TAG	SURFACE OWNER	TAX MAP PARCEL	ACREAGE
A	JAMES T. GAMELLI ET AL.	330-24	151.20±
B	SARAH L. SPURLOCK	350-7	97.19±
C	RAY ANDREW WHITE	350-8.3	2.41±
D	CAROLYN S. CLEGHORN	351-4.2	95.80±
E	RONALD RAY CRIM, II	351-13.6	18.00±
F	JOSHUA A. & AMANDA D. BROWN	351-15.10	2.37±
G	GERALD W. BURNER ET AL.	351-20	40.25±
H	ROGER P., II & MELISSA L. SUTER	351-26.1	13.18±
I	ROGER P., II & MELISSA L. SUTER	351-27.1	19.87±
J	GERALD W. BURNER ET AL.	351-27	5.22±
K	GERALD W. BURNER ET AL.	351-28	6.65±
L	ROGER P., II & MELISSA L. SUTER	351-28.1	18.46±
M	ROGER P., II & MELISSA L. SUTER	351-29	51.00±
N	ROGER P., II & MELISSA L. SUTER	371-4.1	27.66±
O	ECOSYSTEM INVESTMENT PARTNERS III, LLC	371-3	95.98±
P	ECOSYSTEM INVESTMENT PARTNERS III, LLC	371-9	105.48±

GAMELLI HSOG 204 WELL TIES

LINE	BEARING	DISTANCE
L1	N 73°11' E	613.55'
L2	S 19°00' E	639.02'
L3	S 28°44' E	2551.17'
L4	S 17°47' E	7053.18'

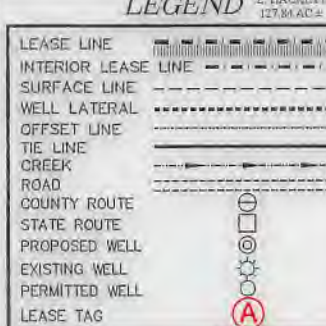
REFERENCES



1" = 200'

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.



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P.O. Box 150 • 12 Vanhook Drive • Glenville, WV 26031 • (304) 482-5834
www.slsurvey.com

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

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE OCTOBER 26, 20 18
REVISED _____
OPERATORS WELL NO. GAMELLI HSOG 204
API WELL NO. 47 - 33 - 05934
STATE 33 COUNTY 05934 PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8597P204.dwg
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION EXISTING: 1,130.20' / PROPOSED: 1,140.50' WATERSHED BEARDS RUN
DISTRICT SIMPSON COUNTY HARRISON QUADRANGLE ROSEMONT 7.5'

SURFACE OWNER JAMES T. GAMELLI ET AL. ACREAGE 151.20±
ROYALTY OWNER JAMES T. GAMELLI ET AL. ACREAGE 151.20±
LEASE NO. _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH 22,632.3' TMD / 7,317' TVD

WELL OPERATOR ARSENAL RESOURCES DESIGNATED AGENT WILLIAM VEIGEL
ADDRESS 6031 WALLACE RD. EXT. SUITE 300 ADDRESS 65 PROFESSIONAL PLACE
WEXFORD, PA 15090 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

WW-6A1
(5/13)

Operator's Well No. Gamelli HSOG 204

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

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

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

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


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

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

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

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

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

Attachment to WW-6A1, Gamelli HSOG 204

Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
A (00007225)	Edwin L. King	Mar Key, LLC	15.00%	1576/507	149.44
A (00007205)	James T. Gamelli	Mar Key, LLC	15.00%	1576/220	149.44
B (00004022)	Mary Alice Hafer	Petroleum Development Corp.	12.50%	1048/294	125
	Petroleum Development Corp.	PDC Mountaineer, LLC		1457/703	
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
B (00008536)	Christina Mullen Blackburn, as Guardian of Claire Alexandra Mulle, a minor child	Mar Key, LLC	16.00%	1625/246	77.5
B (00008534)	Christina Mullen Blackburn, as Guardian of Claire Alexandra Mulle, a minor child	Mar Key, LLC	16.00%	1625/248	78.59
C (00005170)	Clair Chenoweth	PDC Mountaineer, LLC	12.50%	1507/784	2.14
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
D (00004357)	Glen Smith and Helen Nadine Smith, his wife	Union Carbide Corporation	12.50%	853/131	60
	Union Carbide Corporation	Creslenn Oil Company		897/286	
	Creslenn Oil Company	Delta Producing Corporation		925/522	
	Delta Producing Corp.	Petroleum Corporation of America		977/168	
	Petroleum Corporation of America	Petroleum Development Corporation		977/153	
	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	

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	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
D (00003834)	Glen Smith and Helen Nadine Smith, his wife	Delta Producing Corp	12.50%	943/109	60
	Delta Producing Corporation	Petroleum Corporation of America		967/575	
	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	
E (00003827)	Teresa Crim, widow of James Cisco Crim, and Molly Crim Adams and H. Marston Adams, her husband	Delta Producing Corp.	12.50%	953/460	45
	Delta Producing Corporation	Petroleum Corporation of America		967/575	
	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	
E, F (00003826)	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		925/522	
	Delta Producing Corporation	Petroleum Corporation of America		967/575 977/168	
	Petroleum Corporation of America	Petroleum Development Corporation		977/153	

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Attachment to WW-6A1, Gamelli HSOG 204

WV Department of Environmental Protection	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
	PDC Mountaineer, LLC	River Ridge Energy LLC		59/1263	
G (00005198)	Rebecca S. Tennant, Jeffery A. Morrison, Freddie F. Morrison, Russell L. Crouse, Roy A. Crouse, Ronald R. Crouse, Robert D. Crouse, Kathryn Caldwell, Margaret Crouse Smith	PDC Mountaineer, LLC	14.50%	1522/592	40.25
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
G, I, J, K, L (00004342)	Opal T. Webb	Petroleum Development Corporation	12.50%	1045/1117	94
	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
	PDC Mountaineer, LLC	River Ridge Energy LLC		59/1263	
H (00003565)	James W. Thompson and Betty L. Thompson, his wife	Petroleum Development Corporation	12.50%	1045/1036	26
	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
	PDC Mountaineer, LLC	River Ridge Energy LLC		59/1263	
I, J, K, L (00008004)	Gerald W. Burner, married man dealing in his own right	Mark Key, LLC	13.00%	1602/1178	50.1875
I, J, K, L (00008075)	Robert Curtis Webb, a single man	Mar Key, LLC	13.00%	1606/341	50.1875
I, J, K, L (00008007)	Trude Lea Parker, married woman dealing in her own right	Mar Key, LLC	13.00%	1602/1190	50.1875
I, J, K, L (00008005)	Joseph W. Burner, a single man	Mar Key, LLC	13.00%	1602/1180	50.1875
I, J, K, L (00008006)	Larry Curtis Burner, II, married man dealing in his own right	Mar Key, LLC	13.00%	1602/1182	50.1875

Attachment to WW-6A1, Gamelli HSOG 204

I, J, K, L (00008000)	William H. Webb, married man dealing in his own right	Mar Key, LLC	13.00%	1602/1196	50.1875
I, J, K, L (00007915)	John E. Webb, married man dealing in his own right	Mar Key, LLC	13.00%	1602/1198	50.1875
M (00008262)	Carolyn E. Farr Trust, Clarence E. Sigley, Sr. Trustee	Clarence E. Sigley Sr.	12.50%	1484/1101	50.1875
	Clarence E. Sigley Sr.	Mar Key, LLC		1614/1080	
N (00003777)	James W. Thompson and Betty L. Thompson, his wife	Delta Producing Corporation	12.50%	949/548	51
	Delta Producing Corporation	Petroleum Corporation of America		967/575 977/168	
RECEIVED Office of Oil and Gas	Petroleum Corporation of America	Petroleum Development Corporation		977/153	
NOV 07 2018	Petroleum Development Corporation	PDC Mountaineer, LLC		1440/364	
WV Department of Environmental Protection	PDC Mountaineer, LLC	River Ridge Energy LLC		59/1263	
N, O [00008032]	Jeffrey Craig Hinkle, a single man	Mar Key, LLC	13.00%	1604/1349	100
N, O [00007742]	Charles Kisner, a married man dealing in his sole and separate property	Mar Key, LLC	12.50%	1587/956	100
N, O [00005119]	William Michael Henline II	PDC Mountaineer, LLC	12.50%	1489/1030	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008176]	Walter S. Flanigan, Jr. dealing in his sole and separate property	Mar Key, LLC	16.00%	1616/1127	100
N, O [00008035]	Michael Max Waldo, a married man dealing in his own right	Mar Key, LLC	13.00%	1606/709	100
N, O [00007795]	Paul W. Sturm, Jr. a/k/a Paul William Sturm, Jr., a single man	Mar Key, LLC	12.50%	1595/1300	100
N, O [00005122]	Diana Villare a/k/a Diane M. Dunn a/k/a Diana Murray	PDC Mountaineer, LLC	12.50%	1486/1178	100

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Attachment to WW-6A1, Gamelli HSOG 204

WV Department Environmental N, O [00005116]	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
	Susan Lang Bauer	PDC Mountaineer, LLC	12.50%	1484/857	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008173]	Dorrinda S. Flanigan, widow	Mar Key, LLC	16.00%	1616/1121	100
N, O [00005130]	James Morrison	PDC Mountaineer, LLC	12.50%	1499/246	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00005125]	Erma Phillips	PDC Mountaineer, LLC	12.50%	1488/1215	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00005117]	Jennifer Morgan, a/k/a Jennifer Merritt	PDC Mountaineer, LLC	12.50%	1488/1212	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00005131]	Daniel W. Morrison	PDC Mountaineer, LLC	12.50%	1497/656	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008174]	Tamra L. Rogers, dealing in her sole and separate property	Mar Key, LLC	16.00%	1616/1123	100
N, O [00005128]	Gay Ellen Preston a/k/a Ellen Preston	PDC Mountaineer, LLC	12.50%	1495/1058	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008003]	Donna S. Marshall, fka Donna S. McElwain, a single woman	Mar Key, LLC	13.00%	1602/1186	100
N, O [00005123]	Chassidi Parker	PDC Mountaineer, LLC	12.50%	1488/1218	100

Attachment to WW-6A1, Gamelli HSOG 204

	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00007817]	Joyce A. Moyer, a married woman dealing in her sole and separate property	Mar Key, LLC	15.00%	1597/346	100
N, O [00005129]	George Morrison	PDC Mountaineer, LLC	12.50%	1499/243	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00005126]	Thomas L. Morrison	PDC Mountaineer, LLC	12.50%	1489/1027	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00007743]	Vietta A. Hawkins, a/k/a Vietta Fleming Hawkins, a married woman dealing in her sole and separate property	Mar Key, LLC	12.50%	1587/954	100
N, O [00005120]	Brian Morrison	PDC Mountaineer, LLC	12.50%	1486/1181	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008269]	James Lee Horner, a single man	Mar Key, LLC	12.50%	1614/1084	100
N, O [00008175]	Walter R. Flanigan, dealing in his sole and separate property	Mar Key, LLC	12.50%	1616/1125	100
N, O [00005127]	George Ernest Grant	PDC Mountaineer, LLC	12.50%	1495/1061	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008034]	Mark Lee Waldo, a married man dealing in his own right	Mar Key, LLC	13.00%	1606/707	100
N, O [00005121]	Ashley McElroy	PDC Mountaineer, LLC	12.50%	1489/1021	100

Attachment to WW-6A1, Gamelli HSOG 204

	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008161]	Lawrence A. Bowman, a widower	Mar Key, LLC	13.00%	1610/828	100
N, O [00005115]	Dianna Lynn Morrison	PDC Mountaineer, LLC	12.50%	1483/1347	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008107]	Kimberly K. Twyman, married woman dealing in her own right	Mar Key, LLC	13.00%	1611/609	100
N, O [00005124]	George E. Morrison, Jr.	PDC Mountaineer, LLC	12.50%	1489/1024	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O [00008072]	Judy Mae Holaway, f/k/a Judy Me Rodgers and Judy Rogers, a married woman dealing in her own right	Mar Key, LLC	13.00%	1606/329	100
N, O [00005118]	Gay Hayhurst a/k/a Gay Lorraine Cox a/k/a Gay Goodwin	PDC Mountaineer, LLC	12.50%	1486/1175	100
	PDC Mountaineer, LLC	River Ridge Energy, LLC		59/1263	
N, O (00008440)	Robert B. Jones Jr., married man dealing in his own right	Mar Key, LLC	13.00%	1622/699	100
N, O (00008428)	Sharon Diane Criss, single	Mar Key, LLC	12.50%	1621/935	100
P (00008024)	Billie Jean Wilcox and Larry R. Wilcox, wife and husband	Mar Key, LLC	15.00%	1606/343	112
P (00008148)	Dean Otto, married dealing in his sole and separate property	Mar Key, LLC	16.00%	1610/709	112

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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 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").
2. **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

By: 
Name: Robert Kessel
Title: CEO

PDC MOUNTAINEER, LLC

By: 
Name: Robert Kessel
Title: CEO

PDC MOUNTAINEER HOLDINGS, LLC

By: 
Name: Robert Kessel
Title: CEO

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Agreement to Drill, Complete and Operate Oil & Gas Wells

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

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

[Signature Page Follows]

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

ARSENAL RESOURCES LLC

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

RIVER RIDGE ENERGY, LLC

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

RIVER RIDGE HOLDINGS, LLC

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

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West Virginia Secretary of State — Online Data Services

Business and Licensing

Online Data Services Help

Business Organization Detail

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

MAR KEY LLC

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

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

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Authorized Shares

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

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

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Annual Reports
Date filed

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

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

Tuesday, November 28, 2017 — 9:44 AM

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03/01/2019



People Powered. Asset Strong.

October 23, 2018

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

RE: Ownership of Roadways – Gamelli HSOG Unit (Wells 202, 203, and 204)

Mr. Martin:

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

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

Sincerely,

A handwritten signature in blue ink that reads 'Jonathan B. Bompiani'.

Jonathan B. Bompiani
Senior Title Attorney

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

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

Date of Notice Certification: 11-1-18

API No. 47- 033 -
Operator's Well No. Gamelli HSOG 204
Well Pad Name: Gamelli HSOG

Notice has been given:

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

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>568,653.5</u>
County: <u>Harrison</u>	Northing: <u>4,346,085.4</u>
District: <u>Simpson</u>	Public Road Access: <u>CR 17</u>
Quadrangle: <u>Rosemont</u>	Generally used farm name: <u>James T. Gamelli</u>
Watershed: <u>Beards Run</u>	

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 150px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

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

Certification of Notice is hereby given:

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

Well Operator: Arsenal Resources
By: William Veigel *WV*
Its: Designated Agent
Telephone: 724-940-1218

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



Subscribed and sworn before me this 1st day of November 2018
Kelly A. Davis Notary Public
My Commission Expires September 18, 2023

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 11-1-18 **Date Permit Application Filed:** 11-6-18

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
Name: See Attached
Address: _____

Name: _____
Address: _____

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

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
Name: See Attached
Address: _____

COAL OWNER OR LESSEE
Name: See Attached
Address: _____

COAL OPERATOR
Name: _____
Address: _____

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

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

*Please attach additional forms if necessary

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Notice is hereby given:

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

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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.

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WW-6A
(8-13)

API NO. 47- 033 - **03/01/2019**
OPERATOR WELL NO. Gamelli HSOG 204
Well Pad Name: Gamelli HSOG

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 1st day of November 2018
Kelly A. Davis Notary Public
My Commission Expires September 18, 2023

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Gamelli HSOG 204 Well Site

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

Surface Owner(s):

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

GOG, LLC
90 Snuffy Road (Office)
Bridgeport, WV 26330

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

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

GOG, LLC
90 Snuffy Road (Office)
Bridgeport, WV 26330

Surface Owner(s) (Impoundment or Pits):

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

GOG, LLC
90 Snuffy Road (Office)
Bridgeport, WV 26330

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Arsenal Resources
Gamelli HSOG 204 Well Site
WW-6A Notice of Application – Attachment (Page 2 of 2)

Coal Owner of Lessee:

Coal (Pittsburgh Seam):

Huntington National Bank, Trustee
Under The Maxwell Y. Sutton
Testamentary Trust
41 S. High Street
Columbus, OH 53215

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

GOG, LLC
90 Snuffy Road (Office)
Bridgeport, WV 26330

Coal (Kittanning Seam):

Coalquest Development, LLC
100 Tygart Drive
Grafton, WV 26354

Coal (All Other Seams):

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

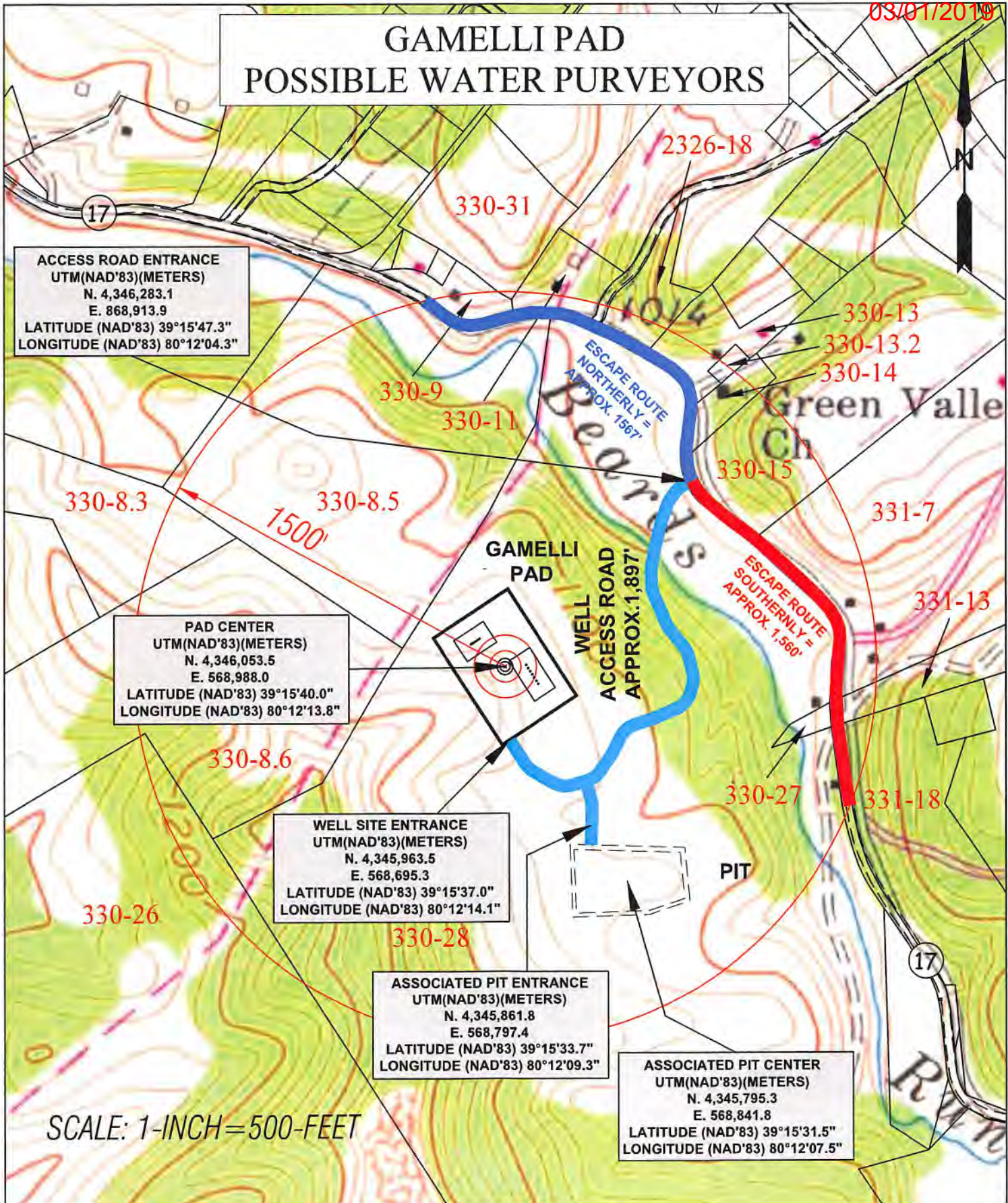
GOG, LLC
90 Snuffy Road (Office)
Bridgeport, WV 26330

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GAMELLI PAD POSSIBLE WATER PURVEYORS



ACCESS ROAD ENTRANCE
 UTM(NAD'83)(METERS)
 N. 4,346,283.1
 E. 868,913.9
 LATITUDE (NAD'83) 39°15'47.3"
 LONGITUDE (NAD'83) 80°12'04.3"


PAD CENTER
 UTM(NAD'83)(METERS)
 N. 4,346,053.5
 E. 568,988.0
 LATITUDE (NAD'83) 39°15'40.0"
 LONGITUDE (NAD'83) 80°12'13.8"

WELL SITE ENTRANCE
 UTM(NAD'83)(METERS)
 N. 4,345,963.5
 E. 568,695.3
 LATITUDE (NAD'83) 39°15'37.0"
 LONGITUDE (NAD'83) 80°12'14.1"

ASSOCIATED PIT ENTRANCE
 UTM(NAD'83)(METERS)
 N. 4,345,861.8
 E. 568,797.4
 LATITUDE (NAD'83) 39°15'33.7"
 LONGITUDE (NAD'83) 80°12'09.3"

ASSOCIATED PIT CENTER
 UTM(NAD'83)(METERS)
 N. 4,345,795.3
 E. 568,841.8
 LATITUDE (NAD'83) 39°15'31.5"
 LONGITUDE (NAD'83) 80°12'07.5"

SCALE: 1-INCH=500-FEET

	TOPO SECTIONS OF: ROSEMONT WV 7.5' QUAD		OPERATOR: ARSENAL RESOURCES 65 Professional Place, Suite 200 Bridgeport, WV 26330	
	COUNTY HARRISON	DISTRICT SIMPSON-OUTSIDE	DRAWN BY K.G.M.	FILE NO. 8597

03/01/2019



Possible Water Purveyors within 1,500 feet of Gamelli Pad

MAP	PARCEL	OWNER	ADDRESS
330	8.3	DEPOLO JOHN L	PO BOX 4610 , BRIDGEPORT , WV 26330
330	8.5	VINCENT DENNY HAROLD & DONNA	3139 GREGORYS RUN RD , CLARKSBURG , WV 26301
330	8.6	DEPOLO FAMILY TRUST C/O JOHN DEPOLO	PO BOX 4610 , BRIDGEPORT , WV 26330
330	9	MYERS RONALD E & LAURA L	RR 5 BOX 116M , BRIDGEPORT , WV 26330
330	11	ALDRIDGE THOMAS G & ANNA C	161 CLEER RD , BRIDGEPORT , WV 26330
330	13	SANDY A WALTER	4960 GREEN VALLEY RD , BRIDGEPORT , WV 26330
330	13.2	CUMBERLEDGE GEORGE E & JANET C	4960 GREEN VALLEY RD , BRIDGEPORT , WV 26330
330	14	TRUSTEES GREEN VALLEY M E CHURCH	UNKNOWN
330	15	SANDY RICHARD A & DOREEN	200 BLUE RIDGE DR , BRIDGEPORT , WV 26330
330	26	DIERINGER SCOT S & LYNN B	894 MAPLE LAKE RD , BRIDGEPORT , WV 26330
330	27	KING EDWIN L & JAMES T GAMELLI - C/O GOG LLC & JAMES T GAMELLI	821 CIRCLE DR , MOUNT CLARE , WV 26408
330	28	KING EDWIN L & JAMES T GAMELLI - C/O GOG LLC & JAMES T GAMELLI	821 CIRCLE DR , MOUNT CLARE , WV 26408
330	31	LAMOUREUX KENNETH & REBECCA	64 TRAILS END RD , BRIDGEPORT , WV 26330
331	7	PATRICK DAVID MARK	4724 GREEN VALLEY RD , BRIDGEPORT , WV 26330
331	13	MOORE WILLIE ESTATE & GOLDIE	PO BOX 55 , HEPZIBAH , WV 26369
331	18	OWEN MARK B	130 OWEN LN , BRIDGEPORT , WV 26330
2326	18	MARKS JONATHON E & STEPHANIE A	PO BOX 179 , BRIDGEPORT , WV 26330

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

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

Date of Notice: 09/01/2016 **Date of Planned Entry:** 09/07/2016

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)
 Name: See Attached
 Address: _____

 Name: _____
 Address: _____

 Name: _____
 Address: _____

COAL OWNER OR LESSEE
 Name: See Attached
 Address: _____ NOV 07 2018

MINERAL OWNER(s)
 Name: See Attached
 Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia	Approx. Latitude & Longitude: 39.260680, -80.204403
County: Harrison	Public Road Access: CR 17
District: Simpson	Watershed: Beards Run
Quadrangle: Rosemont	Generally used farm name: James T. Gamelli

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

Notice is hereby given by:

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

Oil and Gas Privacy Notice:

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

Arsenal Resources

Gamelli HSOG 204 Well Site

WW-6A3 Notice of Entry for Plat Survey – Attachment Page 1 of 2

Drill Site (Surface) 47-033-15-330-28

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

Edwin King
1816 Snake Run Road
Wampum, PA 16157

Drill Site (Oil & Gas) 47-033-15-330-28

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

Edwin King
1816 Snake Run Road
Wampum, PA 16157

Drill Site – Coal (Pittsburgh Seam) 47-033-15-330-28

Huntington National Bank, Trustee
Under The Maxwell Y. Sutton
Testamentary Trust
41 S. High Street
Columbus, OH 53215

James T. Gamelli
4583 Green Valley Road
Bridgeport, WV 26330

Edwin King
1816 Snake Run Road
Wampum, PA 16157

Drill Site – Coal (Kittanning Seam) 47-033-15-330-28

Coalquest Development, LLC
300 Cooperate Center Drive
Scott Depot, WV 26560

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Office of Oil and Gas

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WV Department of
Environmental Protection

Arsenal Resources
Gamelli HSOG 204 Well Site
WW-6A3 Notice of Entry for Plat Survey – Attachment page 2 of 2

Drill Site – Coal (All Other Seams) 47-033-15-330-28

James T. Gamelli
4583 Green Valley Road)
Bridgeport, WV 26330

Edwin King)
1816 Snake Run Road
Wampum, PA 16157

Impoundment (Surface) 47-033-15-330-28

James T. Gamelli
4583 Green Valley Road |
Bridgeport, WV 26330

Edwin King |
1816 Snake Run Road
Wampum, PA 16157

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WV Department of
Environmental Protection

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.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 11-1-18 **Date Permit Application Filed:** 11-6-18

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

- HAND DELIVERY
- CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: James T. Gamelli
Address: 4583 Green Valley Road
Bridgeport, WV 26330

Name: GOG, LLC
Address: 90 Snuffy Road
Bridgeport, WV 26330
NOV 07 2018

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Office of Oil and Gas

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>568,653.5</u>
County:	<u>Harrison</u>		Northing:	<u>4,346,085.4</u>
District:	<u>Simpson</u>	Public Road Access:		<u>CR 17</u>
Quadrangle:	<u>Rosemont</u>	Generally used farm name:		<u>James T. Gamelli</u>
Watershed:	<u>Beards Run</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

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

Authorized Representative: William Veigel
Address: 65 Professional Place, Suite 200
Bridgeport, WV 26330
Telephone: 724-940-1218
Email: kdavis@arsenalresources.com
Facsimile: 304-848-9134

Oil and Gas Privacy Notice:

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03/01/2019

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 Notice: 11-1-18 Date Permit Application Filed: 11-6-18

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED HAND DELIVERY

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

APPROVED
Office of Oil and Gas

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

NOV 07 2018

Name: James T. Gamelli
Address: 4583 Green Valley Road
Bridgeport, WV 26330

Name: GOG, LLC
Address: 90 Snuffy Road
Bridgeport, WV 26330

WV Department of
Environmental Protection

Notice is hereby given:

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

State:	West Virginia	UTM NAD 83 Easting:	568,653.5
County:	Harrison	UTM NAD 83 Northing:	4,346,085.4
District:	Simpson	Public Road Access:	CR 17
Quadrangle:	Rosemont	Generally used farm name:	James T. Gamelli
Watershed:	Beards Run		

This Notice Shall Include:

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

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

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

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

August 29, 2018

Jill M. Newman
Deputy Commissioner

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

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Subject: DOH Permit for the Gamelli Pad, Harrison County

Gamelli HSOG 204 Well Site

WV Department of
Environmental Protection

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permits #04-2018-0402 & 0403 for the subject site to ARSENAL Resources for access to the State Road for the well site located off of Harrison County 17 SLS.

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

Very Truly Yours,

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

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

03/01/2019

Well Name # Gamelli HSOG 204			
FRACTURING ADDITIVES			
	PURPOSE	TRADE NAME	CAS #
Additive #1:	Friction Reducer	WFRA-405	Proprietary
Additive #2:	Scale Inhibitor	SI-1000	7440-21-3
Additive #3:	Biocide	BIOCLEAR 2000	25314-61-8
Additive #4:	Gelling Agent	LGC-15	9000-30-0
Additive #5:	Corrosion Inhibitor	AI-300	111-76-2
Additive #6:	Gel Breaker	AP-One	7727-54-0
Additive #7:	Acid	HCl - 7.5%	7647-01-0

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WV Department of
Environmental Protection

PROJECT INFORMATION

PROJECT NAME: GAMELLI HSOG

SURFACE OWNERS:

JAMES GAMELLI & COO LLC
 74 300 PAR 30
 SIMPSON DISTRICT
 HARRISON COUNTY, WV
 TOTAL PROPERTY AREA 121.25 ACRES
 DISTURBANCE AREA 19.4 ACRES



SITE LOCATION:

THE GAMELLI HSOG WELL PAD IS LOCATED ON THE WEST SIDE OF HARRISON COUNTY ROUTE 17 AND BEARDS RUN, HAVING AN ENTRANCE THAT IS APPROXIMATELY 2.1 MILES SOUTH ON COUNTY ROUTE 17 FROM W.V. STATE ROUTE 76.

GAMELLI HSOG FINAL SITE PLAN

ARSENAL RESOURCES

PROPOSED WELL NO. 201, 202, 203, 204, 205,
 211, 212, 213, 214, 215, 216, & 217.

SITUATE ON THE WATERS OF BEARDS RUN
 IN SIMPSON DISTRICT, HARRISON COUNTY, WEST VIRGINIA.

PROPERTY DISTURBANCE COMPUTATIONS

TOTAL PAD 202 PARCEL 28 19.4 ± ACRES

TOTAL SITE DISTURBANCE 19.4 ± ACRES

LOCATION COORDINATES

PAD SITE ENTRANCE
 LATITUDE: 39.881848 LONGITUDE: -80.821150 (NAD 83)

CENTER OF WELL PAD
 LATITUDE: 39.881087 LONGITUDE: -80.820388 (NAD 83)

CENTER OF ASSOCIATED PIT
 LATITUDE: 39.882196 LONGITUDE: -80.820390 (NAD 83)

TEMPORARY ROAD ACCESS ENTRANCE
 LATITUDE: 39.884609 LONGITUDE: -80.821009 (NAD 83)

SITE DISTURBANCE COMPUTATIONS

WELL PAD AREA 7.4 ± ACRES

MAIN ACCESS AREA 3.7 ± ACRES

STOCKPILE AREA 2.0 ± ACRES

TEMPORARY ACCESS AREA 4.0 ± ACRES

CONSTRUCTION EIT 2.3 ± ACRES

TOTAL SITE DISTURBANCE 19.4 ± ACRES

TOTAL CLEARING AREA 4.2 ± ACRES

ENTRANCE PERMIT

ARSENAL RESOURCES WILL OBTAIN AN ENCROACHMENT PERMIT (FORM AR-100) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

MISS UTILITY STATEMENT

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN. TICKET #8002101. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE LOCATED WITHIN A DELINEATED FLOOD HAZARD ZONE PER FLOOD INSURANCE RATE MAP NUMBER 44000004000 DATED OCTOBER 2010. OVER THE ROAD CONSTRUCTION WITHIN THE FLOOD HAZARD ZONE WILL NOT IMPACT THE FLOOD ELEVATION PLAN MORE THAN 1'.

GEOTECHNICAL NOTE

A SUBMERGENCE INVESTIGATION HAS NOT BEEN PERFORMED AT THIS TIME. THE ENGINEER AND SURVEYOR ARE NOT RESPONSIBLE FOR UNEXPECTED SUBSURFACE UNSTABILITIES CAUSING ADDITIONAL WORK OR ADDITIONAL CONSTRUCTION MEASURES REQUIRED BEYOND THOSE STANDARD PRACTICES SHOWN ON THIS PLAN AS A RESULT OF ANY OTHER GEOTECHNICAL COMPUTATIONS ENCOUNTERED DURING CONSTRUCTION.

ENVIRONMENTAL NOTE

A WETLAND/STREAM DELINEATION WAS PERFORMED ON 08-12-16, 03-27-2017, AND 01-18-2018 BY SLS TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS (USACE). THIS DELINEATION SITES WETLANDS BY ANY MEANS, REPRESENTING A PRELIMINARY DETERMINATION OF THE LAMONIAN LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE. IT IS PROPOSED RECOMMENDING THAT THE USACE BE CONSULTED IN AN EFFORT TO OBTAIN WRITTEN CONSENTATION OF THE DELINEATION OBTAINED BY THIS REPORT PRIOR TO ENGAGING IN CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS IN THE US INCLUDING WETLAND FILLING AND STREAM CROSSINGS.

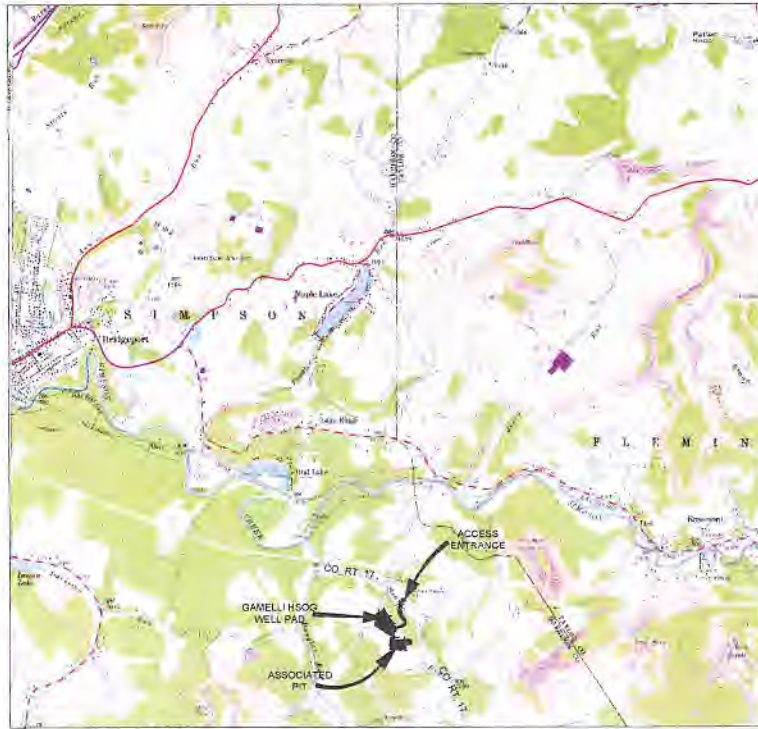
GENERAL DESCRIPTION

THE GAMELLI HSOG PAD AND PIT ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

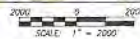
RESTRICTIONS NOTES:

1. THERE ARE NO WETLANDS IMPACTS WITHIN 100' OF THE WELL PAD LOG.
2. THERE ARE NO PERMANENT STREAMS, LAKES, PONDS, OR BARRIERS WITHIN 100 FEET OF THE WELL PAD LOG.
3. THERE ARE NO AESTHETIC PROBLEMS EXISTING WITHIN 100 FEET OF THE WELL PAD AND LOG.
4. THERE ARE NO DISCHARGES OF WASTE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 100 FEET OF THE WELL PAD AND LOG.
5. THERE ARE NO APPARENT EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 200 FEET OF THE WELLS/LOGS BEING DRILLED.
6. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 500 FEET OF THE CENTER OF THE WELL PAD.
7. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 8,000 SQUARE FEET WITHIN 500 FEET OF THE CENTER OF THE WELL PAD.

THIRD NORTH (MAGNET) AND
 SURVEYING EQUIPMENT
 (BY SURVEYOR)
 SURVEYED BEARDS RUN
 SURVEY BEARDS RUN
 SURVEY BEARDS RUN



ROSEMONT QUAD

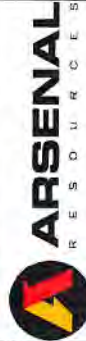


MISS Utility of West Virginia
 1-800-245-4848
 West Virginia State Law
 (Section XV, Chapter 24-C)
 Requires that you call two
 business days before you dig in
 the state of West Virginia.
IT'S THE LAW!!

LIST OF DRAWINGS

- 1 - COVER SHEET
- 2 - NOTES
- 3 - NOTES
- 4 - NOTES
- 5 - NOTES
- 6 - OVERALL SHEET INDEX & VOLUMES
- 7 - ENTRANCE & ACCESS ROAD
- 8 - ACCESS ROAD, ASSOCIATED PIT
- 9 - WELL PAD AND STOCKPILE
- 10 - MAIN ACCESS ROAD PROFILE
- 11 - BRIDGE CROSS SECTION
- 12 - FIT ACCESS PROFILE AND CROSS SECTIONS
- 13 - WELL PAD AND STOCK PILE PROFILE
- 14 - ASSOCIATED PIT AND STOCKPILE PROFILES
- 15 - MAIN ROAD CROSS SECTIONS
- 16 - RECLAMATION PLAN
- 17 - RECLAMATION PLAN
- 18 - CONSTRUCTION DETAILS
- 19 - CONSTRUCTION DETAILS
- 20 - CONSTRUCTION DETAILS
- 21 - CONSTRUCTION DETAILS
- 22 - CONSTRUCTION DETAILS
- 23 - CONSTRUCTION DETAILS
- 24 - TEMPORARY ROAD

EXISTING		PROPOSED	
INDEX CONTOUR	--- 100'	INDEX CONTOUR	--- 100'
INTERMEDIATE CONTOUR	---	INTERMEDIATE CONTOUR	---
BOUNDARY LINE	---	RECLAMATION & CONTOUR	---
ROAD EDGE OF GRAVEL/DIRT	---	RECLAMATION 10' CONTOUR	---
ROAD EDGE OF PAVEMENT	---	LIMITS OF DISTURBANCE	---
ROAD CENTERLINE	---	WELL PAD	---
DITCHES	---	WELL HEAD	---
CULVERT	---	4" PVC BRASS PIPE	---
SOBBERSAL	---	SMALL DRAIN	---
FENCELINE	---	CONTAINMENT BERM	---
GATE	---	PIT/IMPROVEMENT CL	---
OVERHEAD UTILITY E/W	---	PERIMETER SAFETY FENCE	---
POWER POLE	---	ACCESS GATE WITH	---
CITY WIRE	---	EMERGENCY LITELINE	---
TELEPHONE LINE	---		
GAZELINE	---		
CARDONE R/W	---		
WATERLINE	---		
WATER WELL	---		
GAN WELL	---		
TREELINE	---		
REFERENCE TREE	---		
DELINEATED STREAM	---		
DELINEATED WETLAND	---		
BUILDING	---		
HEDGE	---		
100' WETLAND/STREAM BUFFER	---		
SLS AREA OF INTEREST	---		
		ROCK CONSTRUCTION	---
		ENTRANCE	---
		ROAD EDGE OF GRAVEL	---
		ROAD CENTERLINE	---
		V-DITCH W/ ORCHER DAMS	---
		DITCH BELIEF	---
		CULVERT (BRICK)	---
		18" COMPOST FILTER SOCK	---
		24" COMPOST FILTER SOCK	---
		18" DOUBLE STACK COMPOST	---
		FILTER SOCK	---
		SECTION LINE	---
		MATCHLINE	---
		X-SECTION GRID INDEX	---
		X-SECTION GRID INTERMEDIATE	---
		X-SECTION PROPOSED GRADE	---
		X-SECTION EXISTING GRADE	---
		X-SECTION WATER SURFACE	---
		SPRT. ELEVATION	---
		SUBGRADE ELEVATION	---
		SUBGRADE GRADE	---
		FINISH GRADE ELEVATION	---
		FINISH GRADE SLOPE	---
		RSB-RAP OVERFLOW DITCH	---



THIS DOCUMENT WAS
 PREPARED BY SLS LAND
 & ENERGY DEVELOPMENT
 FOR ARSENAL RESOURCES

COVER SHEET
 GAMELLI HSOG
 FINAL SITE PLAN
 SIMPSON DISTRICT
 HARRISON COUNTY, WV

DATE: 08-08-2017
 SCALE: 1" = 200'
 DESIGNED BY: K.L.H.
 FILE NO: 8587
 SHEET 1 OF 24
 REV: 05-21-2018

OPERATOR
 ARSENAL RESOURCES
 65 PROFESSIONAL PLACE
 SUITE 200
 BRIDGEPORT, WV 26030
 PHONE: (304) 842-3597

ENGINEER/SURVEYOR
 SLS LAND & ENERGY DEVELOPMENT
 12 VANHORN DRIVE
 P.O. BOX 150
 GLACYSVILLE, WV 26031
 PHONE: (304) 482-5834

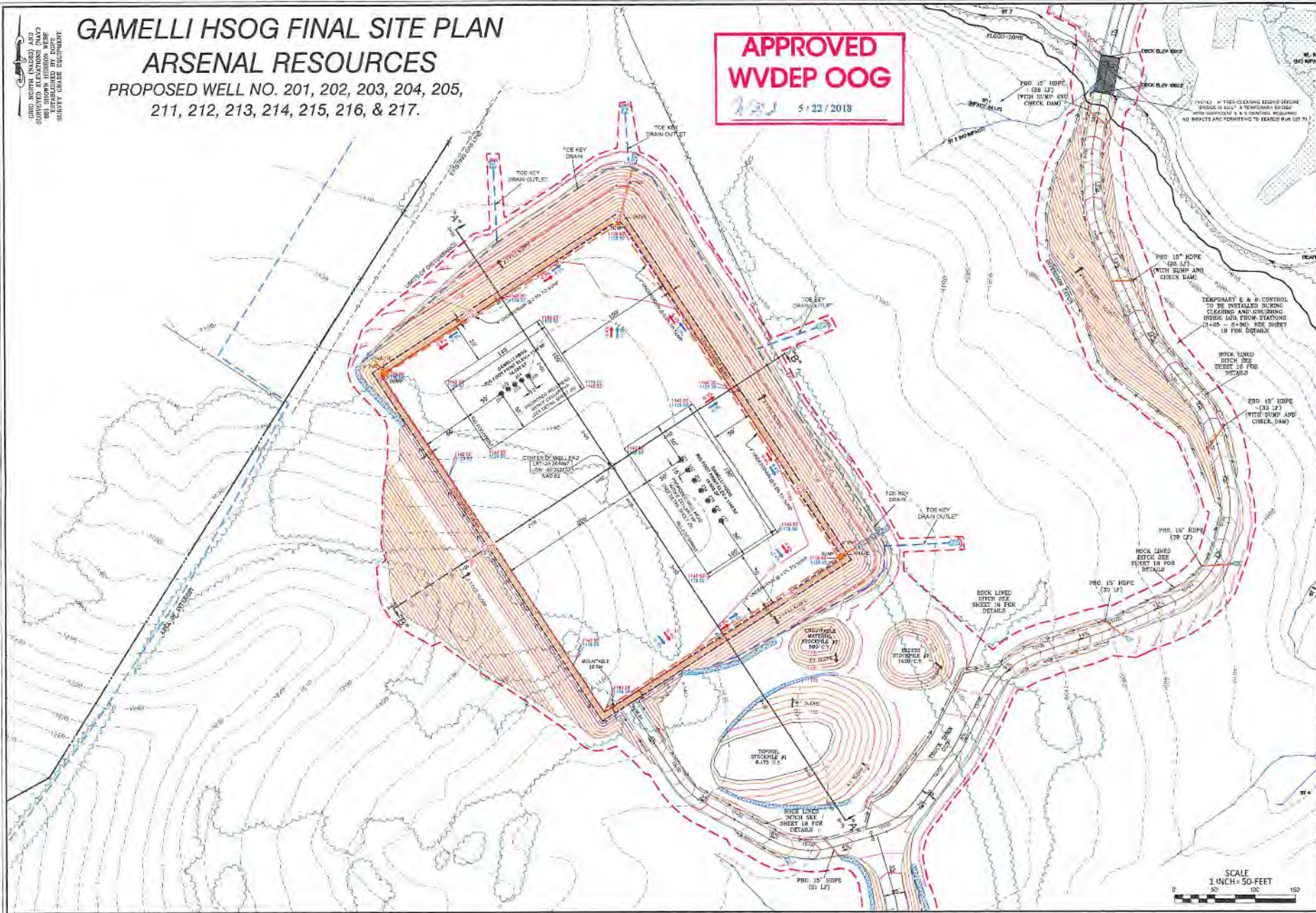
GRID NORTH (NA83) AND SURVEYED IN PATRONS (NAD83) COORDINATES. ALL DIMENSIONS AND DISTANCES ARE TO BE ESTABLISHED BY TOTAL STATION OR SURVEY EQUIPMENT.

GAMELLI HSOG FINAL SITE PLAN

ARSENAL RESOURCES

PROPOSED WELL NO. 201, 202, 203, 204, 205, 211, 212, 213, 214, 215, 216, & 217.

APPROVED
WVDEP OOG
5/22/2018



THIS DOCUMENT WAS PREPARED BY SLS LAND & ENERGY DEVELOPMENT FOR ARSENAL RESOURCES

WELL PAD & STOCKPILE
GAMELLI HSOG
FINAL SITE PLAN
SIMPSON DISTRICT
HARRISON COUNTY, WV

DATE: 09-08-2017
SCALE: 1" = 50'
DESIGNED BY: K.L.H.
FILE NO: 8697
SHEET 6 OF 24
REV: 09-21-2018





Office of Oil and Gas

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

4703305932 202
4703305933 203
4703305934 204
03/01/2019

DEP Office Use only	
Date Received by Oil & Gas:	11/7/2018
Assigned Impoundment ID #:	033-WPA-00099

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

Section 2 – Engineering / Design Contractor Information

Design will be contracted <input checked="" type="checkbox"/> Designed in-house <input type="checkbox"/>	
Company Name: <u>SLS Land and Energy Development</u>	
Address: Street <u>12 Vanhorn Dr.</u>	
City: <u>Glenville</u>	State: <u>WV</u> Zip: <u>26351</u>
Contact Name: <u>Chris Moyers</u>	Contact Title: <u>Sr. Design Coordinator</u>
Contact Phone: <u>304-462-5634</u>	Contact Email: <u>cmoyers@slssurveys.com</u>
Certifying Professional Engineer: <u>Karen Krabill</u>	
Professional Engineer Registration Number: <u>12353</u>	

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Office of Oil and Gas

Section 3 - Impoundment / Pit Information

Type of Structure. Check one of two choices below:

Freshwater Impoundment

Waste Pit

Note: Any waste in a pit will make it a waste pit.

Name of Structure (Company Name :) Gamelli Associated Pit

County: Harrison

District: Simpson

USGS 7.5' Quad Map Name: Brownnton

Farm Name: Gamelli

Pad Name: Gamelli

Surface Owner Name: James Gamelli & Edwin King

Physical Description of Location: The Gamelli Associated Pit is located on the west side of Harrison County Route 13 on a point ridge.

With the access road entrance being 0.19 miles +/- north of the junction of County Routes 13 & 77/5.

(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: 950+/-

Location Coordinates (NAD83, Decimal Degrees (xx.xxxx, -xx.xxxx))

Latitude: 39.258894 Longitude (Use negative sign): -80.202053

UTM Coordinates : 568844 E 4345810 N

Access Road Coordinates (junction of state highway access)

Latitude: 39.257474 Longitude (Use negative sign): -80.197583

UTM Coordinates : 569231 E 4345656 N

Approximate Dimensions

Length: 443' +/- Width: 266' +/- Height: 24'

Note: If irregularly shaped, give approximate dimensions of long axis.

Total Capacity – Provide all units of measure below:

Barrels: 240658 Gallons: 10107639 Acre-Feet: 31.02

Capacity with 2' Freeboard – Provide all units of measure below:

Barrels: 205754 Gallons: 8641683 Acre-Feet: 26.52

Incised volume:

Barrels: 158530 Gallons: 6658277 Acre-Feet: 20.43

Net impounded volume: (Total volume less incised volume.)

Barrels: 82127 Gallons: 3449362 Acre-Feet: 10.59

Anticipated Construction Start Date (estimation, non-binding): 5-1-2018

Note: No construction may begin on **Associated** impoundment until WVDEP issues the drilling permit. At least 7 calendar days prior to confirmed construction start date, notify the Office of Oil & Gas, and the local Oil and Gas inspector of construction start date. Use form IMP-2, "Notification of Impoundment / Pit Construction."

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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 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: Karen Krabill

Title: Senior Geotechnical Engineer

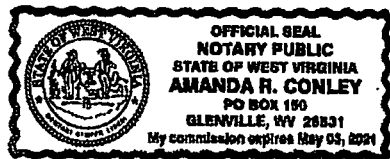
Signature: *Karen A. Krabill*

Taken, subscribed and sworn to before me this, 10th Day of October 20 17

Notary Public: *Amanda R. Conley*

My commission expires: May 3, 2021

Notary Seal:



Section 9. Submittal Instructions

Submit original paper copy of application to:
West Virginia Department of Environmental Protection
Office of Oil and Gas
Impoundment Registration
601 57th Street, SE
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :
Depimpoundments@wv.gov

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IMP 1A – Section 4 – Associated Well Numbers and API Numbers

Well Numbers

Gamelli 201 - API 47-033-05922

Gamelli 202

Gamelli 203

Gamelli 204

Gamelli 205

Gamelli 206

Gamelli 211

Gamelli 212

Gamelli 213

Gamelli 214

Gamelli 215

Gamelli 216

API Numbers

Not Yet Assigned by the WV DEP

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Environmental Protection