



 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

Monday, January 14, 2019
 WELL WORK PERMIT
 Horizontal 6A / New Drill

AMERICAN PETROLEUM PARTNERS OPERATING, LLC
 4600 J. BARRY COURT SUITE 310

CANONSBURG, PA 15317

Re: Permit approval for RIVER RUN 2UH (MH)
 47-051-02117-00-00

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: RIVER RUN 2UH (MH)
 Farm Name: APP MINERALS LLC
 U.S. WELL NUMBER: 47-051-02117-00-00
 Horizontal 6A New Drill
 Date Issued: 1/14/2019



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**ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A**

TO: American Petroleum Partners Operating, LLC
4600 J. Barry Court Suite 310
Canonsburg, PA 15317

DATE: December 20, 2018
ORDER NO.: 2018-W-14

INTRODUCTION

This Order (hereinafter “Order”) is issued by the Office of Oil and Gas (hereinafter “OOG”), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to American Petroleum Partners Operating, LLC (hereinafter “APP” or “Operator”), collectively the “Parties.”

FINDINGS OF THE CHIEF

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.
2. APP is a “person” as defined by W. Va. Code §22-6-1(n), with a corporate address as 4600 J. Barry Court Suite 310, Canonsburg, PA 15317.
3. On August 9, 2018 APP submitted a well work permit application identified as API# 47-051-02117. The proposed well is to be located on the River Run Pad in Webster District of Marshall County, West Virginia.
4. On August 9, 2018 APP requested a waiver for Wetlands W-180419-1411, W-180419-1341, W-180419-1321 and W-180419-1511 outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-051-02117.

CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that “in addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to... (3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing.”
2. West Virginia Code §22-6A-2(a)(6) requires, in part, that “Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter.”
3. West Virginia Code §22-6A-12(b) requires, in part, that “no well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the Office of Oil and Gas shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The Office of Oil and Gas may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary.”

ORDER

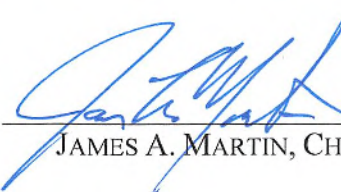
West Virginia Code §22-6A-12(b) requires, in part, that “no well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland. The Office of Oil and Gas grants the request for a waiver for Wetlands W-180419-1411, W-180419-1341, W-180419-1321 and W-180419-1511 from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-051-02117. The Office of Oil and Gas hereby **ORDERS** that APP shall meet the following site construction and operational requirements for the River Run Well Pad:

- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs;
- c. Wetlands W-180419-1411, W-180419-1341, W-180419-1321 and W-180419-1511 shall have a layer of super silt fence and a layer of thirty-two inch (23”) compost filter sock to prevent sediment from reaching the wetlands.
- d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
- e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
- f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
- g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
- h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
- i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½”) rain within any twenty-four (24) hour period;
- j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
- k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 20th day of December, 2018.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By: 
JAMES A. MARTIN, CHIEF

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

Well Operator: American Petroleum Partners Operating, LLCWell Number: _____ Well Pad Name: RiverrunCounty, District, Quadrangle of Well Location: Marshall County, Webster District, Moundsville

Answer the questions below to request a waiver from West Virginia Department of Environmental Protection for any wetlands or perennial streams which lie within one hundred feet of proposed project Limit of Disturbance (LOD), which includes any erosion and sediment control devices to be used.

This waiver shall be requested pursuant to Chapter 22 Article 6A Section 12 of West Virginia Code, which states:

§22-6A-12(b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows:

- (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir.
- (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake.
- (3) For a groundwater source, the distance shall be measured from the wellhead or spring.

The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary.

§22-6A-12(c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section.

NOT FOR CONSTRUCTION/NOT FOR BUILDING

WV DEP E&S PLAN
FOR
DIRE WOLF-RIVERRUN PAD

DATE: 05/03/2018
SHEET NO.: 4
PROJECT NO.: 10395600

BETWEEN

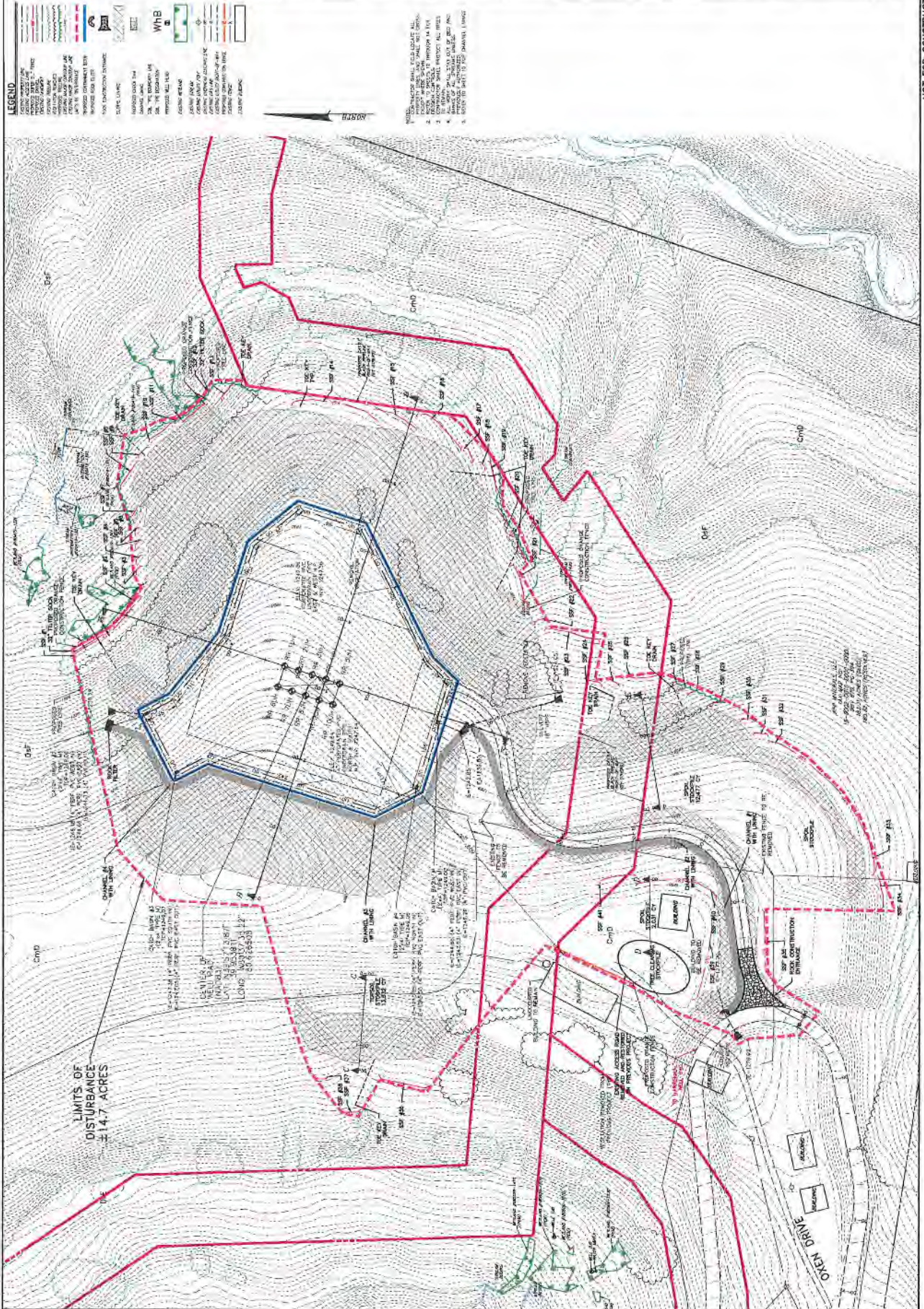
61779 Marketing, Inc.
1000 Riverchase Blvd., Pittsburgh, PA 15229
Phone (412) 442-1728 Fax (412) 442-1725
www.between.com

Engineer: Matthew J. Lammert, Professional Engineer
Project: WV DEP E&S PLAN

CLIENT
AMERICAN PETROLEUM PARTNERS
OPERATING, LLC
4800 J BARRY COURT
SUITE 510
CANNONBURG, PA 15317

WV REGISTERED PROFESSIONAL ENGINEER
NO. 12345
EXPIRES 12/31/2020

NO.	DATE	REVISION
1	11/19/2018	REVISED WV DEP COMMENTS
2	11/27/2018	REVISED WV DEP COMMENTS



11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

Answer in the space provided, or use additional pages as necessary to fully answer the questions below:

- 1. Describe the proposed project location, including unique identifying names of all wetlands, and the names of perennial streams for which the waiver is sought.**

The pad site lies northeast of the intersection between McCreary's Road (CR 7) and Limestone Hill Lane (CR 44). Access is from McCreary's Road (CR 7) using Oxen Drive (Private Drive) and mostly follows an existing driveway. The pad site is located on a ridgeline running northeast-southwest. Runoff from the pad site discharges eastward towards a tributary of Big Run.

Wetlands identified that are located within the 100' buffer are as follows:

-W-180419-1411; W-180419-1341; W-180419-1321; and W-180419-1511.

- 2. Justify the proposed activity by describing alternatives to this project that were considered.**

- a. Include a No-Action Alternative as to show "the future without the project"
- b. Location Alternatives must be shown
- c. Must demonstrate why a one hundred foot buffer cannot be maintained
- d. Describe how the proposed project is the least environmentally damaging practicable alternative

The No-Action Alternative would be to not complete the well pad and no gas extraction would take place here.

An alternative to the pad design submitted would be to push the pad further to the west - this would push the grading into an unsuitable slope west of the ridge and would limit access to the north of the pad.

A one hundred foot buffer is unable to be maintained due to the proximity of the wetlands in relation to the ridge alignment where the pad is located.

The proposed well heads are positioned to avoid Coal Producer regions where voids may be encountered under the sub-surface. Encountering a void under the sub-surface would likely result in loss of fluids.

The well pad size has been minimized to fullest extent practical in order to minimize impacts to other streams and wetlands near the vicinity to the well pad. Including reducing the well pad size in order to protect the existing wetlands.

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

- 3. Identify sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. This description should include all additional erosion and sediment control measures and devices that will be used.**

Additional erosion and sediment control measures that will be taken to ensure sufficient protection to the wetlands identified will include use of double Super Silt Fence directly upslope of the wetland boundaries. The use of Erosion Control Blanket will also be utilized on the upslope drainage area associated with the wetland identified. The containment berm will also act as an upslope barrier from storm water running off the pad site into said wetland. A perforated under drain system will also be installed around the inside of containment berm collect storm water and convey storm water to outflow pipes discharging on the outside of well pad, down slope from said wetlands.

- 4. Provide mapping, plans, specifications and design analysis for the preferred alternative to the project.**

- a. Specify in writing what additional controls, measures, devices, monitoring, etc. will be used to protect these wetlands and/or perennial streams for which the waiver is sought.

Additional controls, measures and devices being used are double super silt fence on the upslope side of the wetland to filtrate any sediment from entering the wetland. Slope matting will also be installed on the upslope side of the wetland to prevent sediment from washing into the wetland. The devices are shown on sheet 3 of the Erosion and Sedimentation Control Plan. The details for the designed erosion control devices can be found on sheet 14 which identify installation standards and specifications for the respectable device.

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.

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.



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street SE, Charleston, WV 25304
304-926-0499 Ext 1274

Barry K. Lay, Chairman
dep.wv.gov

October 17, 2018

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-02117

COMPANY: American Petroleum Partners Operating, LLC

FARM: American Petroleum Partners Operating, LLC River Run-2UH

COUNTY: Marshall DISTRICT: Webster QUAD: Moundsville

The deep well review of the application for the above company is Approved to drill no deeper than the Oriskany formation for Marcellus completion.

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? NA
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: 47-051-02090 and 47-051-02091
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Susan Rose
Administrator

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

1) Well Operator: American Petroleum Partners

<u>494521257</u>	<u>Marshall</u>	<u>Webster</u>	<u>Moundsville</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: River Run 2 UH (MH) Well Pad Name: Dire Wolf-River Run

3) Farm Name/Surface Owner: App Minerals, LLC Public Road Access: McCreary's Ridge Road (CR 7)

4) Elevation, current ground: 1247.9' ^{1264.94'} Elevation, proposed post-construction: 1249.00'

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

(b) If Gas Shallow Deep
Horizontal

JW
7/23/18

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus formation 6520' / 80' thick 4368 psi or .65 psi per foot.

8) Proposed Total Vertical Depth: 6720' plug back to 6520'

9) Formation at Total Vertical Depth: Oriskany

10) Proposed Total Measured Depth: 12,639'

11) Proposed Horizontal Leg Length: 4919'

12) Approximate Fresh Water Strata Depths: 162'

13) Method to Determine Fresh Water Depths: Nearest offset well

14) Approximate Saltwater Depths: Na

15) Approximate Coal Seam Depths: 455', 655'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated. drilling in pillar - Mine maps attached.

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: The Ohio County Mine-Murray American Energy and Consolidation Coal Company
Depth: 455', 655'
Seam: Pittsburgh #8
Owner: Murray American Energy & Consolidation Coal Company

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AUG 9 2018

WW-6B
(04/15)

API NO. 47-051 **4705102117** **01/18/2019**
 OPERATOR WELL NO. River Run 2 UH (MH)
 Well Pad Name: Dire Wolf-River Run

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft./CTS)
Conductor	20"	New	LS	81.3#	100'	100'	CTS
Fresh Water	13 3/8"	New	J-55	54.5#	730'	730'	15.8ppg to sur 521 sx w/30% OH excess
Coal	13 3/8"	New	J-55	54.5#	730'	730'	15.2ppg to sur 556 sx w/30% OH Excess
Intermediate	9 5/8"	New	HCP-110	40#	1,941'	1,941'	15.2ppg to surf 936 sx w/30% OH excess
Production	5 1/2"	New	HCP-110	23#	12,639'	12,639'	15.4 8ppg TOC >=200' above 9 625 shoe
Tubing	2 7/8"	New	J-55	6.5#			
Liners							

July 23/18

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"		300		Type 1	Lead yield 2.38 Tail 521 sx Yield 1.18
Fresh Water	13 3/8"	17.5"	.388	2,730	688	Class A	Lead yield 2.38 Tail 556 sx Yield 1.27
Coal	13 3/8"	17.5"	.380	2,730	688	Class A	Lead Yield 2.38 Tail 556 sx Yield 1.27
Intermediate	9 5/8"	12.375"-12.25"	.395	7,870	3,166	Class A	Lead Yield 1.28 Tail 936 sx Yield 1.28
Production	5 1/2"	8.75"	.361	14,360	11,000	Class H	Lead Yield 1.27 Tail 4714 sx Yield 1.27
Tubing	2 7/8"	5.14"	.217	10,570	8,000		
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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Office of Oil and Gas

AUG 9 2018

WV Department of
Environmental Protection

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

Drill the vertical depth (Pilot Hole) to the Oriskany at an estimated total vertical depth of approximately 6,720'. Plug back with a solid cement plug to 6520'. Drill the horizontal leg- stimulate and produce the Marcellus. Should we encounter a unanticipated void we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface.

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

The stimulation will be in multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. Our maximum pressure is not to exceed 10,000 lbs.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 14.7 acres

22) Area to be disturbed for well pad only, less access road (acres): 12.11 acres

23) Describe centralizer placement for each casing string:

Conductor- No centralizers used. Freshwater/Surface- Bow Spring centralizers every 3 joints to 100' from surface. 1st Intermediate - Bow Spring centralizers every 3 joints to 100' from surface. 2nd Intermediate - Bow Spring centralizers every 3 joints to 100' from surface. Production - Rigid bow springs every third joint from KOP to TOC. Rigid every joint to KOP.

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

Type 1 to Surface. Surface/Freshwater - 15.6 Class A +2% CaCl, 30% OH Excess Yield =1.18. 1st Intermediate - 15.6 ppg Class A +2% CaCl, 0.25 Lost Circ. 30% Yield =1.27. 2nd Intermediate- 2 Stage cement job with 15.4 ppg Class A lead + additives (antisetling, antifoam, fluid loss retarder, salt, viscosifer) & 15.4 Class A tail with additives (antisetling, antifoam, fluid loss retarder, salt, dispersant or 12.0 Class A lead + additives (+/-5% dispersant, 10% light weight additive, 75% fluid loss additive, and 1.15% fluid loss additive, Yield=1.28) 15.4 ppg Class A Tail + additives (+/- fluid loss additive, & .5% light weight additive, Yield 1.28), 0.125#/SK lost circ 30% excess to Surface. Production- 12.5ppg Class H Lead +additives and 14.8 ppg Class H Tail + additives (antifoam, antisetling, extender, dispersant) 15%excess TOC>=200' above 9.625" shoe.

25) Proposed borehole conditioning procedures:

Conductor - The hole is drilled w/ air and casing is run on air. Apart from insuring hole is clean via air circulation at TD, there are no other conditioning procedures. Freshwater/Surface- The hole is drilled w/air or Freshwater based mud and casing is run on air. Once casing is at setting depth, fill with KCl water circulate a minimum of one hole volume prior to pumping cement. First Intermediate- Drilled on Air. Once casing is at a setting depth, circulate a minimum of one hole volume prior to pumping cement. Second Intermediate - Drilled on air. Fill with salt saturated water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement. Production- drilled on +/- 14.8ppg SOB.M. Once at TD, circulate at max allowable pump rate for at least 6x bottoms up. Once on bottom with casing, circulate minimum of one hole volume prior to pumping cement.

*Note: Attach additional sheets as needed.

01/18/2019

Fresh Water Protection String:		Cement Additives	
Allied Material Name	Additive (Material) Type	Additive (Material) Description	CAS #
CCAC (Class A Common)	Base Cement	Grey powder	65997-15-1
CA-100	Accelerator	White, flake	10043-52-4 7447-40-7 7732-18-5 7647-14-5

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Office of Oil and Gas

AUG 9 2018

WV Department of
Environmental Protection



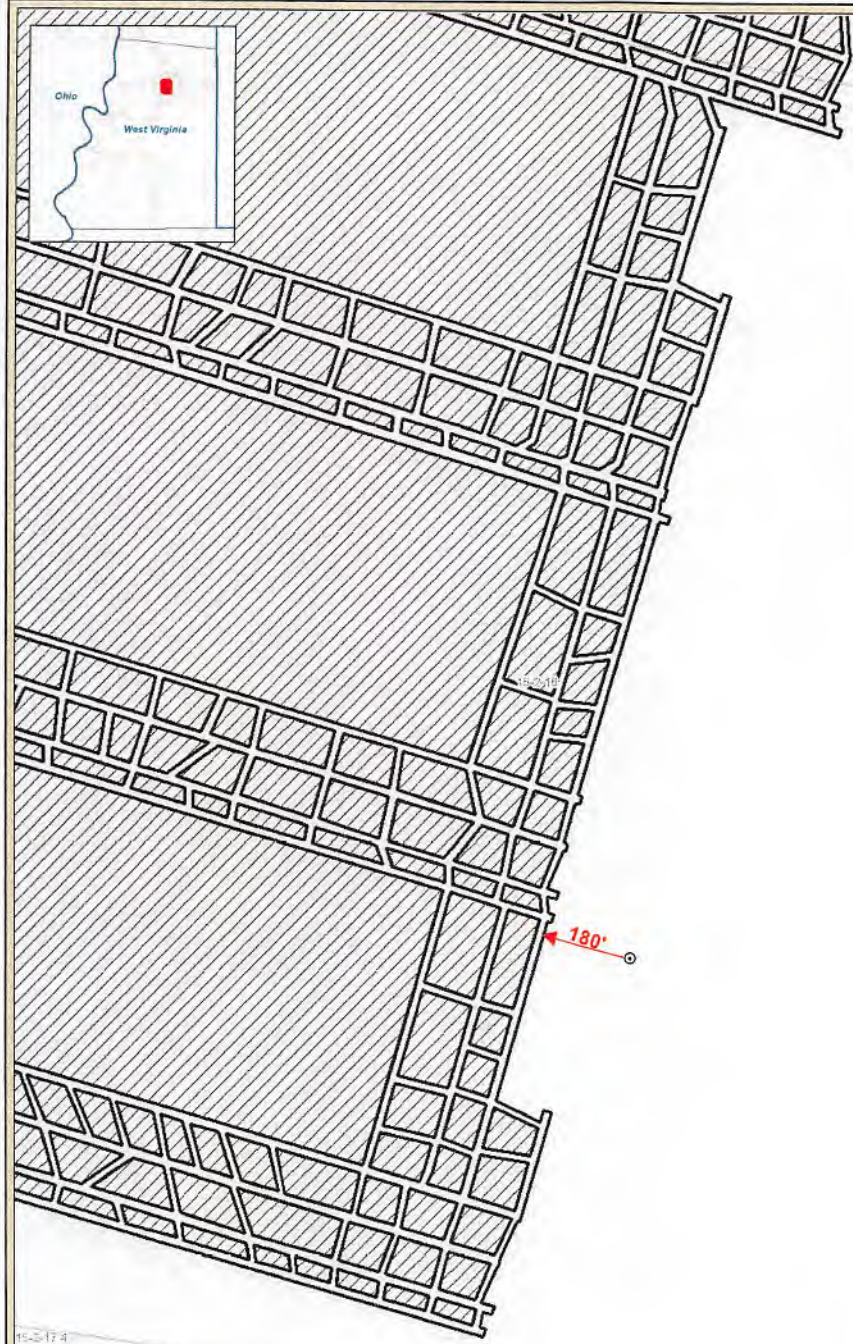
15-2-7
51-02117

01/18/2019

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Office of Oil and Gas

AUG 9 2018

WV Department of
Environmental Protection



Credit:
- Mine data courtesy of WV Department of Environmental Protection and Murray Energy Corporation

RiverRun 2MH
Surface Location Coordinates
2MH = -80.626388, 39.953897

RiverRun 2MH - Coal Areas

Marshall County West Virginia	Coordinate System: NAD 1983 UTM Zone 17N Projection: Transverse Mercator Datum: North American 1983 Linear Units: Meter	Map Scale Units: 1:3,600 1 inch = 300 Feet	Map Author: JES Map Date: 01/18/2019
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- Well SHL → Approximate Well to Coal length
- ▨ Coal Pillars





DRILLING WELL PLAN

**Riverun-2MH
Marcellus Horizontal
Marshall Co, WV**

Horizontal Well Plan with Cemented Long String Completion

HOLE	RIG	CASING	GEOLOGY	Top TVD	MD	MUD	CEMENT	DIRECTIONAL	LOGS	BITS	COMMENTS
24"	Conductor Rig	20"				AIR	To Surface	N/A	N/A		Stabilize surface fill/soil
			Conductor	100	100						
			Sewickley Coal	455							
17.5"	Top-Hole	13-3/8" 54.5# J-55 BTC	Pittsburgh Coal	655		AIR	15.6ppg to surface 521sx w/ 30% OH excess	20" Air Hammer Totco at TD	CBL Log Cased hole NPPI, GR at Pilot TD in Pilot Well only	Carbide hammer bit	Protect fresh groundwater
			Surf. Casing	730	730						
			Big Lime	1525							
12.375" 12.25"	Top-Hole	9-5/8" 40# P-110 BTC	Greenbrier Group	1592		AIR	15.2ppg to surface 556sx w/ 30% OH excess	Center Rock 15" Air Hammer Gyro above Coal. (Mine Approval) Totco at TD		Hammer bit w/ diamond gage Test casing to 800psi	
			Big Injun	1641							
			Int. Casing	1941	1941						
8.75" Vertical Pilot	Horizontal Rig	5-1/2" 20# HCP-110 BPN				AIR	15.4ppg to surface 936sx w/ 30% OH excess	12" Air Hammer Totco every 400ft	MWD surveys Mud Logger - 90 ft samples	Hammer bit w/ full face diamond Test casing to 1000psi	PU cleanout assembly dress plug, displace to 12.0ppg SOBM, PU Curve BHA, time drill / KO cement plug. Expect Seepage in curve
			Tully LS	6216							
			Hamilton	6245							
			Cherry Valley	6354							
8.5" Curve/Lateral	Horizontal Rig	5-1/2" 20# HCP-110 BPN	Marcellus Shale	6520		+/- 12.5 ppg SOB	12.8ppg TOC >= 200' Above 9.625 shoe 2258sx w/ 15% OH excess	6.75" PDM & MWD 2.38" ADJ Bend (10" Build DLS)	MWD Surveys Mud Logger - 30 ft samples (Curve) 90 ft samples (Lateral)	PDC 5 - 25 WOB 100 - 120 RPM 450 - 500 GPM	Geosteering
			Curve LP		7720						
			TARGET								
			Production Casing								

8.5 Hole - Cemented Long String 5-1/2" 20# HCP-110 BPN

8.5" Pilot	HZT Rig	Isolation/Sidetrack Cement Plugs	Onondaga Ls	6620	+/- 14.5 ppg SOB	17.5ppg Class H from TD to 200' above KOP (2) 800' balanced plugs w/ 2.375" tubing	8" Air Hammer Totco every 400ft	OH logs, as directed by APP Operations Dir. Surveys TD to shoe	Hammer bit w/ full face diamond	
			Oriskany Sandstone	6919						
			Pilot Hole TD	6720						

Lateral Targets	Landing Point 6720 TVD 7720 MD	90.5 degrees	4919 ft Lateral Length	90.5 Inc 325 Az	Total Depth 6720 TVD 12639 TD
-----------------	--------------------------------	--------------	------------------------	-----------------	-------------------------------

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 WV Department of Environmental Protection

Handwritten signature and date: 2/25/18

4705102117

WW-9
(4/16)

4705 0018/2019

API Number 47 - 051 - _____
Operator's Well No. River Run 2 UH (MH)

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name American Petroleum Partners Operating, LLC OP Code 494521257

Watershed (HUC 10) Upper Ohio South Quadrangle Moundsville

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number See attached sheet)
- Reuse (at API Number at next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air/water based mud through intermediate then SCBM

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

Additives to be used in drilling medium? See attached sheet with list.

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Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill - See attached sheet

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

WV Department of
Environmental Protection

-Landfill or offsite name/permit number? See Attached Sheet

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) Braulio Silva

Company Official Title Vice President - Drilling

Subscribed and sworn before me this 30th day of July, 20 18

Earline Bugay / Earline Bugay

Notary Public COMMONWEALTH OF PENNSYLVANIA

My commission expires 1/23/2020

NOTARIAL SEAL
Earline Bugay, Notary Public
New Sewickley Twp., Beaver County
My Commission Expires Jan. 23, 2020
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Operator's Well No. River Run 2 UH (MH)

American Petroleum Partners Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 14.7 Prevegetation pH 6.0

Lime 2-3 Tons/acre or to correct to pH _____

Fertilizer type 10-20-20 or Equal

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Rye Grass	40	Crownvetch	10-15
Filed Bromegrass	40	Tall Fescue	30
Spring Oats	96	Perennial Ryegrass	20

*Refer to attached Reclamation Plan for further detail.

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: *Jim Walden*

Comments: _____

Title: WW DEP Oil and Gas Inspector

Date: 2/22/18

Field Reviewed? Yes No

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Additives for Drilling Medium

- CALCIUM CHLORIDE POWDER
- CARBO TEC
- CARBO-GEL 2
- CARBO-TEC S
- ECCO-BLOK
- LIME
- MIL-CARB TM
- MIL-CLEAN
- MIL-SEAL
- NEXT BASE eC
- NEXT DRILL
- NEXT-HOLD
- NEXT-MUL
- OMNI-COTE
- MIL-BAR
- NEXT-MUL HT
- SODA ASH
- POTASSIUM CHLORIDE

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Cuttings Disposal/Site Water

Cuttings –Haul off Company:

Eap Industries, Inc. DOT # 0876278
1575 Smith Two State Rd. Atlasburg, PA 15004
1-888-294-5227

01/18/2019

Waste Management
200 Rangos Lane
Washington, PA 15301
724-222-3272

Environmental Coordination Services & Recycling (ECS&R)
3237 US Highway 19
Cochran, PA 16314
814-425-7773

Disposal Locations:

Apex Environnemental, LLC Permit # 06-08438
11 County Road 78
Amsterdam, OH 43903
740-543-4389

Westmoreland Waste, LLC Permit # 100277
111 Conner Lane
Belle Vernon, PA 15012
724-929-7694

Sycamore Landfill Inc. Permit #R30-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

Max Environnemental Technologies, Inc. Facility Permit # PAD004835146 / 301071
233 Max Lane
Yukon, PA 25968
724-722-3500

Max Environnemental Technologies, Inc. Facility Permit # PAD05087072 / 301359
200 Max Drive
Bulger, PA 15019
724-796-1571

Waste Management Kelly Run Permit # 100663
1901 Park Side Drive
Elizabeth, PA 15037
412-384-7569

Waste Management South Hills (Arnoni) Permit # 100592
3100 Hill Road
Library, PA 15129
724-348-7013
412-384-7569

Waste Management Arden Permit # 100172
200 Rangos Lane
Washington, PA 15301
724-222-3272

Waste Management Meadowfill Permit # 1032
1488 Dawson Drive
Bridgeport, WV 26330

Brooke County Landfill Permit # SWF-103-97 / WV 0109029
Rd 2 Box 410
Colliers, WV 26035
304-748-0014

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185
 Rt 1 Box 156A
 New Martinsville, WV 26035
 304-455-3800

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Energy Solutions, LLC Permit # UT 2300249
 423 West 300 South
 Suite 200
 Salt Lake City, UT 84101

Energy Solutions Services, Inc. Permit # R-73006-L24
 1560 Bear Creek Road
 Oak Ridge, TN 37830

Northern A-1 Environmental Services Permit ID MID020906814
 3947 US 131 North, PO Box 1030
 Kalkaska, MI 49646
 231-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720485
 3790 State Route 7
 New Waterford, OH 44445
 330-892-0164

CMS of Delaware Inc. DBA CMS Oilfield Serv
 301 Commerce Drive
 Moorestown, NJ 08057

Nabors Completion & Production Services Co.
 PO Box 975682
 Dallas, TX 75397-5682

Force, Inc.
 1380 Rte. 286 Hwy. E, Suite 303
 Indiana, PA 15701

Select Energy Services, LLC
 PO Box 203997
 Dallas, TX 75320-3997

Solo Construction
 P.O. Box 544
 St. Mary's, WV 26170

Nuverra Environmental Solutions
 11942 Veterans Memorial Highway
 Masontown, WV 26542

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Equipment Transport
 1 Tyler Court
 Carlisle, PA 17015

Mustang Oilfield Services LLC
 PO Box 739
 St. Clairsville, OH 43950

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Myers Well Service, Inc.
 2001 Ballpark Court
 Export, PA 15632

Wilson's Outdoor Services, LLC
 456 Cracraft Road
 Washington, PA 15301

Burns Drilling & Excavating
 618 Crabapple Road P.O. Box 41
 Wind Ridge, PA 15380

Disposal Locations:

Solidification
 Waste Management, Arden Landfill Permit # 100172
 200 Rangos Lane
 Washington, PA 15301
 724-225-1589

Nichlos 1-A (SWIW #13)
 Permit # 3862
 300 Cherrington Pkwy, Suite 200
 Coraopolis, PA 15108
 412-329-7275

Solidification/Incineration
 Soil Remediation, Inc. Permit # 02-20753
 6065 Arrel-Smith Road
 Lowelville, OH 44436
 330-536-6825

Groselle (SWIW #34)
 Permit # 4096
 Rt. 88
 Garrettsville, OH
 713-275-4816

Adams #1 (Buckeye Brine, LLC)
 Permit # 34-031-2-7177
 23986 Airport Road
 Coshocton, OH 43812
 740-575-4484
 512-478-6545

Kemble 1-D Well
 Permit # 8780
 7675 East Pike
 Norwich, Oh 43767
 614-648-8898
 740-796-6495

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin Tx 78703
Permit # 34-031-2-7178
740-575-4484
512-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit #34-031-2-7241-00-00
2630 Exposition, Suite 117
Austin, TX 78703
512-478-6545

Mozena #1 Well (SWIW # 13)
Permit # 34-157-2-5511-00-00
5367 E. State Street
Newcomerstown, OH 43832
740-763-3966

Goff SWD #1 (SWIW # 27)
Permit # 34-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-329-7275

SOS D#1 (SWIW #12)
Permit # 34-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2939 Hubbard Road
Youngstown, PH 44505

Dudley #1 UIC (SWIW #1)
Permit # 34-121-2-2459-00-00
Select Energy Services, LLC
7994 S. Pleasants Hwy
St. Marys, WV 26170
304-665-2652

OH UIC #1 Buckeye UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consol Energy Drive
Permit # 34-013-2-0609-00-00
Permit # 34-013-2-0614-00-00
304-323-6568

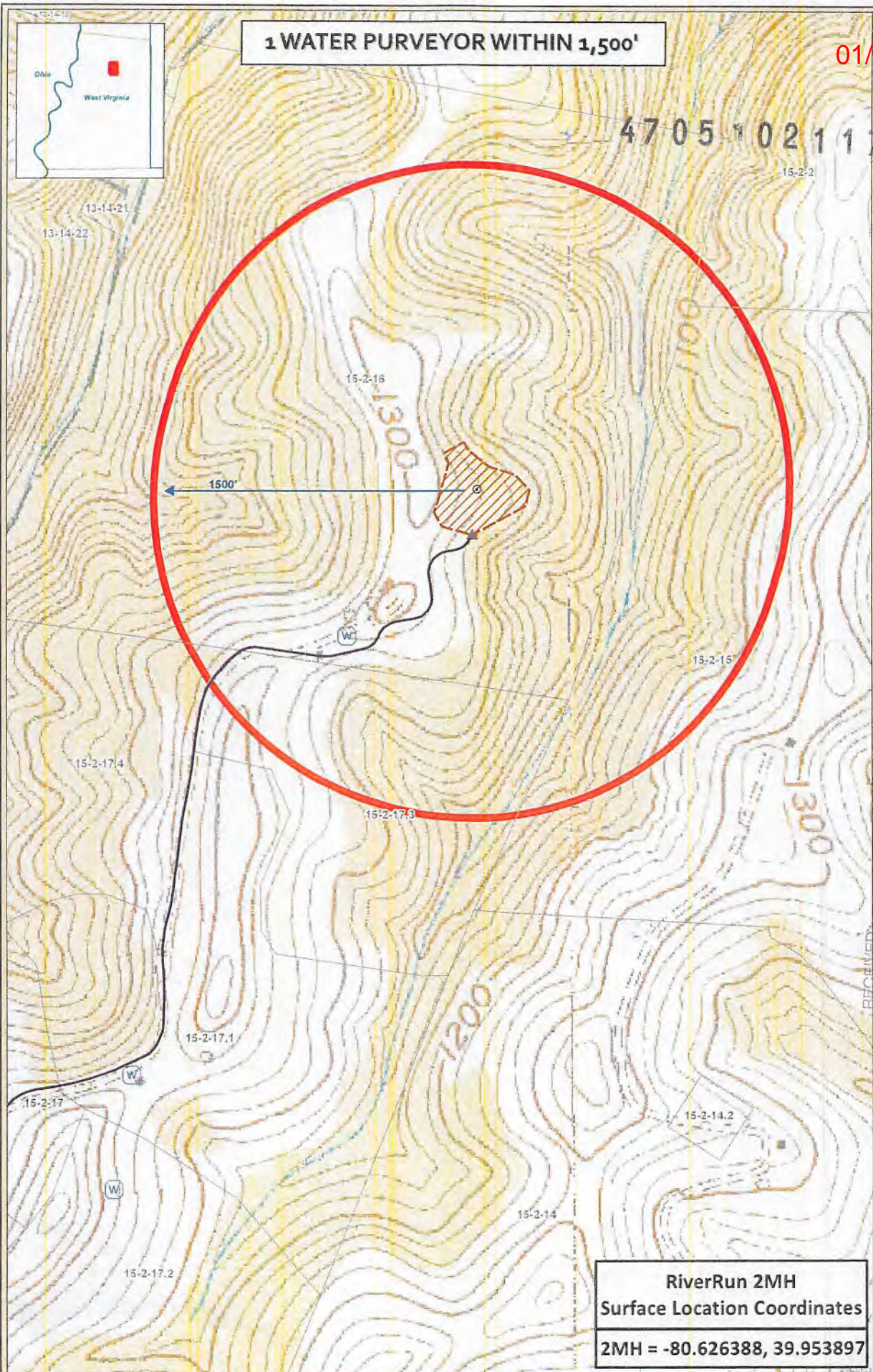
01/18/2019

US Steele 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15730
304-323-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4137-00-00
Elkhead Gas& Oil Company
12163 Marne Rd. NE
Newark, OH 43055
740-763-3966

1 WATER PURVEYOR WITHIN 1,500'

01/18/2019



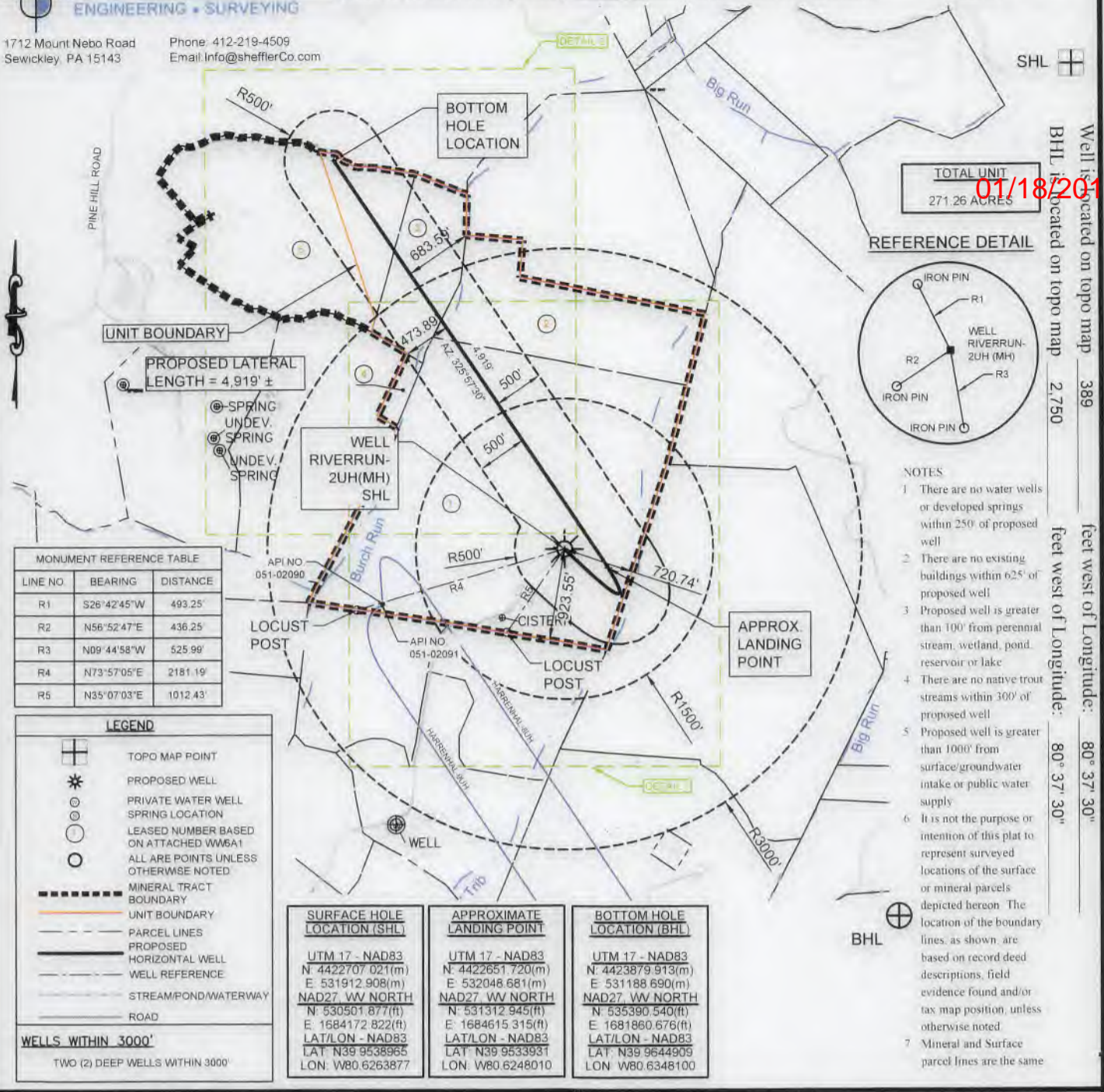
RiverRun 2MH
Surface Location Coordinates
2MH = -80.626388, 39.953897

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RiverRun 2MH - Water Source		<ul style="list-style-type: none"> Well SHL Well Pad 	<ul style="list-style-type: none"> Access Rd Intersection Access Road Parcels 	<ul style="list-style-type: none"> Water Well 1,500' Buffer 		
Marshall County West Virginia	Coordinate System: NAD 83 (GCS NAD 83) System: North American 1983 Linear Units: Meter	Map Scale Units: 10,000 1 inch = 300 feet	Map Author: JCT Map Date: 05/2018			



01/18/2019

Well located on topo map 389 feet west of Longitude: 80° 37' 30"
BHL located on topo map 2,750 feet west of Longitude: 80° 37' 30"

FILE # RIVERRUN-2UH (MH)
DRAWING # RIVERRUN-2MH-R1.DWG
SCALE: 1"=1500'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: USGS MONUMENT JX0742: 1343.3'

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

SIGNED: [Signature]
R.P.E.: 21452 L.L.S.: P.S. NO.



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

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

WATERSHED: WHEELING CREEK - UPPER OHIO RIVER ELEVATION: 1,264.94'
COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MOUNDSVILLE, WV
SURFACE OWNER: APP MINERALS LLC ACREAGE: 183.31
OIL & GAS ROYALTY OWNER: APP MINERALS LLC

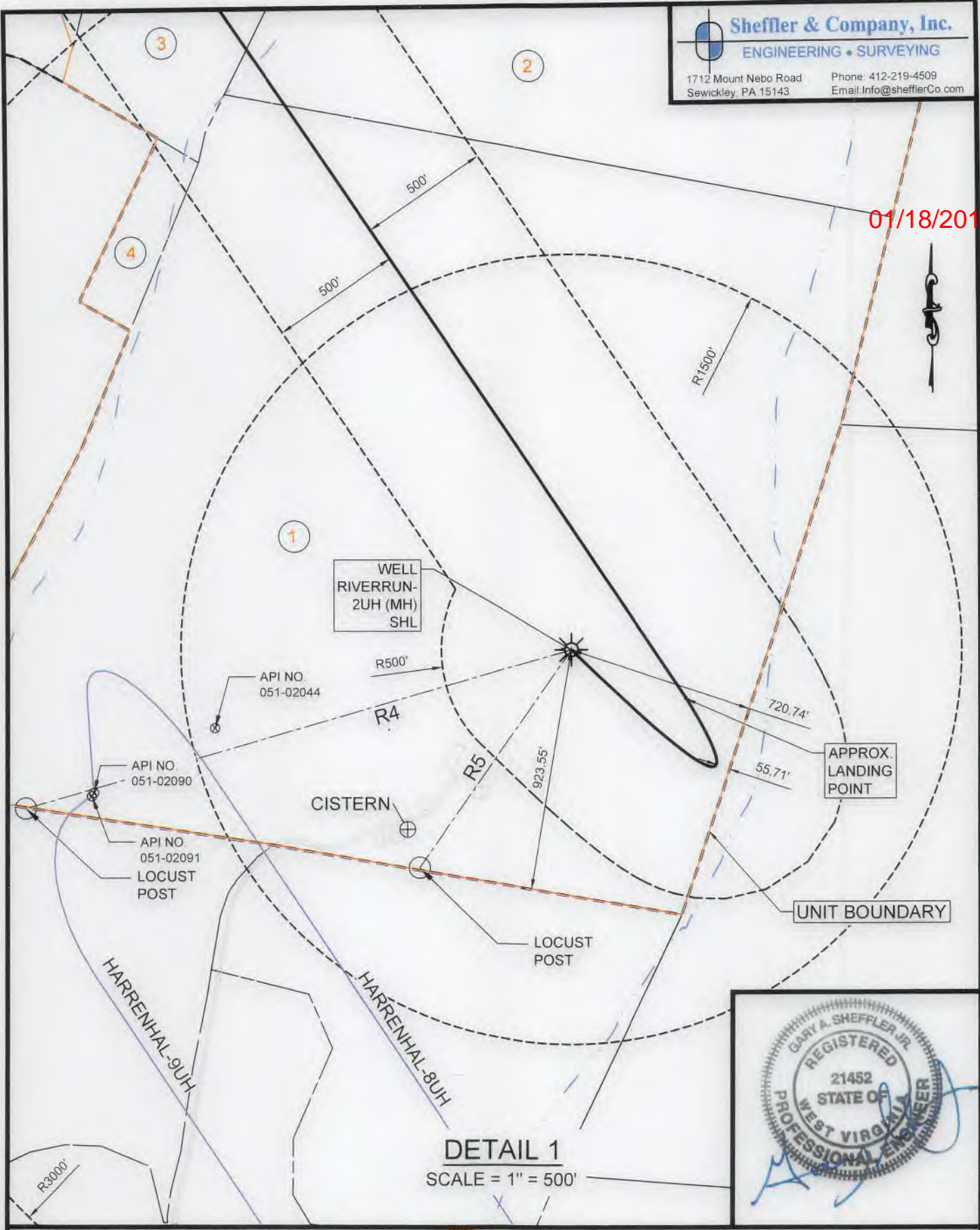
DATE: July 31, 2018 - REV - October 15, 2018
OPERATOR'S WELL #: RIVERRUN-2UH (MH)
API WELL # 47 051 02117H6A
STATE COUNTY PERMIT

ACREAGE: 183.31

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,720' ± TMD: 12,639' ±
WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN
Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

01/18/2019



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



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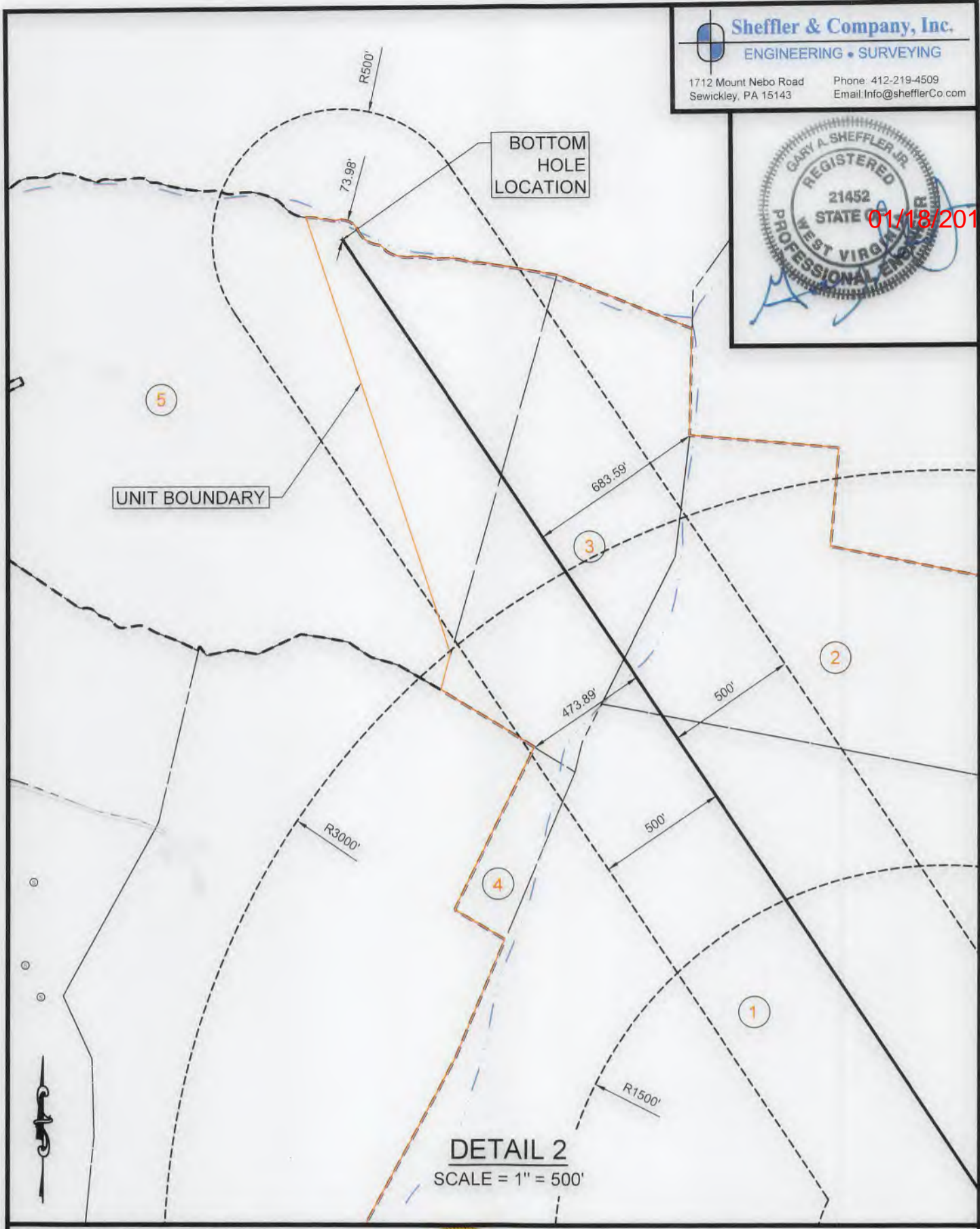
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 Gas Liquid Injection Storage Shallow

WATERSHED: WHEELING CREEK - UPPER OHIO RIVER ELEVATION: 1,264.94'
 COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MOUNDSVILLE, WV
 SURFACE OWNER: APP MINERALS LLC ACREAGE: 183.31
 OIL & GAS ROYALTY OWNER: APP MINERALS LLC

ACREAGE 183.31

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 Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000
 City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301



DETAIL 2
 SCALE = 1" = 500'

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



DATE: July 31, 2018 - REV - October 15, 2018

OPERATOR'S WELL #: RIVERRUN-2UH (MH)

API WELL # 47 051 02117 HGA
 STATE COUNTY PERMIT

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

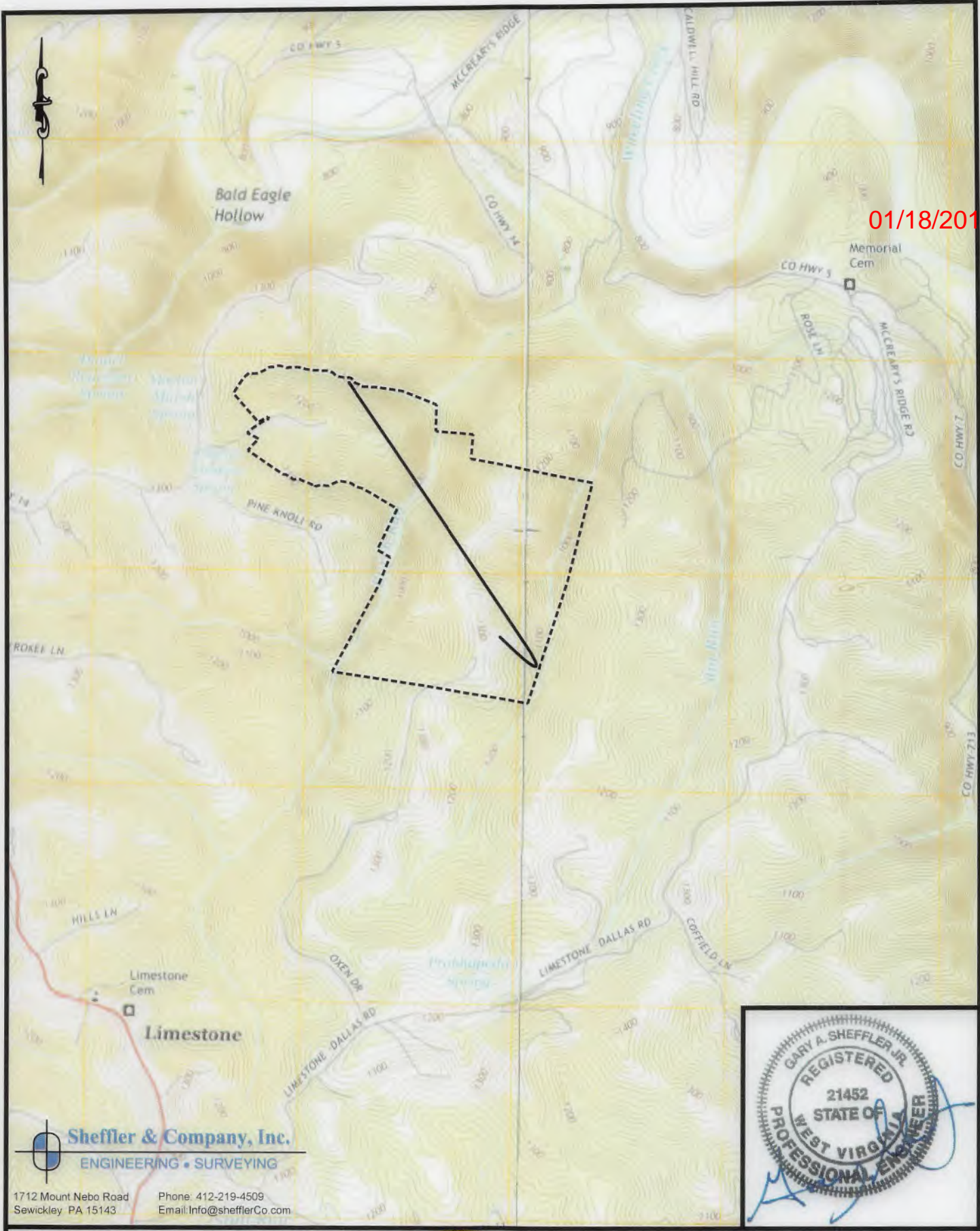
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 SURFACE OWNER: APP MINERALS LLC ACREAGE: 183.31
 OIL & GAS ROYALTY OWNER: APP MINERALS LLC

ACREAGE: 183.31

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 Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000
 City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

01/18/2019



Sheffler & Company, Inc.
 ENGINEERING • SURVEYING
 1712 Mount Nebo Road Phone: 412-219-4509
 Sewickley PA 15143 Email: Info@shefflerCo.com



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



DATE: July 31, 2018 - REV - October 15, 2018

OPERATOR'S WELL #: RIVERRUN-2UH (MH)

API WELL # 47 051 02117H6A
 STATE COUNTY PERMIT

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

WATERSHED: WHEELING CREEK - UPPER OHIO RIVER ELEVATION: 1,264.94'
 COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MOUNDSVILLE, WV
 SURFACE OWNER: APP MINERALS LLC ACREAGE: 183.31
 OIL & GAS ROYALTY OWNER: APP MINERALS LLC

ACREAGE: 183.31

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
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TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,720' ± TMD: 12,639' ±
 WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN
 Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000
 City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

① TAX MAP NO.
15-0002-0016-0000-0000
ASSESSED ACREAGE: 183.31 ACRES

SURFACE OWNERS:
APP MINERALS LLC

MINERAL OWNERS:
APP MINERALS LLC

01/18/2019

② TAX MAP NO.
15-0002-0001-0000-0000
ASSESSED ACREAGE: 56.63 ACRES

SURFACE OWNERS:
APP MINERALS LLC

MINERAL OWNERS:
APP MINERALS LLC

③ TAX MAP NO.
13-0014-0020-0000-0000
ASSESSED ACREAGE: 19.00 ACRES

SURFACE OWNERS:
APP MINERALS LLC

MINERAL OWNERS:
APP MINERALS LLC

④ TAX MAP NO.
13-0014-0021-0000-0000
ASSESSED ACREAGE: 3.25 ACRES

SURFACE OWNERS:
APP MINERALS LLC

MINERAL OWNERS:
APP MINERALS LLC

⑤ TAX MAP NO.
13-0014-0018-0000-0000
ASSESSED ACREAGE: 81.90 ACRES

SURFACE OWNERS:
NICHOLSON, GARY A. & LUCINDA K.

MINERAL OWNERS:
NICHOLSON, GARY A. & JOHNSON, LUCINDA K

(+) DENOTES LOCATION OF
WELL ON UNITED STATES
TOPOGRAPHIC MAPS
WVDEP

OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



DATE: July 31, 2018 - REV - October 15, 2018

OPERATOR'S WELL #: RIVERRUN-2UH (MH)

API WELL # 47 051 02117H6A
STATE COUNTY PERMIT

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

WATERSHED: WHEELING CREEK - UPPER OHIO RIVER ELEVATION: 1,264.94'

COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: APP MINERALS LLC ACREAGE: 183.31

OIL & GAS ROYALTY OWNER: APP MINERALS LLC

ACREAGE: 183.31

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WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

WW-6A1
(5/13)

Operator's Well No. River Run 2 UH (MH)

**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 sheet

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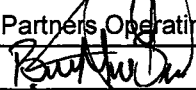
WV Department of
Environmental Protection

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

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

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

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

Well Operator: American Petroleum Partners Operating, LLC
 By: Braulio Silva 
 Its: Vice President-Drilling

01/18/2019

Map#	Parcel#	Lease#	Lessor	Current Lessee	Royalty	Recording Information
1	15-2-16	WV-MAR-1191	APP Minerals, LLC	American Petroleum Partners Operating, LLC	Not less than 1/8th	984-388
2	15-2-1	WV-MAR-1191	APP Minerals, LLC	American Petroleum Partners Operating, LLC	Not less than 1/8th	984-388
3	13-14-20	WV-MAR-1191	APP Minerals, LLC	American Petroleum Partners Operating, LLC	Not less than 1/8th	984-388
5	13-14-18	WV-MAR-0870	Gary A. & Lucinda K. Nicholson	American Petroleum Partners Operating, LLC	Not Less than 1/8th	954-392

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WV Department of
Environmental Protection

01/18/2019



Office of Oil & Gas
601 57th street, SE
Charleston, WV 25304-2345

July 30, 2018

Re: Drilling Under Roads

To Whom It May Concern:

American Petroleum Partners Operating, LLC. has the right to drill, stimulate and produce wells that are drilled under the County and State Roads as designated on the plats.

Should you have any questions or desire additional information, please do not hesitate to contact me at regulatory@app-lp.com.

Sincerely,

Brulio Silva
VP- Drilling

BS/djs

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AUG 9 2018

WV Department of
Environmental Protection

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01/18/2019

WW-6AC
(1/12)

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

Date of Notice Certification: 8/1/2018

API No. 47- 051 -
Operator's Well No. River Run 2 UH (MH)
Well Pad Name: Dire Wolf-River Run

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>531912.908</u>
County: <u>Marshall</u>	Northing: <u>4422701.021</u>
District: <u>Webster</u>	Public Road Access: <u>McCreary's Ridge Road (CR 7)</u>
Quadrangle: <u>Moundsville</u>	Generally used farm name: <u>App Mineral, LLC</u>
Watershed: <u>Upper Ohio South</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.

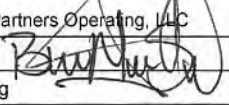
<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" 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: 40px;"><input checked="" type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
<p>RECEIVED Office of Oil and Gas</p> <p>AUG 9 2018</p> <p>WV Department of Environmental Protection</p>	

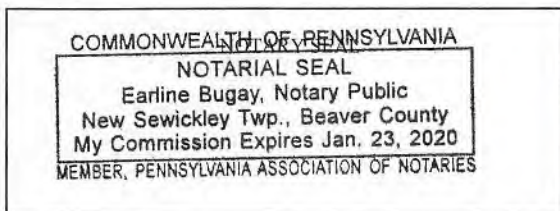
Required Attachments:

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

Well Operator:	<u>American Petroleum Partners Operating, LLC</u>	Address:	<u>4600 J. Barry Court Suite 310</u>
By:	<u>Braulio Silva</u> 		<u>Canonsburg, PA 15317</u>
Its:	<u>Vice President-Drilling</u>	Facsimile:	<u>na</u>
Telephone:	<u>1-724-338-8629</u>	Email:	<u>Regulatory@app-lp.com</u>



Subscribed and sworn before me this 30th day of July 2018.
Earline Bugay / Earline Bugay Notary Public
 My Commission Expires 1/23/2020

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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Environmental Protection

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

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

Date of Notice: 8/1/18 **Date Permit Application Filed:** 8/2/18

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: APP Mins LLC
Address: 4900 J. Barry Ct. Suite 310
Canonsburg, PA 15317

Name: _____
Address: _____

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

Name: Mark Meberg, Et Ux & Mary P. Meberg
Address: 325 McCreary's Ridge
Moundsville, WV 26041

Name: David Hunt
Address: 6906 Conley Street
Baltimore, MD 21224

SURFACE OWNER(s) (Impoundments or Pits)

Name: None
Address: _____

COAL OWNER OR LESSEE

Name: Murray American Energy and Consolidation Coal Company
Address: 46226 National Road
St. Clairsville, OH 43950

COAL OPERATOR

Name: The Ohio County Mine-Murray American Energy and Consolidation Coal Company
Address: 46226 National Road
St. Clairsville, OH 43950

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

Name: See Attached List
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: None
Address: _____

*Please attach additional forms if necessary
Office of Oil and Gas

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WW-6A
(9-13)

API NO. 47- 051 - 01/18/2019
OPERATOR WELL NO. River Run 2MH (UH)
Well Pad Name: Dire Wolf-River Run

**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: 8/1/18 **Date Permit Application Filed:** 8/2/18

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: _____
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Joy Chicione
Address: 61 Waymans Ridge
Moundsville, WV 26041
Name: David & Lonna Hudson
Address: 319 Oxen Drive
Moundsville, WV 26041

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

COAL OWNER OR LESSEE
Name: _____
Address: _____

COAL OPERATOR
Name: _____
Address: _____

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

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

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WV Department of
Environmental Protection

*Please attach additional forms if necessary

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AUG 9 2018

WW-6A
(9-13)

WV Department of
Environmental Protection

API NO. 47- 051 - 01/18/2019
OPERATOR WELL NO. River Run 2UH (MH)
Well Pad Name: Dire Wolf - River Run

**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: 8/1/18 **Date Permit Application Filed:** 8/2/18

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: _____
Address: _____

COAL OWNER OR LESSEE
Name: _____
Address: _____

Name: _____
Address: _____

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Gorakshya Seva & ENV EDU/Eco-Vrindaban Inc.
Address: Rd 3 Box 278 B
Wheeling, WV 26003
Name: Lakshmi D. Dove et al. William E & Irene M. Dove, Et al
Address: Rd 3 Box 278 B
Wheeling, WV 26003

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

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

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

*Please attach additional forms if necessary

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Office of Environmental Protection

WW-6A
(8-13)

AUG 9 2018

API NO. 47- 051 - 01/18/2019
OPERATOR WELL NO. River Run 2 UH (MH)
Well Pad Name: Dire Wolf-River Run

WV Department of
Environmental Protection

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

WW-6A
(8-13)

API NO. **47-05-102-0117** 01/18/2019
OPERATOR WELL NO. River Run 2 UH (MH)
Well Pad Name: Dire Wolf-River Run

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

RECEIVED
Office of Oil and Gas

AUG 9 2018

WV Department of
Environmental Protection

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

Time Limits and Methods for Filing Comments.

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

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

Comment Requirements

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

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

Permit Denial or Condition

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

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

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

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

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WW-6A
(8-13)

4705102117
API NO. 47-051 - 01/18/2019
OPERATOR WELL NO. River Run 2 UH (MH)
Well Pad Name: Dire Wolf-River Run

Notice is hereby given by:

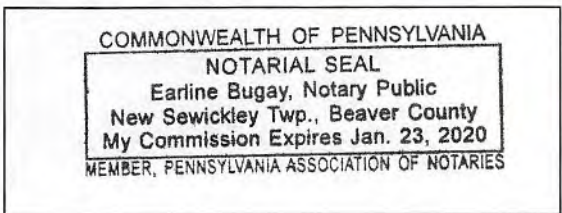
Well Operator: American Petroleum Partners Operating, LLC
Telephone: 1-724-338-8629
Email: Regulatory@APP-LP.com

Address: 4600 J. Barry Court, Suite 310
Canonsburg, PA 15317
Facsimile: na

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

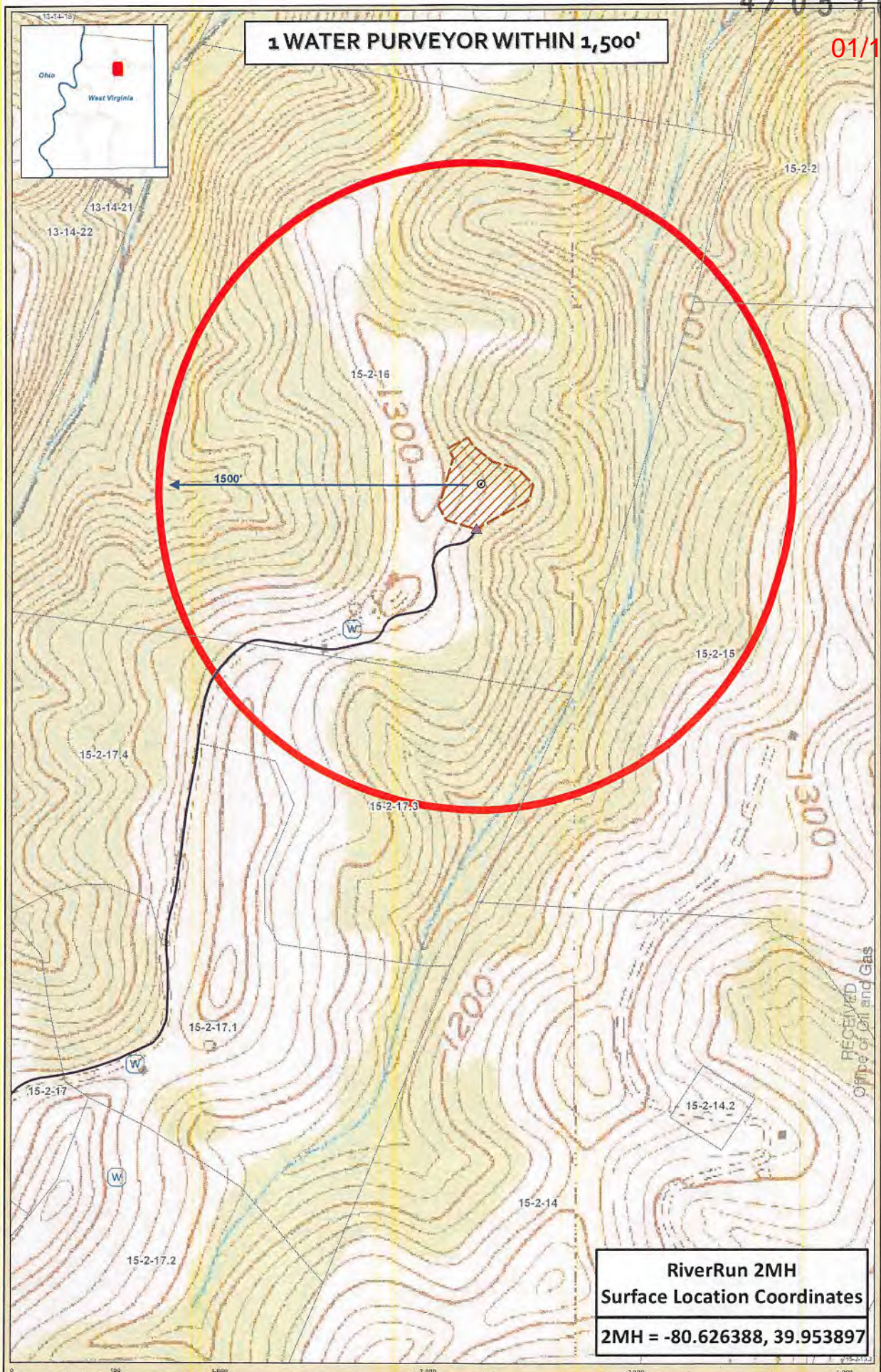
Barry Moore



Subscribed and sworn before me this 30th day of July, 2018.
Earline Bugay / Earline Bugay Notary Public
My Commission Expires 1/23/2020

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1 WATER PURVEYOR WITHIN 1,500'



RiverRun 2MH
Surface Location Coordinates
2MH = -80.626388, 39.953897

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RiverRun 2MH - Water Source

Marshall County
West Virginia
Coordinate System: NAD 1983 UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983
Linear Units: Meter
Map Scale Units: 1:5,000
1 inch = 500 feet
Map Author: WPC
Map Date: 07/26/18

- Well SHL
- Well Pad
- Access Rd Intersection
- Access Road
- Water Well
- 1,500' Buffer
- Parcels



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: 7/17/18 **Date of Planned Entry:** 7/25/18

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: APP Minerals LLC
 Address: 4600 J. Barry Ct, Suite 310
 Canonsburg, PA 15317

Name: _____
 Address: _____

Name: _____
 Address: _____

COAL OWNER OR LESSEE

Name: Consol Mining Company LLC
 Address: 1000 Consol Energy Drive
 Canonsburg, PA 15317

MINERAL OWNER(s)

Name: APP Minerals LLC
 Address: 4600 J. Barry Ct, Suite 310
 Canonsburg, PA 15317

*please attach additional forms if necessary

Notice is hereby given:

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

State: West Virginia
 County: Marshall
 District: Webster
 Quadrangle: Moundsville

Approx. Latitude & Longitude: Latitude: 39.953868 & Longitude: -80.626477
 Public Road Access: Oxen Dr.
 Watershed: Upper Ohio South
 Generally used farm name: APP Minerals LLC

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: American Petroleum Partners Operating, LLC
 Telephone: 844-835-5277
 Email: regulatory@app-lp.com

Address: 4600 J. Barry Ct, Suite 310
 Canonsburg, PA 15317
 Facsimile: _____

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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01/18/2019

NW-72
Rev. 7/01

4705102117

Affidavit of Personal Service

State Of Pennsylvania
County Of Washington

The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form NW-2(A) ___ / NW-3(A) ___ / NW-4(A) ___ / NW-5(A) ___ / NW-6(A) ___
- (2) Application on Form NW-2(B) ___ / NW-3(B) ___ / NW-4(B) ___ / NW-5(B) ___ / NW-6(B) ___
- (3) Plat showing the well location on Form NW-8, and
- (4) Construction and Reclamation Plan on Form NW-9

--all with respect to operator's Well No. New Star located in Webster District, Marshall County, West Virginia, upon the person or organization named--

APP Minerals, LLC

--by delivering the same in Person County, State of Pennsylvania on the day of , 20 in the manner specified below.

(COMPLETE THE APPROPRIATE SECTION)

For an individual:

Handing it to his ___ / her ___ / or, because he ___ / she ___ / refused to take it when offered it, by leaving it in his ___ / her ___ / presence.

Handing it to a member of his or her family above the age of 14 years named ___ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

Handing it to ___ a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

Handing it to the general partner, named ___ or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

Handing it to the corporation's employee ___ / officer ___ / director ___ / attorney in fact ___ / named Braulo Sava.

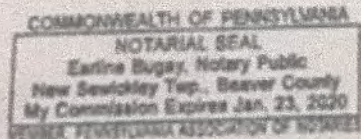
[Signature]

(Signature of person executing service)

Taken, subscribed and sworn before me this 1st day of August 2018.
My commission expires 12/24/2020

[Signature]
Notary Public

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)



Noticed
Office of Oil and Gas

AUG 9 2018

PA Department of
Environmental Protection

WW-6A5
(1/12)

4705102117
Operator Well No. River Run 2 LH (M)
01/18/2019

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: 8/1/18 **Date Permit Application Filed:** 8/2/18

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.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: APP Minerals, LLC
Address: 4600 J. Barry Court, Suite 310
Canonsburg, PA 15317

Name: _____
Address: _____

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Eastings:	<u>531912.908</u>
County:	<u>Marshall</u>		Northings:	<u>4422701.021</u>
District:	<u>Webster</u>	Public Road Access:	<u>McCreary's Ridge Road (CR 7)</u>	
Quadrangle:	<u>Moundsville</u>	Generally used farm name:	<u>App Mineral, LLC</u>	
Watershed:	<u>Upper Ohio South</u>			

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: American Petroleum Partners Operating, LLC
Telephone: 1-724-338-8629
Email: Regulatory@app-pp.com

Address: 4600 J. Barry Court Suite 310
Canonsburg, PA 15317
Facsimile: na

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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: 8/11/18 **Date Permit Application Filed:** 8/2/18

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

- CERTIFIED MAIL HAND
- RETURN RECEIPT REQUESTED DELIVERY

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

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

Name: Joyce Chiclone
Address: 61 Waymans Ridge
Moundsville, WV 26041

Name: David and Lonna Hudson
Address: 319 Oxen Drive
Moundsville, WV 26041

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: <u>West Virginia</u>	UTM NAD 83	Easting: <u>531912.908</u>
County: <u>Marshall</u>		Northing: <u>4422701.021</u>
District: <u>Webster</u>	Public Road Access: <u>McCreary's Ridge Road (CR 7)</u>	
Quadrangle: <u>Moundsville</u>	Generally used farm name: <u>App Minerals, LLC</u>	
Watershed: <u>Upper Ohio South</u>		

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: American Petroleum Partners Operating, LLC
Telephone: 724-338-8629
Email: Regulatory@app-lp.com

Address: 4600 J. Barry Court, Suite 110
Canonsburg, PA 15317
Facsimile: NA

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**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: 8/1/19 **Date Permit Application Filed:** 8/2/19

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

- | | |
|--|-------------------------------|
| <input checked="" type="checkbox"/> CERTIFIED MAIL | <input type="checkbox"/> HAND |
| RETURN RECEIPT REQUESTED | DELIVERY |

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

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: <u>Mark K Meberg Et Ux and Mary P. Meberg</u>	Name: _____
Address: <u>325 Mc Creary's Ridge</u>	Address: _____
<u>Moundsville, WV 26041</u>	_____

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: <u>West Virginia</u>	UTM NAD 83	Easting: <u>531912.908</u>
County: <u>Marshall</u>		Northing: <u>4422701.021</u>
District: <u>Webster</u>	Public Road Access: <u>McCreary's Ridge Road (CR 7)</u>	
Quadrangle: <u>Moundsville</u>	Generally used farm name: <u>App Minerals, LLC</u>	
Watershed: <u>Upper Ohio South</u>		

This Notice Shall Include:

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Well Operator: <u>American Petroleum Partners OPerationg, LLC</u>	Address: <u>4600 J. Barry Court, Suite 110</u>
Telephone: <u>724-338-8629</u>	<u>Canonsburg, PA 15317</u>
Email: <u>Regulatory@app-lp.com</u>	Facsimile: <u>NA</u>

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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: 8/11/18 **Date Permit Application Filed:** 8/2/18

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.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: Gorakshya-Serv & Env EDU /Eco-Vrindaban, Inc.
Address: Rd 3 Box 278-B
Wheeling, WV 26003

Name: William E and Irene M Dove, et al/ Lakshmi D Dove, et al
Address: Rd 3 Box 278-B
Wheeling, WV 26003

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:	531912.908
County:	Marshall		Northing:	4422701.021
District:	Webster	Public Road Access:	McCreary's Ridge Road (CR 7)	
Quadrangle:	Moundsville	Generally used farm name:	App Minerals, LLC	
Watershed:	Upper Ohio South			

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: American Petroleum Partners OPerationg, LLC
Telephone: 724-338-8629
Email: Regulatory@app-lp.com

Address: 4600 J. Barry Court, Suite 110
Canonsburg, PA 15317
Facsimile: NA

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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: 8/1/18 **Date Permit Application Filed:** 8/2/18

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.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: David Hunt
Address: 6906 Conley Street
Baltimore, MD 21224

Name: _____
Address: _____

Notice is hereby given:

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

State:	West Virginia	UTM NAD 83	Easting:	531912.908
County:	Marshall		Northing:	4422701.021
District:	Webster	Public Road Access:	McCreary's Ridge Road (CR 7)	
Quadrangle:	Moundsville	Generally used farm name:	App Minerals, LLC	
Watershed:	Upper Ohio South			

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: American Petroleum Partners OPerationg, LLC
Telephone: 724-338-8629
Email: Regulatory@app-lp.com

Address: 4600 J. Barry Court, Suite 110
Canonsburg, PA 15317
Facsimile: NA

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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NW-70
Rev. 7/01

Dr-6247

Affidavit of Personal Service

State Of Pennsylvania
County Of Washington

The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

- (1) Notice on Form NW-2(A) / NW-3(A) / NW-4(A) / NW-5(A) / NW-6(A)
- (2) Application on Form NW-2(B) / NW-3(B) / NW-4(B) / NW-5(B) / NW-6(B)
- (3) Plat showing the well location on Form NW-6, and
- (4) Construction and Reclamation Plan on Form NW-9

--all with respect to operator's Well No. RiverRun located in Webster District, Marshall County, West Virginia, upon the person or organization named

APP Minerals, LLC County, State of Pennsylvania
--by delivering the same in hand on the 15 day of July, 2018 in the manner specified below.

(COMPLETE THE APPROPRIATE SECTION)

For an individual:
 Handing it to his / her / or, because he / she / refused to take it when offered it, by leaving it in his / her / presence.

Handing it to a member of his or her family above the age of 16 years named _____ who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:
 Handing it to _____ a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:
 Handing it to the general partner, named _____, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:
 Handing it to the corporation's employee / officer / director / attorney in fact / named Braulio Sava

[Signature]
(Signature of person executing service)

Taken, subscribed and sworn before me this 15 day of August 2018.
My commission expires 12/31/20

[Signature]
Notary Public

AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Earline Bugay, Notary Public
New Sewickley Twp., Beaver County
My Commission Expires Jan. 23, 2020
BEAVER HIGHLAND ASSOCIATION OF NOTARIES

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47 05 102117

**OIL AND GAS ROAD
DISTRICT WIDE BONDING AGREEMENT
For DOH District 6**

THIS AGREEMENT, executed in duplicate, made and entered into this 4 day of May, 2017, by and between the WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, hereinafter called "DEPARTMENT," and AMERICAN PETROLEUM PARTNERS OPERATING, hereinafter called "COMPANY."

01/18/2019

WITNESSETH:

WHEREAS, Company has horizontal gas well drilling operations in certain areas of West Virginia; and

WHEREAS, the Department believes that the frequent and repetitive use of certain sections of highways in the State by Company, its contractors, agents, independent contractors or suppliers of drilling materials or drilling equipment, and employees contributes to increased wear and tear to public roads in the state road system in the State, including local roads ("State Owned Roads"); and,

WHEREAS, the Department and Company have entered into this Agreement to satisfy the requirements of the Department's policy entitled "Oil & Gas Road Policy" dated January 3, 2012, as issued by Paul A. Mattox, Jr., Secretary of Transportation / Commissioner of Highways, and any subsequent related policies, hereinafter called "Policy", a copy of which is made a part of this Bonding Agreement and is identified as Attachment 1.

NOW, THEREFORE, for and in consideration of the mutual agreements hereinafter set forth, the parties agree as follows:

I. For purposes of this Agreement, "Project Transportation Usage" of the Company shall be understood to mean use of one or more State Owned Roads for the delivery and removal of personnel, drilling materials and drilling equipment at the site or location of one or more of Company's horizontal gas well pad locations. To the extent reasonably practical, prior to commencing use of a State-Owned Road for Project Transportation Usage after January 1, 2011, the Company shall submit to the Department a section or sections of current official WVDOH County Highway maps identifying the exact location of the proposed project and the State-Owned Roads that the Company will utilize for the Project Transportation Usage.

II. Company and Department shall, within 14 days of the Company's submittal, agree to a list of these sections of State Owned Roads, hereinafter called "Project Roads List", to be utilized for each of Company's projects, identified by route number and milepost; at a time to be mutually agreed to by the parties prior to initial commencement of Project Transportation Usage of a particular State Owned Road on a Project Roads List, the Company and Department will jointly review the condition of the roads and bridges on the Project Roads List. The Department will document the road type and surface condition and general right-of-way width of each section of road on the Project Road List. Either party may supplement this documentation with photographs, video or other evidence of the present condition of the road surface, shoulders, ditches, culverts, bridges or other structures or appurtenances of roads on the Project Road List, as well as approaches to the roads, utility facilities located within or along the right-of-way, or any other condition, including third-party activities, that may affect the duties and responsibilities of the parties under this Agreement. A copy of any such documentation must be made and provided to the other party within 10 business days after the joint review of the roads on the Project Roads List.

III. Department shall issue a Project Agreement or Project Permit, as appropriate, to Company for its use of State Owned Roads. The Project Agreement or Project Permit may include any improvements required of Company prior to, during or after Project. The Company shall complete all improvements as required by the Project Agreement or Project Permit. If

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Company fails to complete the improvements to the satisfaction of the Department, the Department may complete the improvements, or have the improvements completed, and Company shall be responsible for all costs and expenses incurred by the Department in completing the improvements.

IV. In the Project Agreement/Project Permit, the Department shall not require the use of State Owned Roads other than the roads proposed by Company unless the Department has safety concerns as to the Company's proposed roads. A failure to agree on roads that may otherwise be lawfully used for a particular Project Transportation Usage shall result in the designation of the State-Owned Roads proposed by Company, with milepost determinations as designated by Department. This Agreement shall only cover portions of State Owned Roads designated on the Project Roads List.

01/18/2019

V. For the duration of Company's Project Transportation Usage of the Stated Owned Roads on the Project Roads List, whether by the Company, its contractors (while working on behalf of Company), agents, independent contractors or suppliers of drilling materials or drilling equipment, or employees, the Company agrees to pay for all maintenance and repair costs incurred by the Department to repair areas of the State Owned Roads included in the Project Roads List that have been damaged by Company's Project Transportation Usage. The determination of what maintenance and repairs are necessary shall be made solely by the Department. The Department shall keep a record of all labor performed by Department employees and contractors for such maintenance and repairs and shall send an invoice for the same to Company.

VI. Company shall be responsible for the cost of all maintenance and repairs necessary to put the existing roadways, bridges and appurtenances on the Project Roads List utilized for the Project Transportation Usage in the condition that existed immediately prior to the Project Transportation Usage. The determination of what maintenance and repairs are necessary shall be made solely by the Department. Company shall not be required to pay for maintenance or repairs to put any areas of such roadways, bridges and appurtenances on the Project Roads List in a condition better than the condition that existed immediately prior to the Project Transportation Usage, except any improvements required by the Project Agreement or Project Permit.

VII. Company shall notify the Department in writing of Company's final completion of Project Transportation Usage for particular roadways, bridges and appurtenances on the Project Roads List. Within 14 days after its receipt of written notification of the completion of the Project Transportation Usage for all roads on a Project Roads List, the Department will review the condition of the roadways, bridges and appurtenances on the Project Roads List actually utilized for the Project Transportation Usage and advise Company of any final repairs reasonably necessary to leave these roads, bridges and appurtenances in a condition deemed by Department to be equal to their condition prior to commencement of Project Transportation Usage; and, upon completion of all such final repairs by or on behalf of Company and acceptance by Department, the Company shall be released from all further liability for maintenance or repairs to roads, bridges, or appurtenances on said Project Roads List. Any maintenance or repair work under the Project Agreement/Project Permit for roads, bridges or appurtenances on the Project Roads List may be performed by a contractor directly chosen by the Company as approved by the Department, the Department's workforce, or a private contractor hired by the Department through the public bid process in accordance with state law, all of which work shall be subject to the standards and specifications of the Department. If the Company fails to restore the roadways, bridges and appurtenances identified by the Department to their condition prior to the commencement of the Project Transportation Usage, the Department may restore the roadways, bridges and appurtenances and the Company shall be responsible for all costs and expenses incurred by Department for such restoration.

VIII. In order to ensure performance of Company's performance and payment obligations under this Bonding Agreement, the Company shall post a corporate surety bond, hereinafter called "Master Bond", with the Department named as the beneficiary, which form of bond shall be subject to the consent of the Department, not to be unreasonably withheld. The amount and form of the bond shall be in accordance with the Policy as set forth above. However, the amount of the Master Bond does not limit the amount of claims that may be made by the Department against the Company under this Bonding Agreement. The Company shall

AUG 9 2018

provide the Master Bond to the Department within one (1) month after the execution of this Bonding Agreement. The Master Bond shall secure the good faith performance of all payment obligations of Company under the terms of this Bonding Agreement respecting the roads, bridges and appurtenances on the Project Roads List for each Project Transportation Usage undertaken by the Company, and shall remain in effect until termination of this Agreement. Company shall not be obligated to provide any other bonds, sureties, or other guarantees of performance to the Department for Company's use of State Owned Roads, except as required in this Agreement.

01/18/2019

IX. Company shall maintain Commercial General Liability Insurance in the amount of two million dollars, with a minimum coverage of one million dollars per occurrence, for personal injury or death to persons, or for property damage, resulting from Company's Project Transportation Usage and shall present evidence of such insurance to Department upon request. The Department shall be named as an additional insured under all policies of insurance required by this Agreement.

X. All contractors and subcontractors, hired by Company to perform any work or maintenance on a State-Owned Road shall furnish evidence of having at least the minimum amounts of insurance required of the Contractor in Section 103.6 through and including Section 103.6.5 of the "West Virginia Division of Highways, Standard Specifications, Roads and Bridges, Adopted 2017," and supplements thereto. Company shall also require that any contractor(s) and subcontractor(s) have a current license and be licensed to conduct business in West Virginia. The Developer shall also require that its contractor(s) and subcontractor(s) include the Division as an additional insured on all policies of insurance, except worker's compensation.

XI. Company's usage of State Owned Roads under the Project Agreement/Project Permit shall comply with all applicable Federal, State and local laws and regulations including, but not limited to, to the extent applicable, the National Environmental Policy Act, Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act, Rare, Threatened and Endangered Species Act, Section 401 Water Quality Certification, and hazardous waste requirements. Further, upon reasonable written request of Department, Company shall furnish Department with acceptable documentation of such compliance which is in the possession of the Company.

XII. To the fullest extent permitted by law, Company at all times does, and shall, assume all risks of damage to its property, and property of others, and injury or death to all persons (including, but not limited to, any employee or agent of Company, Contractor or Subcontractor) resulting directly, indirectly or otherwise by (a) the actions or omissions of Company, any Contractor or any Subcontractor, or their respective agents and employees, (b) by any condition of their property, (c) by any failure of Company, any Contractor or any Subcontractor, or their respective agents and employees, to comply with any applicable law, rule, regulations or order of any governmental authority, or to comply with any provision of this Agreement, or (d) by any other cause related to Company's, any Contractor's or any Subcontractor's performance of Project Transportations Usage activities or any work undertaken pursuant to this Agreement, including but not limited to, any construction, repair or maintenance activities required by this Agreement. Company at all times hereby fully assumes the risk of and shall defend, indemnify and hold harmless the Department, its officers, employees and agents (the Department and such persons collectively "Department's Indemnified Persons"), and shall reimburse Department's Indemnified Persons for, from and against each and every demand, claim, suit, loss (which shall include any diminution in value), liability, damage, cost and expense (including, without limitation, interest, fines, penalties, and investigation, and any and all reasonable fees, disbursements and expenses of attorneys, accountants and other professional advisors) (collectively, "Losses") imposed on, incurred by or asserted against the Department's Indemnified Persons, (individually or jointly) directly or indirectly, relating to, resulting from, or arising out of the Company's, any Contractor's or any Subcontractor's performance of Project Transportation Usage activities or any work undertaken pursuant to this Agreement, including but not limited to, any construction, repair or maintenance activities required by this Agreement. These covenants of indemnity shall survive cancellation, termination, or expiration of this Agreement, Company hereby acknowledges that the allocation of risk set forth in this provision of the Agreement is a part of the consideration to be provided to Department by Company for performance of this Agreement.

Upon written request by any Department Indemnified Person, Company shall defend the same (if requested by any Department Indemnified Person, in the name of the Department Indemnified Person) by attorneys and other professionals approved by the Department Indemnified Persons. Notwithstanding the foregoing, any Department Indemnified Persons may, in their sole and absolute discretion, engage their own attorneys and other professionals to defend or assist them, and, at the option of Department Indemnified Persons, their attorneys shall control the resolution of any claim or proceeding, provided that no compromise or settlement shall be entered without Company's consent, which consent shall not be unreasonably withheld. Upon written demand, Company shall pay or, in the sole and absolute discretion of the Department Indemnified Persons, reimburse, the Department Indemnified Persons for the payment of reasonable fees and disbursements of attorneys, accountants and other professional advisors in connection therewith.

01/18/2019

XIII. If a provision of this Agreement is or becomes illegal, invalid or unenforceable in any jurisdiction, that shall not affect the validity or enforceability of any other provision of this Agreement; or the validity or enforceability in other jurisdictions of that or any other provision of this Agreement.

XIV. Department shall give Company a minimum of 30 days written notice of default under the terms of this Bonding Agreement and the opportunity to cure this default during such 30-day period. If a default is not cured to the satisfaction of Department, or provision acceptable to Department is not made for a cure, Department may then elect to terminate this Bonding Agreement in whole or in part, and may in addition exercise its rights under the Master Bond or seek any other lawful relief available. Company may terminate this Bonding Agreement upon 30 days written notice to Department for any reason. In the event Company terminates this Agreement for any reason, it shall be liable for the repair and maintenance costs set forth above for prior Project Transportation Usage.

XV. Nothing herein shall be construed to mean that Company shall have any jurisdiction or control over any public roads in the state road system.

XVI. Company, its contractors, agents, employees and suppliers shall at all times be subject to applicable provisions of state and federal law, including without limitation laws requiring operation of vehicles in accordance with legal size and weight restrictions and posted weight limits. Oversize/overweight permits for vehicle or loads not otherwise conforming with law must be obtained in accordance with law; Department agrees to work in good faith with Company to review and grant (where authorized by law) such permits in a timely manner upon request by Company.

XVII. Any and all matters in dispute between the parties to this Agreement, whether arising from or relating to the Agreement itself, or arising from alleged extra-contractual facts prior to, during, or subsequent to the agreement, including, without limitation, fraud, misrepresentation, negligence or any other alleged tort or violation of the contract, shall be governed by, construed and enforced in accordance with the laws of the State of West Virginia, regardless of the legal theory upon which such matter is asserted.

XVIII. This Bonding Agreement shall be binding upon the successors and assigns of each party hereto.

IN WITNESS, WHEREOF, the parties hereto have caused this Bonding Agreement to be executed by their duly authorized officers effective as of the date first above written.

**WEST VIRGINIA DEPARTMENT OF
TRANSPORTATION,
DIVISION OF HIGHWAYS**

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Sasha Danberry
Witness

By: Aaron C. Gillespie
Aaron C. Gillespie, PE
State Highway Engineer

Collins Kure
Witness

By: Brantio Silva
Title: VP. Drilling.

01/18/2019

(To be executed in duplicate)

C.B. Minto
APPROVED AS TO FORM THIS
3rd DAY May, 2017
ATTORNEY LEGAL DIVISION
WEST VIRGINIA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
#170513

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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 1, 2018

Jill M. Newman
 Deputy Commissioner

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

Subject: DOH Permit for the Riverrun Pad, Marshall County
 Riverrun 2UH Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2018-0543 which has been issued to American Petroleum Partners for access to the State Road for a well site located off of Marshall County Route 7 SLS.

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

Very Truly Yours,

Gary K. Clayton, P.E.
 Regional Maintenance Engineer
 Central Office O&G Coordinator

Cc: Braulio Silva
 American Petroleum Partners
 CH, OM, D-6
 File

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Hydraulic Fracturing Fluid Product Component Information Disclosure

WV Department of Environmental Protection

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**
Water	Operator	Carrier/Base Fluid			
			Water	7732-18-5	100.00000
Terraprop Plus 30/50	Baker Hughes	Proppant			
			Aluminum Oxide	1344-28-1	100.00000
			Amorphous Silica	7631-86-9	20.00000
			Titanium Dioxide	13463-67-7	5.00000
			Iron Oxide	1309-37-1	5.00000
Sand (Proppant)	Stingray	Proppant			
			Silica Substrate	14808-60-7	87.00000
ProLite 40/70	Imerys	Proppant			
			Mullite	1302-93-8	70.00000
			Cristobalite	14464-46-1	30.00000
			Amorphous Silica	7631-86-9	15.00000
Hydrochloric Acid (HCl)	FTSI	Acid			
			Hydrogen Chloride	7647-01-0	15.00000
SI-117	WST	Scale Inhibitor			
			Copolymer of Maleic and Acrylic Acid	52255-49-9	70.00000
			Ethylene glycol	107-21-1	40.00000
			DETA phosphonate	15827-60-8	20.00000
			Hexamethylene Triamine Penta (Methylene Phosphonic Acid)	34690-00-1	20.00000
			Phosphino carboxylic acid polymer	71050-62-9	20.00000
K-BAC 1020 DBNPA	WST	Bactericide			
			Polyethylene glycol	25322-68-3	50.00000
			Water	7732-18-5	30.00000
			2,2-Dibromo-3-nitropropionamide	10222-01-2	21.00000
NEFE-180	Stingray	Acid Inhibitor/Iron Control			
			Acetic Acid	64-19-7	60.00000
			Methanol	67-56-1	30.00000
			2-Ethylhexanol	104-76-7	7.50000
			Cocunut Oil Acid diethanolamine	68603-42-9	3.00000
			Alcohols, C15-15, ethoxylated	68951-67-7	3.00000
			Olefin	64743-02-8	3.00000
			Fatty Acids, tall oil	61790-12-3	3.00000
			2-Propyn-1-ol	107-19-7	3.00000
FRA-409	Stingray	Friction Reducer			
			Copolymer of 2-propenamide	Proprietary	30.00000
			Distillates (petroleum), Hydrotreated Light	64742-47-8	20.00000
			Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000
			Alkanolamide	93-83-4	2.00000
			Ammonium Chloride	12125-02-9	1.00000
CSL-30	Stingray	pH Control			
			Sodium Hydroxide	1310-73-2	30.00000
WG-36 GELLING AGENT	Halliburton	Gelling Agent			
			Guar gum	9000-30-0	100.00000
SP BREAKER	Halliburton	Breaker			
			Sodium persulfate	7775-27-1	100.00000
LOSURF-300D	Halliburton	Non-ionic Surfactant			
			Ethanol	64-17-5	60.00000
			Heavy aromatic petroleum	64742-94-5	30.00000
			Naphthalene	91-20-3	5.00000
			Poly(oxy-1,2-ethanediyl), alpha-	127087-87-0	5.00000
			1,2,4 Trimethylbenzene	95-63-6	1.00000

EROSION & SEDIMENT CONTROL PLAN FOR DIRE WOLF - RIVERRUN PAD WEBSTER TAX DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

GENERAL NOTES

1. THE BOUNDARY AND TOPOGRAPHIC SURVEY FOR THE PROJECT AREA WERE PROVIDED BY APP OPERATING, LLC IN APRIL 2016.
2. PROPERTY BOUNDARIES, LANDOWNER INFORMATION AND ROAD NETWORKS SHOWN ON THIS PLAN ARE BASED ON AVAILABLE COUNTY GIS DATA AND BOUNDARY SURVEY PROVIDED BY APP OPERATING, LLC.
3. EXISTING STRUCTURES, TREE LINES AND ROADWAYS HAVE BEEN LOCATED PER AVAILABLE ONLINE AERIAL PHOTOGRAPHY AND SURVEY PROVIDED BY APP OPERATING, LLC.
4. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (WVA-SPT), NORTH ZONE.
5. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL 1983 (WVA-SPT), NORTH ZONE.
6. A WETLAND SURVEY WAS PERFORMED BY BETHCO ASSOCIATES OF APRIL AND MAY 2016.
7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PRIOR TO CONSTRUCTION, ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL GOVERNMENT AGENCIES.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING ALL SAFETY REQUIREMENTS.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PREVENT ANY DAMAGE TO PRIVATE PROPERTIES, PROVIDE ACCESS TO ALL DRIVE DRIVE CONSTRUCTION, WATER UTILITY COMPANIES, AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION, AND PROTECT ALL UTILITIES TO REMAIN IN SERVICE.
10. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS GOVERNING EXCAVATION. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATIONS FOR "BENCH SAFETY SYSTEMS" THAT COMPLY WITH APPLICABLE LAWS GOVERNING EXCAVATION AND APPLICABLE TO THE PROJECT. THESE PLANS SHALL BE SEALED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF BENCH SAFETY SYSTEMS AND LICENSED BY THE STATE IN WHICH THE WORK IS OCCURRING. CONTRACTOR SHALL SUBMIT THE PLAN TO APP OPERATING, LLC PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS FOR WORK RELATED TO EXCAVATION.
11. ANY DAMAGES THAT MAY OCCUR TO PROPERTY OR EXISTING IMPROVEMENTS SHALL BE REPAIRED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE PROPERTY OR IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. IN THE EVENT OF SUCH DAMAGE, CONTRACTOR SHALL NOTIFY APP OPERATING, LLC IMMEDIATELY UPON THE RESTORATION. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL. NEVERTHELESS, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SITE CLEAR OF ALL TRASH AND DEBRIS.
13. PRIOR TO ANY EARTHWORK EXCAVATION OR TOSSEL REMOVAL, ALL EROSION CONTROL MEASURES DETAIL ON THESE DRAWINGS SHALL BE PROPERLY INSTALLED. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY APP OPERATING, LLC AT ANY TIME.
14. THE CONTRACTOR SHALL INSPECT STABILIZATION AND TOSSEL CONTROL WEATHERS AT A MINIMUM OF ONCE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES DURING CONSTRUCTION.
15. 36" FENCE AND SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL RE-VEGETATION HAS BEEN COMPLETELY ESTABLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS UNTIL PROJECT COMPLETION.
16. DISTURBED AREAS THAT ARE SEEDED OR SOILED SHALL BE CHECKED PERIODICALLY TO SEE THAT GRASS COVERAGE IS PROPERLY MAINTAINED UNTIL THE CONTRACTOR IS RELEASED FROM THE JOB SITE. DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND RESEEDED OR RE-SOILED, IF NECESSARY.
17. FOR BENCH BARRIERS, THE PAD CROSS SECTION AND ROAD SECTION WAS ASSUMED TO BE 14". THIS IS TO BE SETTLEMENT OF THE DRUMMER RUN W/IN 4-3 ROCK.
18. A GEOLOGICAL INVESTIGATION HAS NOT BEEN PERFORMED. SEE SHEET 15 FOR TYPICAL BENCHING FOR BENCH DETAILS.
19. PRIOR TO FILL PLACEMENT, EXISTING SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6". MOISTURE ADJUSTED TO OPTIMUM AND RE-COMPACTED TO THE SAME DENSITY AND MOISTURE CONTENT AS THE PROPOSED FILL.
20. IMPORTED SOIL SHALL BE DIVIDED AS UNIFORM, BLENDED SANDY CLAY TO CLAYEY SAND WITH A LIQUID LIMIT (LL) OF LESS THAN 30 PERCENT AND A PLASTICITY INDEX (PI) OF BETWEEN 6 AND 15. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN THICKNESS. ROCK FILL LIFTS SHALL BE NO GREATER THAN 26" FILL WILL BE FREE OF OBSTRUCTIVE MATERIAL, NOTHING LARGER THAN 6" LIFT THICKNESSES SHALL BE 12" MAXIMUM, NOTHING FROZEN OR AET.
21. FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D 698) IN CONJUNCTION WITH THE COMPACTING OPERATION, FILL MATERIAL SHALL BE BROUGHT TO OPTIMUM MOISTURE CONTENT.



OPERATOR

AMERICAN PETROLEUM PARTNERS OPERATING, LLC
4610 L BARRY COURT
SUIE 310
CANNONBURG, PA 15217

LIMITS OF DISTURBANCE

PAD 12.47 ACRES
ROAD 2.59 ACRES
TOTAL 14.7 ACRES
PER LAND OWNER ACRES
APP MATERIALS, LLC 15.0



CALL BEFORE YOU DIG! Dial 811 or 800.245.4848
A Division of West Virginia

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

DATE: 05-05-2016 TIME: 10:51:03:55

SOILS CLASSIFICATION

USDA: COLLEENH-LORRANT COMPLEX, 35 TO 70% SLOPES

DE: DONNANT-CALLECKA COMPLEX, 35 TO 70% SLOPES, VERY STONY

CUT & FILL

CUT (SOIL)	WELL PAD	ACCESS DRIVE	SUB
	+ 19,248 CY	+ 1,374 CY	+102,483 CY
FILL	+ 29,826 CY	- 4,507 CY	- 81,477 CY
NET	+ 32,568 CY	- 4,207 CY	+ 18,982 CY
STONE	+ 5,597 CY	+ 754 CY	+ 6,351 CY
TOSSEL	- 9,304 CY	- 869 CY	- 16,148 CY
NET	+ 22,523 CY	- 4,388 CY	+ 9,132 CY

- NOTES:
1. THE TOPSOIL DEPTH FOR THE ACCESS DRIVE IS APPROXIMATELY 6.0'. THE TOPSOIL DEPTH FOR THE PAD IS ASSUMED 6.0'.
 2. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRADES AND VERIFY EARTHWORK VOLUMES, METHODS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.
 3. THE EXCESS TOPSOIL AND SUBSOIL WILL BE STORED IN THE DESIGNATED FILL STOCKPILES AS SHOWN ON THE PLANS.

LIST OF DRAWINGS

- 1 OF 16 COVER SHEET & GENERAL NOTES
- 2 OF 16 DRAINAGE EARTH PLAN
- 3 OF 16 EROSION & SEDIMENT CONTROL PLAN
- 4 OF 16 4" TOP SOIL PLAN
- 5 OF 16 GREEN DRIVE PROFILE
- 6 OF 16 GREEN DRIVE PROFILE
- 7 OF 16 ACCESS DRIVE PROFILE
- 8 OF 16 CROSS SECTIONS PLAN VIEW
- 9 OF 16 CROSS SECTIONS - ACCESS DRIVE
- 10 OF 16 CROSS SECTIONS - PAD
- 11 OF 16 RECLAMATION PLAN
- 12 OF 16 EVOLUTION ROUTE PLAN
- 13 OF 16 EVOLUTION ROUTE PLAN - 1500
- 14 OF 16 NOTES & DETAILS
- 15 OF 16 DETAILS
- 16 OF 16 DETAILS

NO.	DATE	REVISION
1	1/27/2016	PER W. DEP COMMENTS
2	1/27/2016	PER W. DEP COMMENTS



FOR REVIEW ASSOCIATES BY:

MANAGER: PATRICK DOHERTY, P.E.
DESIGN BY: CHAD BYRNE
DRAWN BY: JAMES W. HARRIS
CHECKED BY: JAMES W. HARRIS
DATE: 04/16
SCALE: AS SHOWN
SHEET NO.: 1 OF 15
PROJECT NO.: 109562201

CLIENT: AMERICAN PETROLEUM PARTNERS OPERATING, LLC COURT 4610 L BARRY COURT SUIE 310 CANNONBURG, PA 15217

COVER SHEET & GENERAL NOTES FOR DIRE WOLF - RIVERRUN PAD
MARSHALL COUNTY, WV
WEBSTER TAX DISTRICT

DATE: 05/05/2016
SHEET NO. 1 OF 15
FIG. NO. 109562201

