



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

Thursday, December 5, 2019
WELL WORK PERMIT
Horizontal 6A / New Drill

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for ROBERT BONE BRK 205H
47-009-00288-00-00

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: ROBERT BONE BRK 205H
Farm Name: ROBERT O. BONE
U.S. WELL NUMBER: 47-009-00288-00-00
Horizontal 6A New Drill
Date Issued: 12/5/2019

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a light blue circular stamp or watermark.

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.



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Austin Caperton, Cabinet Secretary
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December 5, 2019

Benjamin M. Mosa
Christine L. Mosa
9 Burling Lane
Wellsburg, WV 26070

Re: Permits for SWN Production Company, LLC, Robert Bone BRK 5H, 10H, 205H and 210H.
API numbers: 47-009-00286, 47-009-00287, 47-009-00288 and 47-009-00289.

Mr. and Mrs. Mosa:

The Office of Oil and Gas (Office) has reviewed your September 26, 2019 mailed comment concerning the SWN Production Company, LLC applications for the above referenced wells. The comment was sent to the operator for a response. The operator has responded, and the response is enclosed for your records.

After considering your comment and the applicant's response, the Office has determined that the applications meet the requirements set forth in the West Virginia Code and Legislative Rule Title 35 Series 8. Consequently, the Office will be issuing the permits today. For your information and convenience, I am including with this letter a copy of the permits as issued.

Please contact me at (304) 926-0499, extension 1547 if you have any questions.

Charles T. Brewer
Assistant Chief – Permitting
WVDEP – Office of Oil and Gas

Enclosures

October 3, 2019

Mr. Wade A. Standsberry
West Virginia Department of Environmental Protection
Division of Oil and Gas Management
601 57th Street
Charleston, WV 25304

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Subject: Response to Permit Objection
SWN Production Company, LLC
Farm Name: Robert Bone
Well Nos.: Robert Bone BRK 5H, 10H, 205H, and 210H
API Nos.: 47-009-00286; 47-009-00287; 47-009-00288; and 47-009-00289
Buffalo District, Brooke County, West Virginia

Dear Mr. Standsberry:

Reference is hereby made to certain correspondence you received from Mr. Benjamin M. Mosa and Mrs. Christine L. Mosa dated September 26, 2019 (the "Letter"), relating to the recently-filed permit applications of SWN Production Company, LLC ("SWNPC") for the above-described hydrocarbon wells to be drilled in Brooke County, West Virginia (the "Wells"). SWNPC hereby respectfully submits to the West Virginia Department of Environmental Protection (the "Department") this response (this "Response") to the Letter's claim that SWNPC cannot legally drill the Wells.

Simply put, the Letter's claim that SWNPC may not legally drill the Wells under West Virginia law is erroneous and wholly without merit. As contemplated in the permit applications, the planning and drilling of the Wells on the Pad is in full compliance with all applicable laws, rules and regulations of the state of West Virginia, and there is no valid objection to the issuance of the permits for the Wells. Below we have addressed the Letter's claims on an issue-by-issue basis.

Issue 1: Location of the Robert Bone well pad (the "Pad") in relation to the Mosa property

The Letter references a water well located on the Mosa property, and states that the Pad is located (i) within 1,000 feet of freshwater intake sources, and (ii) within 250 feet of developed springs that are used for domestic animal and human consumption. The implication seems to be that the location of the Pad would not be in compliance with the Well Location Restrictions outlined in WV Code 22 Section 6A-12. Specifically, that section's prohibitions on locating a well pad "within one thousand feet of a surface or groundwater intake of a public water supply," or drilling wells "within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption." (see subsections 6A-12(b) and 6A-12(a), respectively).

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Issue 1 Response:

Section 6A-12's prohibition on locating a well pad within 1,000 feet of a public water supply intake is inapplicable with respect to the Pad because (i) the Pad is in fact located approximately 1,800 feet from the Mosa's property line, and (ii) a private water well does not constitute a "public water supply" under applicable law.

Section 6A-12's prohibition on drilling a well within 250 feet, measured horizontally, of a water well or spring used for human or domestic animal consumption is inapplicable because, to the best of SWNPC's knowledge, there are no such developed springs within the applicable 250 foot limit. WV DEP Inspector Eric Blend inspected the property in 2017 in response to communications from Mrs. Mosa, and determined that the spring in question is actually located approximately 428 feet from the proposed Well. Further, SWNPC has seen no evidence that this spring is used for either human or animal consumption.

Finally, even if all the factual claims made in the Letter with respect to the above-described location issues were true, the prohibitions of Section 6A-12 would still be inapplicable. WV Code 22 Section 6A-12(d) states that "[t]he 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 or has an application pending prior to the effective date of this article." The Pad was constructed in 2011, and the Robert Bone BRK 3 well (API No. 47-009-00104) located on the Pad was spud on October 2, 2011. Thus, as both Pad construction and the drilling of the BRK 3 occurred prior to the effective date of Section 6A-12, the location restrictions therein are not applicable to the Wells in any event.

Issue 2: Design and integrity of the site access road

The Letter claims that (i) the site access road does not comply with the "West Virginia Erosion and Sediment Control Field Manual" [§22-6-6(d), §22-6A-7(c)] (the "E&S Field Manual"), and (ii) that the existing "slips" along the access road mean that the road is not stable for the vehicular traffic required for the drilling and completing of the Wells. These claims seem to imply that the Erosion and Sediment Control Plan for Robert Bone BRK Slip Repair (the "E&S Plan") is deficient/non-complying and that the grade of the access road exceeds allowable limits.

Issue 2 Response:

SWNPC finds no basis to any claim that the E&S Plan does not comply with the E&S Field Manual. The E&S Plan was prepared by a professional engineer licensed in the state of West Virginia (a "P.E.") who is experienced and knowledgeable as to all applicable rules and regulations, and with the E&S Field Manual. With respect to the grade of the access road, the relevant design criteria set forth in the E&S Field Manual limits maximum road grade for such an access road to 20%. The slope of the access road for the Robert Bone pad is under this limit, varying from 2.2% to 18.7% as constructed, and will remain at these slopes following repair.

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Additionally, SWNPC finds no basis whatsoever to any claim that the applicable P.E. did not design relevant erosion and sediment controls in accordance with the E&S Field Manual and applicable state law. Should the Department, in its review of the E&S Plan, identify and comment on any deficiencies therein, SWNPC will promptly respond and remedy same in good faith.

Finally, it should be noted that while SWNPC did not construct the access road, this same road has previously been used by Chesapeake Appalachia, LLC ("CHK") for traffic associated with drilling and completions activity (e.g., drilling rig and completions equipment transport) to safely drill and complete a Marcellus well. The contemplated road repairs to be performed by SWNPC, in accordance with a geotechnical investigation that was performed by GTA Energy, LLC under the direction of a P.E. in May and June of 2019, will further stabilize the road so as to ensure its ability to safely accommodate the traffic required for drilling and completing the Wells.

Issue 3: Secondary containment construction and water moving

The Letter claims that repairs were performed on the access road "on or around May of 2019." Additionally, it is stated that the contractor "Rock Solutions" diverted water from the access road and well pad in June of 2019. Finally, it is stated that "ESS trucks were present on the access road for the purpose of freshwater diversion" in June of 2019. The upshot of these claims in Letter is that the alleged activities "constitutes a direct hazard to...freshwater sources" and that "the deprivation of freshwater sources, in order to limit erosion/road slips, is illegal."

Issue 3 Response:

The above-referenced claims are factually inaccurate, and in any event all of SWNPC's activities in the relevant time-frame associated with the construction of secondary containment were perfectly lawful and in compliance with all applicable rules and regulations; no illegal diversion of or damage to any fresh water sources occurred. The following facts should be noted:

- SWNPC did not perform any repairs on the access road in May of 2019.
- In June of 2019, Rock Solutions constructed secondary containment on the Pad for the placement of a frac tank, so that water could be removed from secondary containment around the existing production tanks and pumped into the frac tank.
- Upon completion of the construction of secondary containment by Rock Solutions, a frac tank was placed therein and ESS moved water from production tank secondary containment to the frac tank as described, in order to comply with applicable regulations around required secondary containment volumes.
- SWNPC at no time diverted stormwater from its existing flow direction, as claimed.

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Issue 4: "Altered" property boundary drawings

The Letter claims that SWNPC has inappropriately altered property boundaries on drawings provided to the Department to show that the access road is not on the Mosa's property.

Issue 4 Response:

SWNPC's process with respect to the relevant property line drawings – described in detail below – was appropriate and in compliance with all applicable law. SWNPC does not agree with the Letter's claim that the access road, as constructed, is on the Mosa's property.

Referring to Exhibit 5 of the Letter, the drawings provided in this Exhibit are from permit applications submitted to the Department for these same wells in April and June of 2017. At that time, SWNPC used parcel boundaries from County tax maps on the drawing. Note that the Limit of Disturbance also encompassed the entirety of the Pad and the access road.

The drawings provided in Exhibit 3 of the Letter were provided as revised drawings to the Department in March 2018 to be utilized in place of the 2017 drawings (see Exhibit 5). At this time, SWNPC had not come to an agreement with the surface owner (Robert Bone) regarding the access road; as such, the access road was removed from within the Limit of Disturbance. Prior to the submission of these drawings, SWNPC had a professional surveyor licensed in the state of West Virginia survey the relevant property lines for use in the drawings. Based on this survey, the property lines were adjusted slightly from the tax map property lines shown on the 2017 drawings.

Finally, the drawings provided in Exhibit 2 of the Letter were submitted with the September 2019 permit applications for the Wells. The property lines utilized on these drawings were a combination of property lines from the County tax maps and the surveyed property line from the drawings provided in Exhibit 3. As such, the property lines along the access road, as referenced in the Letter, are the surveyed property lines shown on both the drawings provided Exhibit 3 and Exhibit 2. These are the actual property lines as surveyed by the licensed surveyor.

Issue 5: Required notification

The Letter claims that the Mosas should have been notified in writing of the permit application submittal, presumably under WV Code 22 Section 6A-10(b), due to (i) the location of their water well and (ii) the access road being constructed on their property.

Issue 5 Response:

West Virginia Code 22 Section 6A-10(b) sets forth certain notice requirements associated with contemplated drilling activity, including to (i) any landowner whose surface tract will be used for roads, and (ii) any landowner who is known to have a water well, spring or water supply

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source located within 1,500 feet of the center of the well pad. Neither of these is applicable to the Mosas because:

- As discussed herein in response to Issue 4, SWNPC does not believe that the access road is on property owned by the Mosas; and
- As discussed herein in response to Issue 1, the center of the Pad is located approximately 1,800 feet from the relevant property line.

While SWNPC was not under any obligation to do so, the Mosas did previously receive notice from SWNPC in connection with pre-drill water testing. This notification is referred to in the Letter as being received in May of 2017 from Ms. Denise Grantham. West Virginia law requires operators to conduct water sampling and analysis from any "known existing water well or developed spring within one thousand five hundred (1,500) feet from the center of the proposed well pad." SWNPC chooses, on a purely voluntary basis, to extend this testing to 3,000 feet. Since the Mosas' parcels are within 3,000 feet (but outside of 1,500 feet), of Pad center, they were notified and SWNPC sought the ability to test their water supply.

Issue 6: Other means of development

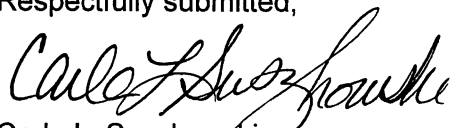
In an email from Mrs. Mosa to the Department on September 30, 2019, it is claimed that drilling the Wells is unnecessary, as the relevant hydrocarbons can be economically produced by SWNPC via other well pads in the area.

Issue 6 Response:

This is a flatly false and inaccurate statement from an operational perspective.

SWNPC is hopeful that the responses set forth above will satisfy the Department's needs with respect to the issues and concerns outlined by the Mosa's in the Letter and subsequent email. Should the Department need additional information or have any questions regarding this letter or any matters relating to the Wells or the permit applications, please do not hesitate to contact me directly at (832) 796-6372 or via email at carla_suszkowski@swn.com.

Respectfully submitted,


Carla L. Suszkowski
Regulatory Manager

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Archived: Monday, September 9, 2019 8:26:23 AM

From: Christy Mosa

Sent: Sat, 7 Sep 2019 13:14:50 +0000Received: from CY4PR09CA0021.namprd09.prod.outlook.com (2603:10b6:910:2::31) by

SN6PR09MB3726.namprd09.prod.outlook.com (2603:10b6:805:12::15) with Microsoft SMTP Server (version=TLS1_2,

cipher=TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384) id 15.20.2220.19; Sat, 7 Sep 2019 13:14:49 +0000Received: from CY1GCC01FT006.eop

To: Stansberry, Wade A

Subject: [External] FOIA Request

Importance: Normal

Attachments:

[Robert Bone Permits.pdf](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and are expecting the content. -- WV Office of Technology

Dear Mr. Stansberry

Enclosed please find the FOIA request(s) for the following Horizontal 6A well permits in accordance with all applicable WV Code, including but not limited to:

§22-6A-11. Procedure for filing written comments

§22-6A-10. Notice to property owners

Applicant: SWN PRODUCTION COMPANY, LLC

Farm Name: ROBERT BONE

County: Brooke

009-00286

009-00287

009-00288

009-00289

Please note that Benjamin Mosa & Christine Mosa - surface property owners (B37 -0074; B37-0075; B37-0079) adjacent to and within the Robert Bone well-pad permit area have water well, which originates from springs and water supply sources that are located within one thousand five hundred feet of the center of the well pad - said water is used for consumption by both humans and domestic animals.

SWN has failed to meet their burden of law with regards to notifying the foregoing property owners of the proposed drilling activities prior to the filing date of the applications. Therefore, it is required that the Mosa's receive copies of the foregoing permits, each in its entirety, in order to submit an informed comment in good faith. The thirty (30) day comment period on the Robert Bone permits (009-00286; 009-00287; 009-00288; 009-00289) must not begin until (unredacted) copies of the requested permit applications are received by surface owners Benjamin and Christine Mosa.

In addition, the information referenced below was not available on WV DEP's website. Ms. Mosa requests documentation #78 through #97 - if not included in its entirety in the requested permit applications (009-00286; 009-00287; 009-00288; 009-00289).

Again, the thirty (30) day comment period on the Robert Bone ((009-00286; 009-00287; 009-00288; 009-00289) permits can not begin until the requesting surface owners receive the aforementioned documentation, as the Mosa's were not lawfully notified, by SWN, of the proposed Horizontal drilling (§22-6A-11; §22-6A-10).

Respectfully Submitted,

Christine Mosa
9 Burling Lane
Wellsburg, WV 26070
(304) 794-9517

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

1) Well Operator: SWN Production Co., LLC 494512924 009-Brook 01-Buffalo 247-Bethany & 62
Operator ID County District Quadrangle

2) Operator's Well Number: Robert Bone BRK 205H Well Pad Name: Robert Bone BRK Pad

3) Farm Name/Surface Owner: Robert Bone Public Road Access: Hukill Run Road

4) Elevation, current ground: 1148' Elevation, proposed post-construction: 1148'

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

Other

(b) If Gas Shallow x Deep

Horizontal x

6) Existing Pad: Yes or No Yes

Handwritten signature and date: 8-21-19

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Target Formation- Marcellus, Up-Dip Well to the North, Target Top TVD- 5829', Target Base TVD- 5870', Anticipated Thickness- 41', Associated Pressure- 3816

8) Proposed Total Vertical Depth: 5855'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22655'

11) Proposed Horizontal Leg Length: 15,930.6

12) Approximate Fresh Water Strata Depths: 344'

13) Method to Determine Fresh Water Depths: Salinity Profile

14) Approximate Saltwater Depths: 627' Salinity Profile

15) Approximate Coal Seam Depths: 309'

16) Approximate Depth to Possible Void (coal mine, karst, other): Possible Void 309'

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

(a) If Yes, provide Mine Info: Name:

Depth:

Seam:

Owner:


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18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	420'	420'	410 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1643'	1643'	637 sx/CTS
Production	5 1/2"	New	HCP-110	20#	22,655'	22,655'	lead 789sz/Tail 3908sz/ 100' Inside Integ 
Tubing							
Liners							

C. B. D. 8.21.19

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	See	Surface	Casing				
Intermediate	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/50% Excess
Tubing							
Liners							

PACKERS

Kind:					RECEIVED Office of Oil and Gas SEP - 3 2019 WV Department of Environmental Protection
Sizes:					
Depths Set:					

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

Drill and stimulate any potential zones between and including the Benson to Marcellus. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface or run external casing packer/cementing stage tool above void interval and perform 2 stage cementing operation dependent upon depth of void. Run casing not less than 20' below void nor more than 75' below void. (*If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

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

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, horizontal separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 100 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 15.30

22) Area to be disturbed for well pad only, less access road (acres): 5.97

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

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

See Attachment ***

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25) Proposed borehole conditioning procedures:

All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

*Note: Attach additional sheets as needed.

Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Intermediate Surface	S001	accelerator	calcium chloride up to 3%	10043-52-4
	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	proprietary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	proprietary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
	D202	dispersant	sulphonated synthetic polymer	proprietary
formaldehyde (impurity)			proprietary	
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	proprietary
	D065	dispersant	sodium polynaphthalene sulfonate	9008-63-3
			sodium sulfate	7757-82-6
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	proprietary
D153	anti-settling	chrystalline silica	14808-60-7	

Rev. 5/18/2018

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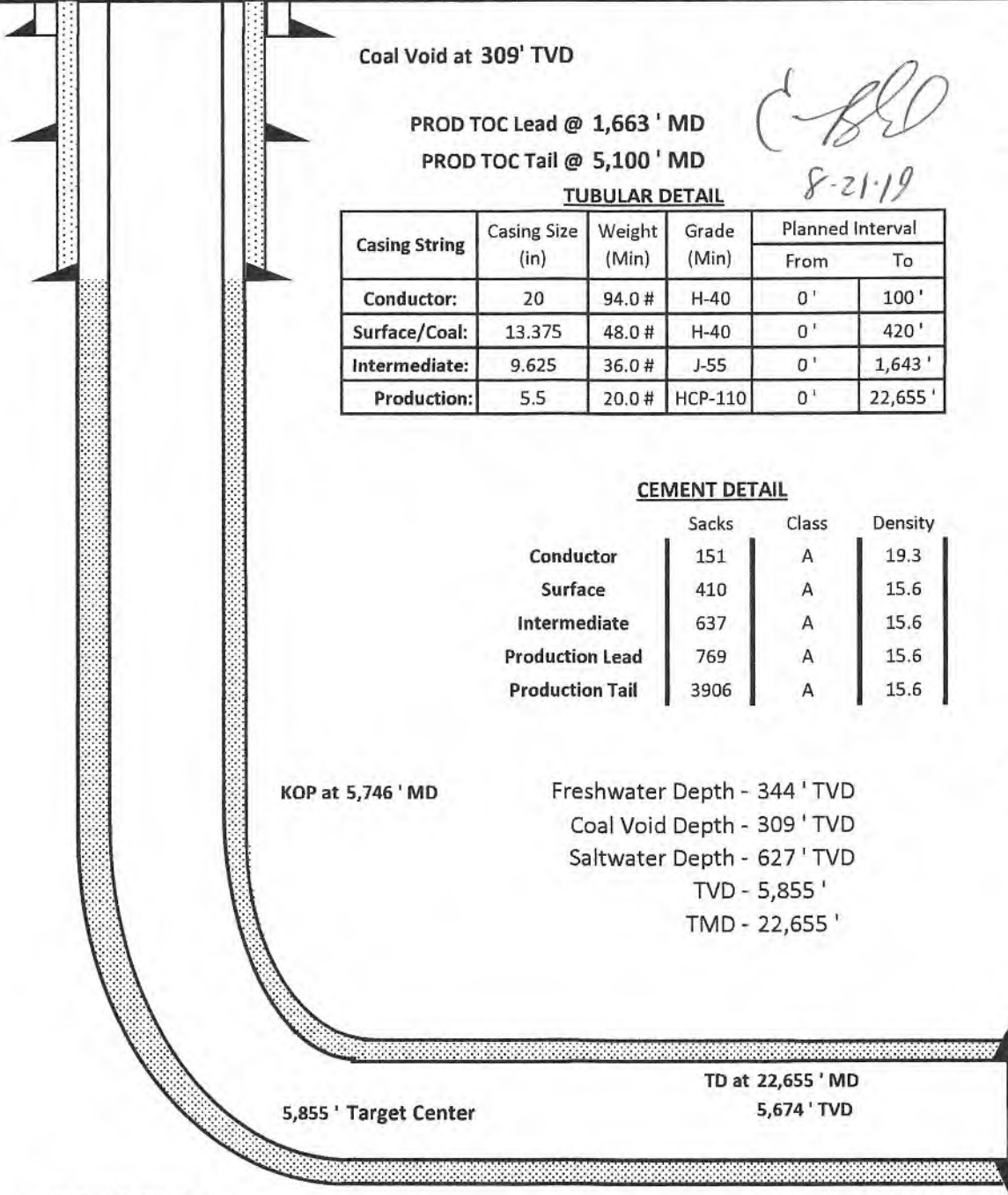
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Southwestern Energy Company

Proposed Drilling Program

Well: ROBERT BONE BRK 205 **Re-entry Rig:** TBD
Field: PANHANDLE FIELD WET **Prospect:** PANHANDLE
County: BROOKE **State:** WV
SHL: 40.2190 Latitude -80.6024 Longitude
BHL: 40.2622 Latitude -80.6150 Longitude
KB Elev: 1,174 ft MSL **KB:** 26 ft AGL **GL Elev:** 1,148 ft MSL



Coal Void at 309' TVD

PROD TOC Lead @ 1,663' MD
 PROD TOC Tail @ 5,100' MD

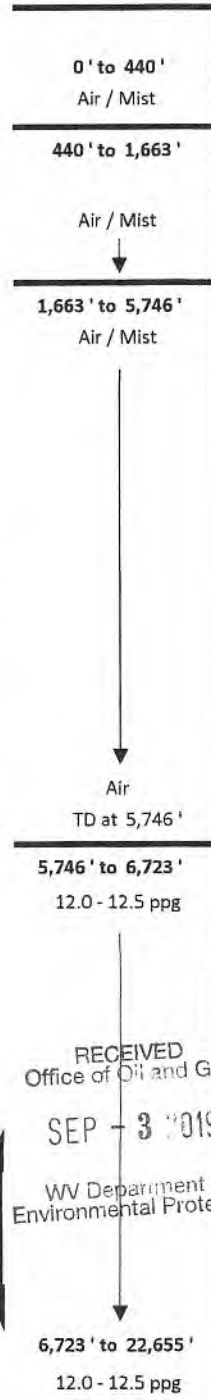
Handwritten signature and date: 8-21-19

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor:	20	94.0 #	H-40	0'	100'
Surface/Coal:	13.375	48.0 #	H-40	0'	420'
Intermediate:	9.625	36.0 #	J-55	0'	1,643'
Production:	5.5	20.0 #	HCP-110	0'	22,655'

CEMENT DETAIL

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	410	A	15.6
Intermediate	637	A	15.6
Production Lead	769	A	15.6
Production Tail	3906	A	15.6



KOP at 5,746' MD

Freshwater Depth - 344' TVD
 Coal Void Depth - 309' TVD
 Saltwater Depth - 627' TVD
 TVD - 5,855'
 TMD - 22,655'

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EOB at 5,855' TVD
 SHL Onondaga 5,870' TVD

Onondaga 5,689' TVD

WW-9
(4/16)

API Number 47 - 009 - _____
Operator's Well No. Robert Bone BRK 205H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Company, LLC OP Code 494512924
Watershed (HUC 10) Upper Ohio South Quadrangle Bethany/Steubenville East

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 34-155-22403, 34-059-24067, 34-119-28778, 34-167-23962, 34-155-23795, 34-121-23955, 34-155-21893)
- Reuse (at API Number at next anticipated well, API# will be included with the WR-34/DDMR &/or permit addendum.)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility)

Will closed loop system be used? If so, describe: Yes- See Attachment 3A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air drill to KOP, fluid drill with SOBMM from KOP to TD

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

Additives to be used in drilling medium? Attachment 3B

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

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

-Landfill or offsite name/permit number? Meadowfill SWF- 1032, Short Creek SWF-1034, Carbon Limestone MSWL018781, Wetzel County 1021 Arden Landfill 10072, Apex Sanitary Landfill 06-08438, Brooke Co SWF-1013, Valley 100280

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 *Brittany Woody*
Company Official (Typed Name) Brittany Woody
Company Official Title Senior Regulatory Analyst



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Subscribed and sworn before me this 5th day of August, 2019
Jessica L. VanGilder Notary Public
My commission expires 7-20-20

SWN Production Company, LLC

Proposed Revegetation Treatment: Acres Disturbed 15.30 Prevegetation pH _____

Lime as determined by pH test min. 2 Tons/acre or to correct to pH 5.97

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

****See Attachment 3C**

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: _____

C. [Signature] 8-21-19

Comments: _____

Slip on access road needs to be fixed prior to any well activity.

Title: oil and gas inspector

Date: 8-21-19

Field Reviewed? Yes No

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Attachment 3A

CLOSED LOOP SYSTEM

The closed loop system is designed to eliminate the use of reserve pits by providing a higher level of solids control processing and using steel pits for capture of drill cuttings. The cuttings are then processed to achieve landfill requirements before hauling to approved landfills. The liquids are processed to recycle into the active mud system or to transfer to onsite temporary storage as needed.

The closed loop system consists of several sets of a shale gas separator (often called a 'methana'), several banks of solids shakers, high speed centrifuges (1 or 2) used to process the fluid portion of the mud system to remove low gravity solids, low speed centrifuge used for barite recovery in high weight liquid drilling systems, a dewatering system (for air intervals and if freshwater mud systems are in use) used to further clean liquids by flocculation and additional mechanical separation, associated open top tanks for processing liquids and capturing solids for disposal, and transfer pumps to move fluids through the processes. There is an area adjacent to the cuttings tanks (Red Zone) where a track hole is utilized to recover the processed cuttings for loading into containers for hauloff. (See attached schematic of a generic closed loop system layout)

Below are discussions of the processes used when drilling the air interval or liquids interval.

AIR DRILLING INTERVALS

During air drilling operations, flow from the rig will pass down the flowline to the Shale Gas Separator (sometimes called a methane) where gas and liquids/solids are separated. Gas is sent to the flare scrubber tank and is flared at the flare stack. Solids and fluids pass across a shaker system to separate solids from liquids. Solids pass into the cuttings tanks where they are captured for drying and hauloff to an approved landfill site. Liquids fall into a shaker tank and are collected by a centrifugal pump to be processed by the high speed centrifuge to further separate liquids and solids. Solids are then dumped into the cuttings tank for drying and hauloff. Liquids are further processed to remove additional low gravity solids before being reused or transferred to onsite storage.

LIQUIDS DRILLING (FRESHWATER, BRINE, SOBM)

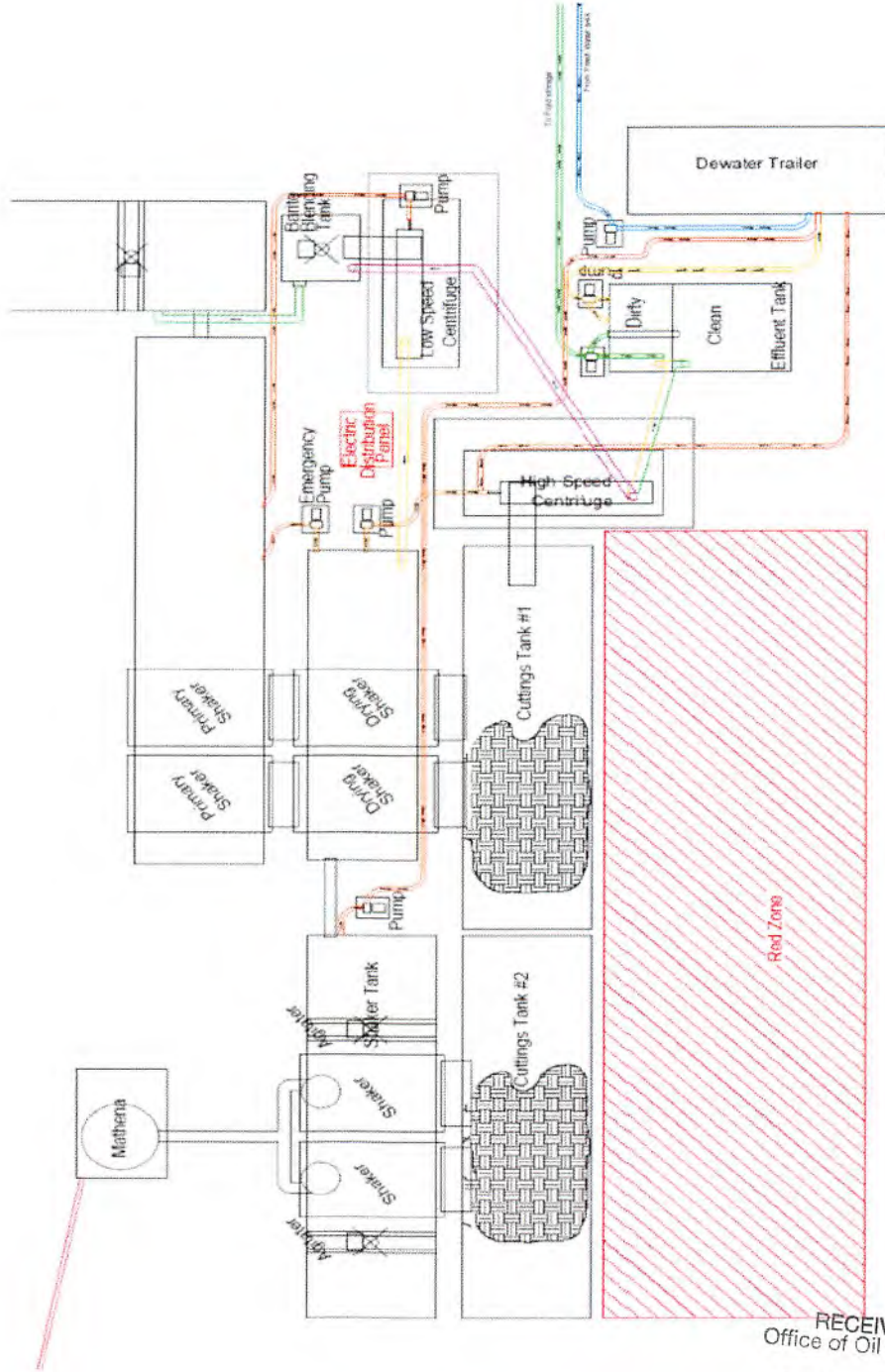
When drilling is converted to liquids drilling, the shale gas separator and associated shaker tank are bypassed, and the liquids system is processed over the primary and drying shaker systems. Cuttings drop into the cuttings tank for additional processing. Any recoverable associated liquids attached to the cutting are recovered out the tank and processed through the low gravity (high speed) and barite recovery centrifuges (low speed) to further remove low gravity solids and to recover barite for reuse in the mud systems.

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EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM



Solids Control Layout



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Attachment 3B

Drilling Mediums

Surface/Coal(if present)/Freshwater Intervals:

Air

Freshwater (if needed based on conditions)

Intermediate/Coal (if present):

Air

Brine (In Gas Storage areas)

Organophilic Bentonite

Production Hole:

Air

Synthetic Oil (Base Fluid for mud system)

Barite

Calcium Chloride

Lime

Organophilic Bentonite

Primary and Secondary Emulsifiers

Gilsonite

Calcium Carbonate

Friction Reducers

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WVD Seeding Specification



To Order Seed contact Lyndsi Eddy Flippo office 570-996-4271 cell 501-269-5451 lyndsi_eddy@swn.com (please allow 7 to 10 days for delivery)

NON-ORGANIC PROPERTIES

Seed Mixture: ROW Mix	SWN Supplied
Orchardgrass	40%
Timothy	15%
Annual Ryegrass	15%
Brown Top Millet	5%
Red Top	5%
Medium Red Clover	5%
White Clover	5%
Birdsfoot Trefoil	5%
Rough Bluegrass	5%
All legumes are innoculated at 5x normal rate	
Apply @ 100lbs per acre April 16th- Oct. 14th	Apply @ 200lbs per acre Oct. 15th- April 15th PLUS 50lbs per acre of Winter Wheat

SOIL AMENDMENTS

10-20-20 Fertilizer	*Apply @ 500lbs per Acre
Pelletized Lime	Apply @ 2 Tons per Acre
*unless otherwise dictated by soil test results	

Seeding Calculation Information:

1452' of 30' ROW/LOD is One Acre
 871' of 50' ROW/LOD is One Acre
 622' of 70' ROW/LOD is One Acre

Synopsis:

Every 622 linear feet in a 70' ROW/LOD, you should be using (2) 50lb bags of seed, (4) 50lb bags of fertilizer and (80) 50lb bags of Lime (2x seed in winter months + 50lb Winter Wheat/ac).

Special Considerations:

Landowner Special Considerations including CREP program participants require additional guidance that is not given here. Discuss these requirements with SWN supervision at the beginning of the project to allow time for special seed delivery.

ORGANIC PROPERTIES

Seed Mixture: SWN Production Organic Mix	SWN Supplied
Organic Timothy	50%
Organic Red or White Clover	50%
OR	
Organic Perennial Ryegrass	50%
Organic Red or White Clover	50%
Apply @ 100lbs per acre April 16th- Oct. 14th	Apply @ 200lbs per acre Oct. 15th- April 15th
Organic Fertilizer @ 200lbs per Acre	Pelletized Lime @ 2 Tons per Acre

WETLANDS (delineated as jurisdictional wetlands)

Seed Mixture: Wetland Mix	SWN Supplied
VA Wild Ryegrass	20%
Annual Ryegrass	20%
Fowl Bluegrass	20%
Cosmos 'Sensation'	10%
Redtop	5%
Golden Tickseed	5%
Maryland Senna	5%
Showy Tickseed	5%
Fox Sedge	2.5%
Soft Rush	2.5%
Woolgrass	2.5%
Swamp Verbena	2.5%
Apply @ 25lbs per acre April 16th- Oct. 14th	Apply @ 50lbs per acre Oct. 15th- April 15th
NO FERTILIZER OR LIME INSIDE WETLAND LIMITS	

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MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN



SWN Production Company, LLC
1300 Fort Pierpont Drive, Suite 201
Morgantown, West Virginia 26508

API NO. 47-XXX-XXXXX
WELL NAME: Robert Bone BRK 205H
Bethany/Steubenville East QUAD
Buffalo DISTRICT
BROOKE COUNTY, WEST VIRGINIA

Submitted by:

Name: Brittany Woody

Date: 8/5/2019

Brittany Woody

Title: Senior Regulatory Analyst

SWN Production Co., LLC

Approved by:

Name: *C. J. Hill*

Date: 8-21-19

Title: *Oil and Gas Inspector*

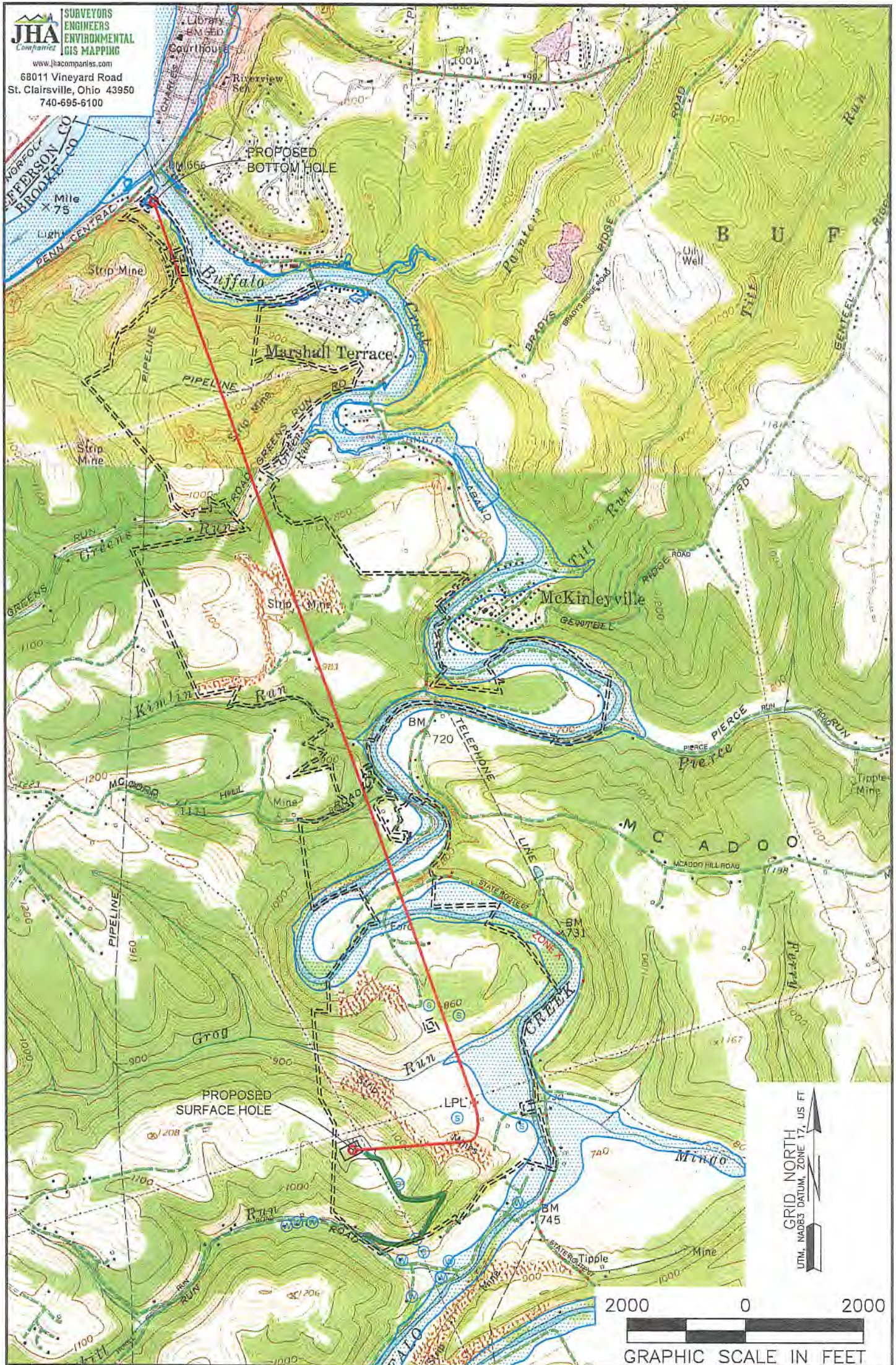
Approved by:

Name: _____

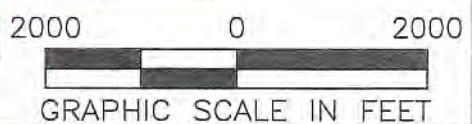
Date: _____

Title: _____

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GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT



NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: ROBERT BONE BRK	WELL # 205H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY - BROOKE	CODE - 009	DISTRICT; BUFFALO
SURFACE OWNER: ROBERT O. BONE	USGS 7 1/2 QUADRANGLE MAP NAME BETHANY, WV & EAST STEUBENVILLE, OH		

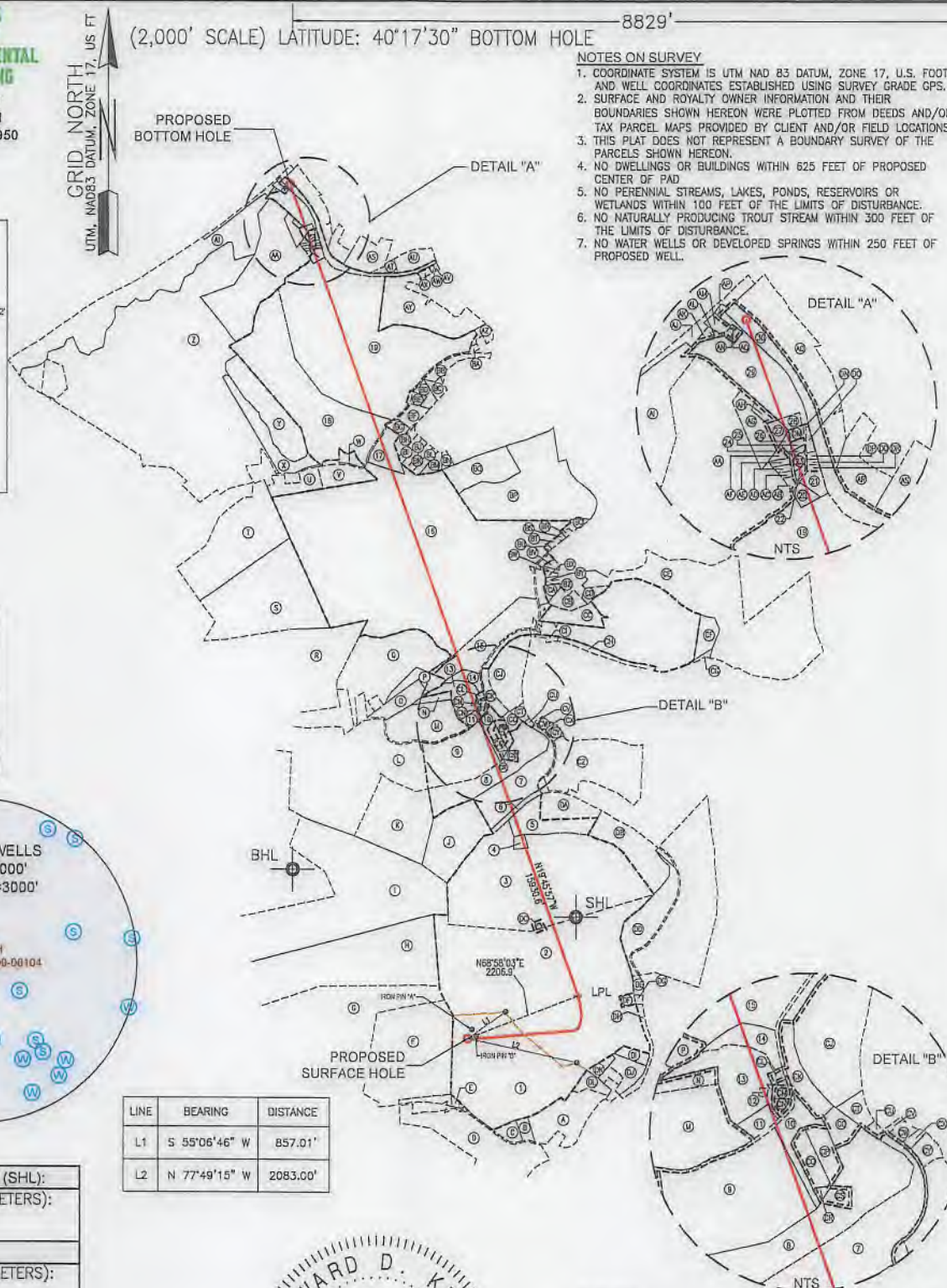
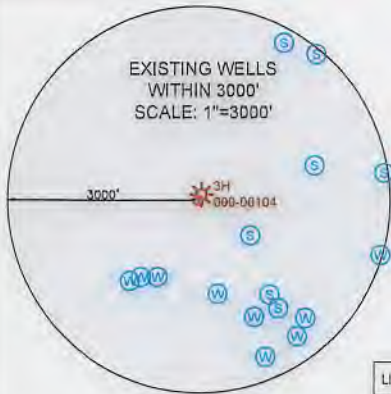
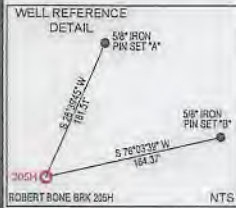
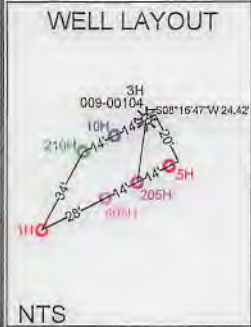


www.jhacompanies.com
68011 Vineyard Road
St. Clairsville, Ohio 43950
740-695-6100

GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

NOTES ON SURVEY

1. COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD
5. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
6. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
7. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.



LINE	BEARING	DISTANCE
L1	S 55°06'46" W	857.01'
L2	N 77°49'15" W	2083.00'

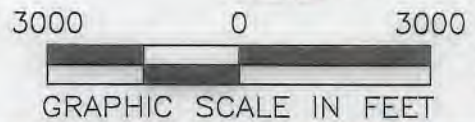
SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4452136.49
EASTING: 533834.31

LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4452388.30
EASTING: 534457.80

BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4456927.97
EASTING: 532740.06

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2041



COMPANY: **SWN** Production Company, LLC

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

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)

OPERATOR'S WELL #: ROBERT BONE BRK 205H

API WELL #: 47 STATE 009 COUNTY 00288 PERMIT

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1147.6'

DISTRICT: BUFFALO COUNTY: BROOKE QUADRANGLE: BETHANY, WV & EAST STEUBENVILLE, OH

SURFACE OWNER: ROBERT O. BONE ACREAGE: ±80.99

OIL & GAS ROYALTY OWNER: ROBERT O. BONE ACREAGE: ±80.99

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,855' TVD 22,654.9'TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201 ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE:
<ul style="list-style-type: none"> PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD LPL+ LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING 	<ul style="list-style-type: none"> SURVEYED BOUNDARY DRILLING UNIT LEASE BOUNDARY PROPOSED PATH 	08-27-2019 DRAWN BY: CDW SCALE: 1" = 3000' DRAWING NO: 2017-219 WELL LOCATION PLAT

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	ROBERT O. BONE (S)/(R)	03-837-0081.0000
TRACT	SURFACE OWNER	TAX PARCEL
2	WILLIAM E. JOHNSTON & HAZEL E. JOHNSTON (JTWROS)	03-837-0050.0000
3	MARK A. CHRISTMAN	03-837-0045.0000
4	DONNA A. MAZZELLA	03-837-0044.0000
5	VINCENT MAZZELLA & PHILLIP MAZZELLA	03-837-0046.0000
6	VINCENT MAZZELLA & PHILLIP MAZZELLA	03-832-0128.0000
7	JOSEPH C. MORRIS & PENNY J. MORRIS	03-832-0129.0000
8	KEVIN R. COLLINS & SANDRA A. COLLINS	03-832-0130.0000
9	REBECCA L. UHLLY	03-832-0139.0000
10	DAVID L. HALL & JULIE A. HALL	03-832-0136.0000
11	CHARLES W. & TAMMY WAGNER	03-832-0193.0000
12	HAMMOND PUBLIC SERVICE DISTRICT	03-832-0194.0001
13	BENITA HOITT, JAMES R. JOHNSON, JR., LURA M. JOHNSON (F.K.A. LURA M. HOIT), JEANETTA WELLMAN, KENT WELLMAN, RANDY WELLMAN, & CHARLES LANE KILDOW	03-832-0194.0000
14	MARILYN ROSETTA MCCORD	03-832-0198.0000
15	SAMUEL H. HUBBARD	03-832-0096.0000
16	SCHIAPPA & COMPANY, INC	03-832-0009.0000
17	DAVID B. JONES	03-832-0008.0000
18	GERTRUDE LOUISE MCSHANE ROBIE	03-832-0029.0000
19	GERTRUDE LOUISE MCSHANE ROBIE	03-827P-0030.0000
20	DOROTHY L. FRISCO, NANCY GIST, ROSEANNA TAYLOR & PATRICIA JO WNEK	03-827K-0189.0000
21	DOROTHY L. FRISCO, NANCY GIST, ROSEANNA TAYLOR & PATRICIA JO WNEK	03-827K-0190.0000
22	DOROTHY L. FRISCO, NANCY GIST, ROSEANNA TAYLOR & PATRICIA JO WNEK	03-827K-0200.0000
23	GEORGE L. & MARIA JUNE KILLIEN	03-827K-0199.0000
24	RONALD E. & SANDRA L. WILLIAMS	03-827K-0198.0000
25	RONALD E. & SANDRA L. WILLIAMS	03-827K-0197.0000
26	RANDY M. & BRENDA WILLIAMS	03-827K-0207.0000
27	RANDY M. & BRENDA WILLIAMS	03-827K-0208.0000
28	LINDA SUE WILLIAMS	03-827P-0195.0000
29	DANIEL P. & DARLA ANN LOMBARDI	03-827K-0211.0000
30	BROOKE COUNTY BOARD OF EDUCATION	03-827K-0188.0000

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
AR	THE UNITED STATES GOVERNMENT	03-827K-0178.0000
AS	THE UNITED STATES OF AMERICA	03-827K-0164.0000
AT	MARTHA K. WILLIAMS	03-827P-0001.0000
AU	BEVERLY K. FUCHS	03-827K-0159.0000
AV	MERLE O. EARNEST	03-827P-0003.0000
AW	LENORE L. ROHRBAUGH	03-827P-0004.0000
AX	JOSEPH PAUL STEIN	03-827P-0005.0000
AY	WILLIAM KISNER	03-827R-0050.0000
AZ	EVA K. & GARY L. ELLIOTT	03-827R-0084.0000
BA	EDWARD W. & LESIA M. NICHOLSON	03-827R-0082.0000
BB	GREGORY DEDITCH	03-832-0001.0000
BC	RONALD A. PETRUCCIOLI (LE-ROBERT A. & MARIE ELIZABETH)	03-832-0002.0000
BD	RONALD A. PETRUCCIOLI (LE-ROBERT A. & MARIE ELIZABETH)	03-832-0003.0000
BE	GLENN A. & SUSAN L. STEWART	03-832-0004.0000
BF	WILLIAM R. WALNOHA	03-832-0005.0000
BG	WILLIAM R. WALNOHA; CAROLYN S.; JESSICA	03-832-0007.0000
BH	EDWARD CHESTER & BEATRICE LISH	03-832-0073.0000
BI	JEANNE L. LUNSFORD & MELANIE J. LUNSFORD	03-832-0072.0000
BJ	WILLIAM WHEAT & CARRIE HIGGS (JTWS)	03-832-0071.0000
BK	WILLIAM WHEAT & CARRIE HIGGS (JTWS)	03-832-0070.0000
BL	PATRICIA SAUVAGEOT & GLORIA PREMESA	03-832-0069.0000
BM	JAY D. & KAREN S. RECK	03-832-0068.0000
BN	JOSEPH P. JACKFERT & JEFFREY P. JACKFERT	03-832-0067.0000
BO	JAY D. & KAREN S. RECK	03-832G-0067.0001
BP	HERBERT MCGOWEN	03-832G-0067.0000
BQ	VEMURI HOME & GARDEN LLC	03-832G-0001.0000
BR	KAY A. ELLIOT	03-832G-0003.0000
BS	KAY A. ELLIOT	03-832G-0004.0000
BT	ALBERT W. PLOTTS & DEBORAH A. REID	03-832G-0005.0000
BU	LARRY M. & DEBORAH R. REID	03-832G-0006.0000
BV	ROBERT F. & ANNA OHLER	03-832G-0007.0000
BW	JOHN H. FOX	03-832G-0008.0000
BX	JAMES E. & ANNETTE M. BEST (JTWS)	03-832G-0009.0000
BY	MARY ANN HARTLEY	03-832G-0010.0000
BZ	WILMA SUE YANO	03-832G-0011.0000
CA	WILMA SUE YANO	03-832-0088.0000
CB	PAUL W. & SUSAN A. FODOR	03-832-0089.0000
CC	MICHAEL SEREVIČIČ & DELLA (JTWS)	03-832-0090.0000
CD	JAMES E. & ANNETTE M. BEST	03-832-0201.0000
CE	ALBERT & LOTTIE STEWART	03-0832H-0050.0000
CF	SAMUEL HERVEY HUBBARD	03-832-0097.0000
CG	MARK & GEORGIA FEDAK	03-832-0099.0000
CH	MARK & GEORGIA FEDAK	03-832-0100.0000
CI	MARK & GEORGIA FEDAK	03-832-0101.0000
CJ	HARRY & JUDITH ICKES	03-832-0133.0000
CK	PATRICIA WILLIAMS	03-832-0134.0000
CL	GARY L. GAMBILL	03-832-0197.0000
CM	SAMANTHA ARACICH BELLE BUDE	03-832-0196.0000
CN	SAMANTHA ARACICH BELLE BUDE	03-832-0195.0000
CO	HAMMOND PUBLIC SERVICE DISTRICT	03-832-0135.0000
CP	DAVID L. HALL & JULIE A. HALL	03-832-0137.0001
CQ	DAVID L. HALL & JULIE A. HALL	03-832-0137.0000
CR	DAVID L. HALL & JULIE A. HALL	03-832-0138.0000
CS	KEVIN R. COLLINS & SANDRA A. COLLINS	03-832-0130.0001
CT	BERNARD L. JR. & DONNA J. MILLER	03-832-0132.0000
CU	BERNARD L. MILLER JR.	03-832-0131.0000
CV	VEMURI HOME & GARDEN LLC	03-832-0112.0000
CW	H3 LLC	03-832-0113.0000
CX	H3 LLC	03-832-0114.0000
CY	VEMURI HOME & GARDEN LLC	03-832-0115.0000
CZ	ROWDI T. GEORGETTI	03-832-0116.0000
DA	MAZZELLA WELDING & FABRICATION INC.	03-837-0046.0001
DB	DWARKA NATH VEMURI D/B/A AMERICAN HEART ASSOCIATES	03-837-0047.0000
DC	HAMMOND PUBLIC SERVICE DISTRICT	03-837-0045.0001
DD	SHELBY L. CARRELL, BONNIE LEE LUKACENA, EDWARD O' DYER, PAIGE ELIZABETH ROLLINS, JULIE SHEY SCHUETZNER, SHANON SCHUETZNER, SHAYNE SCHUETZNER, CHERI A. SHARPE	03-837-0046.0000
DE	WILLIAM E. & HAZEL E. JOHNSTON	03-837-0053.0001
DF	BUFFALO CREEK CAMP	03-837-0051.0000
DG	MARLIN G. SR. & JOY CRAWFORD	03-837-0055.0000
DH	JOHN E. & SHERRILL J. RIPLEY	03-837-0062.0000
DI	JOSEPH K. SR. & GLORIA BOWMAN	03-837-0070.0000
DJ	JOSEPH K. SR. & GLORIA BOWMAN	03-837-0069.0001
DK	CAROL SILVER, ETAL	03-837-0071.0000
DL	WILLIAM E. JOHNSTON & HAZEL E. BERTY	03-837-0074.0001
DM	LINDA S. WILLIAMS	03-827K-0196.0000
DN	LINDA S. WILLIAMS	03-827K-0194.0000
DO	SADIE PARKS	03-827K-0193.0000
DP	RONALD E. & SANDRA L. WILLIAMS	03-827K-0192.0000
DQ	STANLEY & NILA PATKOWSKI	03-827K-0192.0001
DR	STANLEY & NILA PATKOWSKI	03-827K-0191.0000

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	BENJAMIN M. MOSA & CHRISTINE L. HEISE (SURV.)	03-837-0074.0000
B	BENJAMIN M. MOSA AND CHRISTINE L. HEISE	03-837-0079.0000
C	TERRENCE BONE & SUSAN BONE	03-837-0080.0000
D	BRIAN K. HANEY & GINA M. HANEY (SURV.)	03-837-0077.0000
E	VEMURI HOME AND GARDENS L.L.C.	03-837-0082.0000
F	DEBRA CYPHERT, MATTHEW H. FAIR, SUSAN S. FAIR, RICHARD HENTHORN	03-837-0088.0000
G	DEBRA CYPHERT, MATTHEW H. FAIR, SUSAN S. FAIR, RICHARD HENTHORN	03-837-0091.0000
H	SCHIAPPA AND COMPANY INC.	03-837-0023.0000
I	SCHIAPPA AND COMPANY INC.	03-837-0022.0000
J	JAMIE L. OHLER	03-837-0043.0000
K	KEVIN D. KOSUT & BRIDGET KOSUT	03-837-0042.0000
L	CITY OF WELLSBURG COMBINED WATER & SEWAGE	03-832-0140.0002
M	JOSEPH P. LIZON III & ERIN REBECCA NIXON	03-832-0192.0000
N	JOSEPH P. LIZON III & ERIN REBECCA NIXON	03-832-0192.0001
O	DONALD C. BURKHART	03-832-0191.0000
P	DAVID MCGOWAN	03-832-0190.0000
Q	ROBERT G. TREDWAY	03-832-0188.0000
R	LILLIAN MCCORD	03-832-0185.0000
S	MASLO FARMS	03-832-0019.0000
T	JOSEPH VIDERMAN, ETAL	03-832-0013.0000
U	PENNY HAMILTON	03-832-0011.0000
V	SCHIAPPA & COMPANY INC.	03-832-0010.0000
W	GERTRUDE LOUISE MCSHANE ROBIE	03-832-0030.0000
X	TONY J. CASTILLO & RICHARD R. OSTRANDER	03-832-0027.0000
Y	TONY J. CASTILLO & RICHARD R. OSTRANDER	03-832-0028.0000
Z	LINDA COEN	03-832-0025.0000
AA	NORMA JEAN LILLY	03-827-0017.0000
AB	RANDY M. & BRENDA WILLIAMS	03-827K-0202.0000
AC	RYAN MATTHEW WILLIAMS	03-827K-0203.0000
AD	RYAN MATTHEW WILLIAMS	03-827K-0204.0000
AE	ROBERT C. CRISS III & RONICA L. CRISS	03-827K-0205.0000
AF	ROBERT C. CRISS III & RONICA L. CRISS	03-827K-0206.0000
AG	FRANCIS FORSYTHE	03-827K-0210.0000
AH	THOMAS WAYNE JERRELL JR.	03-827K-0209.0000
AI	HFS LIMITED LIABILITY COMPANY	03-827-0012.0000
AJ	WEST VIRGINIA DEPARTMENT OF HIGHWAYS	03-827-0004.0000
AK	DANIEL P. & DARLA ANN LOMBARDI	03-827-0016.0000
AL	DANIEL P. & DARLA ANN LOMBARDI	03-827-0015.0000
AM	DIANE MENDEL	03-827-0013.0000
AN	JOANN KRZYWDIK	03-827K-0214.0000
AO	DIANA W. MENDEL	03-827K-0213.0000
AP	JOSEPH K. & DIANA R. MENDEL	03-827K-0186.0000
AQ	BROOKE CITY BOARD OF EDUCATION	03-827K-0212.0000

REVISIONS:

COMPANY:

SWN
Production Company, LLC

SWN *Real Value+*
Production Company™

OPERATOR'S ROBERT BONE

DATE: 08-27-2019

WELL #: 47-001-00288 BRK 205H

DRAWN BY: CDW

DISTRICT:
BUFFALO

COUNTY:
BROOKE

STATE:
WV

SCALE: N/A

DRAWING NO: 2017-219

WELL LOCATION PLAT

PROPERTY NUMBER 2501166468
PAD ID 3001155606

WW-6A1
(5/13)

Operator's Well No. Robert Bine BRK 205H

**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 Exhibit A				

**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.

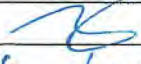
Well Operator: SWN Production Co., LLC
 By: 
 Its: Staff Landman

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC., Operator
 Robert Bone BRK 205H
 Brooke County, West Virginia

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0B37-0081-0000-0000	Robert O. Bone	Chesapeake Appalachia, LLC SWN Production Company	14.00%	10/424 30/480
2)	03-0B37-0050-0000-0000	John L. Latimer and Angela Latimer, and Deborah Starr	Great Lakes Energy Partners Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company	14.00%	9/713 20/733 10/552 30/480
		William E. Johnston and Hazel E. Johnston	Chesapeake Appalachia, LLC SWN Production Company	18.00%	12/298 30/480
3)	03-0B37-0045-0000-0000	Schiappa Mary 74 Trust f/b/o Huberta A Sicilliano JP	Chesapeake Appalachia, LLC SWN Production Company	20.00%	10/470 30/480
		Schiappa Mary 74 Trust f/b/o Teresa Schiappa	Chesapeake Appalachia, LLC SWN Production Company	20.00%	10/469 30/480
4)	03-0B37-0044-0000-0000	Schiappa Mary 74 Trust f/b/o Huberta A Sicilliano JP	Chesapeake Appalachia, LLC SWN Production Company	20.00%	10/470 30/480
		Schiappa Mary 74 Trust f/b/o Teresa Schiappa	Chesapeake Appalachia, LLC SWN Production Company	20.00%	10/469 30/480
5)	03-0B37-0046-0000-0000	Vivian Mazzella, a widow	Chesapeake Appalachia, LLC SWN Production Company	18.00%	14/730 30/480
6)	03-0B32-0128-0000-0000	Vivian Mazzella, a widow	Chesapeake Appalachia, LLC SWN Production Company	18.00%	14/730 30/480
7)	03-0B32-0129-0000-0000	Joseph C. Morris and Penny J. Morris, husband and wife	Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company	12.50%	10/304 10/552 30/480
8)	03-0B32-0130-0000-0000	Ina Grace Walker, a widow	Chesapeake Appalachia, LLC	18.00%	18/254

EXHIBIT "A"

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 Robert Bone BRK 205H
 Brooke County, West Virginia

		SWN Production Company		30/480	
	James C. Ditty, a widower	Chesapeake Appalachia, LLC	18.00%	18/265	
		SWN Production Company		30/480	
	Marilyn McCord, a widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/309	
		SWN Production Company		30/480	
	Nila Helen Boyd, widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/314	
		SWN Production Company		30/480	
	John Cheffy McCord III and Patricia McCord	Chesapeake Appalachia, LLC	18.00%	18/319	
		SWN Production Company		30/480	
	Clinton Douglas McCord and Christy A. McCord	Chesapeake Appalachia, LLC	18.00%	18/498	
		SWN Production Company		30/480	
	Carolyn Ann Ward, f/k/a Carolyn Ann McCord Jones, a widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/579	
		SWN Production Company		30/480	
	Ralph Johnston	SWN Production Company	18.00%	35/427	
	Robert Johnston	SWN Production Company	18.00%	35/416	
	Daniel Johnston	SWN Production Company	18.00%	35/223	
	Kenneth Johnston	SWN Production Company	18.00%	35/229	
	Brian Johnston	SWN Production Company	18.00%	35/241	
	Joyce A. Brady	SWN Production Company	18.00%	35/235	
9)	03-0B32-0139-0000-0000	James C. Ditty, a widower	Chesapeake Appalachia, LLC	18.00%	18/265
			SWN Production Company		30/480
		Ina Grace Walker, a widow	Chesapeake Appalachia, LLC	18.00%	18/254
			SWN Production Company		30/480
		Marilyn McCord, a widow and remarried	Great Lakes Energy Partners, L.L.C.	12.50%	10/55, 27/118
			Range Resources - Appalachia, LLC		20/733

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC., Operator
 Robert Bone BRK 205H
 Brooke County, West Virginia

			Chesapeake Appalachia, LLC		10/552
			SWN Production Company		30/480
10)	03-0B32-0136-0000-0000	David L. Hall and Julie A. Hall	Chesapeake Appalachia, LLC	18.00%	17/743
			SWN Production Company		30/480
11)	03-0B32-0193-0000-0000	Frank W. Aracich and Joan C. Aracich	Chesapeake Appalachia, LLC	18.00%	18/124
			SWN Production Company		30/480
12)	03-0B32-0194-0001-0000	Hammond Public Service District	SWN Production Company	18.00%	35/557
13)	03-0B32-0194-0000-0000	James R. Johnson Jr and Lura M. Johnson	Chesapeake Appalachia, LLC	18.00%	18/129
		f/k/a Lura Hoit			
			SWN Production Company		30/480
		Benita A. Stroop	SWN Production Company	14.00%	39/705
		Jeannetta Margrave	SWN Production Company	14.00%	38/717
		Kent Wellman	SWN Production Company	14.00%	38/711
14)	03-0B32-0198-0000-0000	Marilyn Rosetta McCord	Chesapeake Appalachia, LLC	18.00%	18/220
			SWN Production Company		30/480
15)	03-0B32-0096-0000-0000	Samuel H Hubbard and Sheila Hubbard	Chesapeake Appalachia, LLC	18.00%	11/720
			SWN Production Company		30/480
16)	03-0B32-0009-0000-0000	Schiappa and Company, Inc.	SWN Production Company	15.50%	33/356
17)	03-0B32-0008-0000-0000	David B. Jones	SWN Production Company	15.00%	33/305
18)	03-0B32-0029-0000-0000	Gertrude Louise McShane Robie	SWN Production Company	18.00%	33/605
19)	03-0B27P-0030-0000-0000	Gertrude Louise McShane Robie	SWN Production Company	18.00%	33/605
20)	03-0B27K-0189-0000-0000	Dorothy L. Frisco	Chesapeake Appalachia, LLC	14.00%	25/291
			SWN Production Company		30/480
		Nancy Gist	SWN Production Company	15.00%	41/368
		Roseanna Taylor	SWN Production Company	15.00%	41/433
		Patricia Jo Wnek	Chesapeake Appalachia, LLC	14.00%	25/286
			SWN Production Company		30/480

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, LLC., Operator
 Robert Bone BRK 205H
 Brooke County, West Virginia

21)	03-0B27K-0190-0000-0000	Dorothy L. Frisco	Chesapeake Appalachia, LLC	14.00%	25/291
			SWN Production Company		30/480
		Nancy Gist	SWN Production Company	15.00%	41/368
		Roseanna Taylor	SWN Production Company	15.00%	41/433
		Patricia Jo Wnek	Chesapeake Appalachia, LLC	14.00%	25/286
		SWN Production Company		30/480	
22)	03-0B27K-0200-0000-0000	Dorothy L. Frisco	Chesapeake Appalachia, LLC	14.00%	25/291
			SWN Production Company		30/480
		Nancy Gist	SWN Production Company	15.00%	41/368
		Roseanna Taylor	SWN Production Company	15.00%	41/433
		Patricia Jo Wnek	Chesapeake Appalachia, LLC	14.00%	25/286
		SWN Production Company		30/480	
23)	03-0B27K-0199-0000-0000	George L. and Marla June Killien	SWN Production Company	14.00%	39/367
24)	03-0B27K-0198-0000-0000	Ronald E. and Sandra L. Williams	SWN Production Company	14.00%	39/352
25)	03-0B27K-0197-0000-0000	Ronald E. and Sandra L. Williams	SWN Production Company	14.00%	39/352
26)	03-0B27K-0207-0000-0000	Randy M. and Brenda Williams	SWN Production Company	14.00%	39/312
27)	03-0B27K-0208-0000-0000	Randy M. and Brenda Williams	SWN Production Company	14.00%	34/328
28)	03-0B27K-0195-0000-0000	Linda Sue Williams	SWN Production Company	14.00%	39/372
29)	03-0B27K-0211-0000-0000	Daniel P. and Darla Ann Lombardi	Chesapeake Appalachia, LLC	14.00%	19/202
			SWN Production Company		30/480
30)	03-B27K-0188-0000-0000	Brooke County Board of Education	Chesapeake Appalachia, LLC	18.00%	23/763
					26/181
			SWN Production Company		30/480
		Daniel P. and Darla Ann Lombardi	Chesapeake Appalachia, LLC	14.00%	19/202
		SWN Production Company		30/480	

July 18, 2018

Ms. Laura Adkins
WV DEP Office of Oil & Gas
601 57th St., SE
Charleston, WV 25304

RE: SWN's proposed New Well: Robert Bone BRK 205H in Brooke County, West Virginia, Drilling under Hukill Run Road, McCord Hill Road, and State Route 67.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Hukill Run Road, McCord Hill Road, and State Route 67. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,



Gary Nuckolls
Staff Landman
SWN Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

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

Date of Notice Certification: 7/29/19

API No. 47- 009 - _____
Operator's Well No. Robert Bone BRK 205H
Well Pad Name: Robert Bone BRK Pad

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>533,834.31</u>
County:	<u>009-Brook</u>		Northing:	<u>4,452,136.49</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>Hukill Run Road</u>	
Quadrangle:	<u>Bethany/Steubenville East</u>	Generally used farm name:	<u>Robert Bone</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: 100px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
--	---

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 Brittany Woody, 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>SWN Production Co., LLC</u>	Address:	<u>1300 Fort Pierpont Dr., Suite 201</u>
By:	<u>Brittany Woody</u>		<u>Morgantown, WV 26508</u>
Its:	<u>Senior Regulatory Analyst</u>	Facsimile:	<u>304-884-1690</u>
Telephone:	<u>304-884-1610</u>	Email:	<u>Brittany_Woody@swn.com</u>

Brittany Woody



Subscribed and sworn before me this 5th day of Aug, 2019.
Jessica L. VanMilder Notary Public
 My Commission Expires 7-20-20

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.

WW-6A
(9-13)

API NO. 47- 009 -
OPERATOR WELL NO. Robert Bone BRK 205H
Well Pad Name: Robert Bone BRK Pad

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: 3/21/19 **Date Permit Application Filed:** 3/21/19

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
 Name: Robert Bone
 Address: 611 Paw Paw Ridge Ln
 Wellsburg, WV 26070
 Name: _____
 Address: _____

COAL OWNER OR LESSEE
 Name: C/O Leatherwood, Inc. Attn: Casey Saunders
 Address: 1000 Consol Energy Drive
 Canonsburg, PA 15317

COAL OPERATOR
 Name: _____
 Address: _____

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

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
 Name: See Attachment 13
 Address: _____

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

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

*Please attach additional forms if necessary

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: Shalia **Date Permit Application Filed:** Shalia

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: _____

Address: _____

Name: _____

Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____

Address: _____

COAL OWNER OR LESSEE

Name: Wheeling-Pittsburgh Corp.

Address: 1134 Market Street

Wheeling, WV 26003

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: _____

*Please attach additional forms if necessary

Robert Bone BRK Pad - Water Purveyors w/in 1500'

Sources

Landowner

Address

Michael Aracich
Robert Bone

1822 Hukill Run Road, Wellsburg, WV 26070 1 spring
611 Paw Paw Ridge Lane, Wellsburg, WV 26070 1 spring/ 1 well

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 water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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.

WW-6A
(8-13)

API NO. 47- 009 -
OPERATOR WELL NO. Robert Bone BRK 205H
Well Pad Name: Robert Bone BRK Pad

Notice is hereby given by:

Well Operator: SWN Production Co., LLC
Telephone: 304-884-1610
Email: Brittany_Woody@swn.com

Brittany Woody

Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Facsimile: 304-884-1690

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 5th day of Aug. 2019.
Jessica L. Vangilder Notary Public
My Commission Expires 7-20-20

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

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

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.
Date of Notice: 07/18/2019 **Date Permit Application Filed:** 8/29/19

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

HAND DELIVERY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

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

Name: Robert Bone
Address: 611 Paw Paw Ridge Ln
Wellsburg, WV 26070

Name: _____
Address: _____

Notice is hereby given:

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

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>533,834.31</u>
County:	<u>Brooke</u>		Northing:	<u>4,452,136.49</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>Hukill Run Road</u>	
Quadrangle:	<u>Bethany, WV & East Steubenville, OH</u>	Generally used farm name:	<u>Robert Bone BRK</u>	
Watershed:	<u>Upper Ohio South</u>			

This Notice Shall Include:

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

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Telephone: 304-231-8329
Email: Reid_Croft@swn.com
Facsimile: 304-884-1691

Authorized Representative: Reid Croft
Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Telephone: 304-231-8329
Email: Reid_Croft@swn.com
Facsimile: 304-884-1691

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.

WW-6A5
(1/12)

Operator Well No. 4700900288
Robert Bone BRK 205H

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: 07/18/2019 **Date Permit Application Filed:** 7/19/19

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: Robert Bone
Address: 611 Paw Paw Ridge Ln
Wellsburg, WV 26070

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	Easting:	<u>533,834.31</u>
County:	<u>Brooke</u>		Northing:	<u>4,452,136.49</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>Hukill Run Road</u>	
Quadrangle:	<u>Bethany, WV & East Steuenville, OH</u>	Generally used farm name:	<u>Robert Bone BRK</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: SWN Production Company, LLC
Telephone: 304-231-8329
Email: Reid_Croft@swn.com

Address: 1300 Fort Pierpont Dr., Suite 201
Morgantown, WV 26508
Facsimile: 304-884-1691

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.

**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION****Division of Highways**

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

Byrd E. White, III
Secretary of Transportation

August 9, 2019

Jimmy Wriston, P. E.
Deputy Secretary/
Acting 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 Robert Bone Pad, Brooke County
Robert Bone BRK 205H Well site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2011-0364 issued to XTO Energy, Inc. for access to the State Road for a well site located off Brooke County Route 30 SLS.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a STATEWIDE 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 October 1, 2018.

Very Truly Yours,

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

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

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-6
File

Attachment VI Frac Additives

Product Name	Product Use	Chemical Name	CAS Number
AI-303 (U.S. Well Services)	Mixture	Ethylene glycol	107-21-1
		Cinnamaldehyde	104-55-2
		Butyl cellosolve	111-76-2
		Formic acid	64-18-6
		Polyether	Proprietary
		Acetophenone, thiourea, formaldehyde polymer	68527-49-1
AP ONE (U.S. Well Services)	Breaker	Ammonium persulfate	7727-54-0
Bactron K-139 (Champion Technologies)	Biocide	Glutaraldehyde	111-30-8
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
		Ethanol	64-17-5
Bactron K-219 (Champion Technologies)	Biocide	Methanol	67-56-1
		Quaternary Ammonium Compounds, Benzyl-C12-16-Alkyldimethyl, Chlorides	68424-85-1
CarboNRT	Tracer	Ceramic Proppant	66402-68-4
EC6486A (Nalco Champion)	Scale Inhibitor	Amine Triphosphate	Proprietary
		Ethylene Glycol	107-21-1
EC6734A (Champion Technologies)	Biocide	Hydrogen Peroxide	7722-84-1
		Acetic Acid	64-19-7
		Peroxyacetic Acid	79-21-0
Econo-CI200 (SWN Well Services)	Corrosion Inhibitor	Methanol	67-56-1
		Oxyalkylated fatty acid	68951-67-7
		Fatty acids	61790-12-3
		Modified thiourea polymer	68527-49-1
		Water	7732-18-5
		Hydrochloric acid	7647-01-0
		Potassium acetate	127-08-2
		Formaldehyde	50-00-0
Ecopol-FEAC (SWN Well Services)	Iron Control	Acetic Acid	64-19-7
		Citric Acid	77-92-9
		Water	7732-18-5
FDP-S1176-15 (Halliburton)	Friction Reducer	Polyacrylate	Proprietary
		Hydrotreated light petroleum distillate	64742-47-8
FLOJET DR900 LPP (SWN Well Services)	Friction Reducer	Distillates (petroleum) hydrotreated light	64674-47-8
		Ethylene Glycol	107-21-1
		Alcohols, C12-16, Exoxylated propoxylated	68213-24-1
		Fatty Alcohols ethoxylated	Proprietary
		Water	7732-18-5
FLOJET DRP 1130X (SWN Well Services)	Friction Reducer	Proprietary	Proprietary
FR-76 (Halliburton)	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Inorganic Salt	Proprietary
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Methanol	67-56-1
		Nonylphenol Ethoxylate	Proprietary
HAI-150E (Halliburton)	Corrosion Inhibitor	No hazardous substance	N/A
HCL (SWN Well Services)	Hydrochloric Acid	Hydrochloric Acid	7647-01-0
		Water	7732-18-5
LP-65 MC (Halliburton)	Scale Inhibitor	Organic phosphonate	Proprietary
		Ammonium Chloride	12125-02-9
OPTI-FLEX (U.S. Well Services)	Viscosifying Agent	Distillates, petroleum, hydrotreated light	64742-47-8
Plexslick 930	Friction Reducer	Copolymer of 2-propenamide	Proprietary
		Hydrotreated Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Alcohols, C12-16, Exoxylated	68551-12-2
		Oleic Acid Diethanolamide	93-83-4
		Ammonium Chloride	12125-02-9
Plexslick 953	Friction Reducer	Petroleum Distillate	64742-47-8
		Sodium Chloride	7647-14-5
		Ammonium Chloride	12125-02-9
		N,N-bis (2-hydroxyethyl) oleamide	93-83-4
Plexslick 957	Friction Reducer	Petroleum Distillate	64742-47-8
		Ammonium Chloride	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
		Alcohols, C12-16, Exoxylated	68551-12-2
		Water	7732-15-5
WFRA-2000 (U.S. Well Services)	Anionic Friction Reducer	Hydrotreated light distillate (petroleum)	64742-47-8
		Propenoic acid, polymer with propenamide	9003-06-9

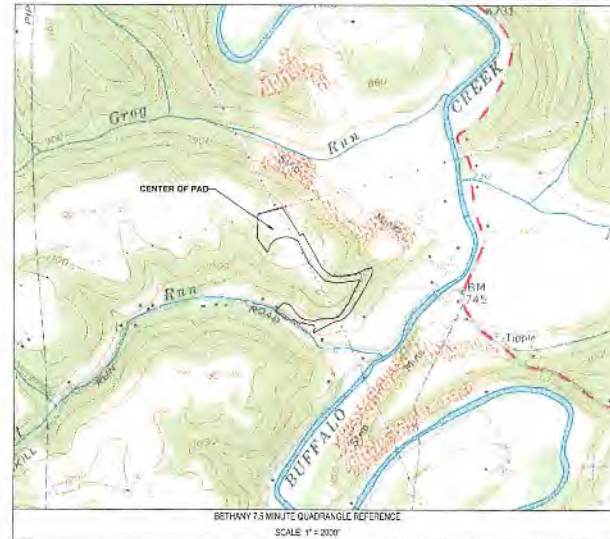
NOTES:

1. THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL FOR THE SLIP REPAIR PROJECT ONLY.
2. PROPERTY INFORMATION SHOWN HEREON IS FROM GIS DATA PROVIDED BY SOUTHWESTERN ENERGY PRODUCTION COMPANY AND HAS NOT BEEN FIELD VERIFIED.
3. THE CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SET FULLY DEPICTS ALL WORK ASSOCIATED WITH THIS PROJECT.
4. SOIL TYPE BOUNDARY, AND CHARACTERISTICS SHOWN HEREON WERE ACQUIRED FROM NRCS WEB SOIL SURVEY.
5. THE TOPOGRAPHIC SURVEY USED FOR THIS BASE MAPPING INSIDE THE LOD WAS PERFORMED BY JHA COMPANIES FROM MARCH 03, 2019 TO APRIL 02, 2019. TOPOGRAPHIC MAPPING OUTSIDE OF THE LOD IS FROM LIDAR DATA FROM WV GIS TECHNICAL CENTER.
6. NO TOPSOIL REMOVAL BETWEEN LIMIT OF CONSTRUCTION AND LIMIT OF DISTURBANCE. VEGETATIVE BUFFER TO REMAIN.
7. FILL WILL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY (ASTM-698). FILL LIFT THICKNESS WILL BE NO GREATER THAN 12". NOTHING FROZEN OR TOO WET WILL BE PLACED IN FILL AREAS. PARTICLE SIZE OF THE FILL WILL BE NO GREATER THAN 6" AND FREE OF OBJECTIONABLE MATERIAL.

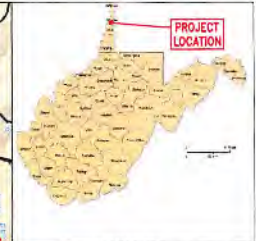
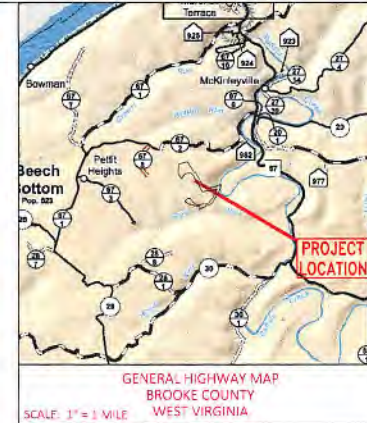
**WVDEP OOG
ACCEPTED AS-BUILT**

WJL 12/3/2019

EROSION AND SEDIMENT CONTROL PLAN FOR ROBERT BONE BRK SLIP REPAIR BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA



PROJECT NARRATIVE
PROPOSED CONSTRUCTION TO BE PERFORMED IN ACCORDANCE WITH THIS DRAWING SET (24 PAGE SHEET SET, DATED 2019-06-17, WHICH ARE COMPLEMENTARY AND HAVE THE SAME FORCE / EFFECT IN DEFINING THE REQUIREMENTS FOR THE PROJECT. IN THE EVENT OF DISCREPANCIES, IT IS REQUIRED TO IMMEDIATELY CONTACT THE ENGINEER (AGENT) FOR INTERPRETATION.



COORDINATES:
CENTER OF PAD
(NAD 83)
LAT: 40.218938°
LONG: -80.602417°

SITE ENTRANCE
(NAD 83)
LAT: 40.214996°
LONG: -80.601844°

LANDS N/F OF
BONE ROBERT O
TMP # (05-03-B37-0081)
LIMIT OF DISTURBANCE = 16.1
ACRES

PROJECT CONTACTS
OPERATOR:
SOUTHWESTERN ENERGY, LLC
1300 FORT PIERPONT DRIVE
MORGANTOWN, WV 26508
PHONE: (304) 884-1666
WWW.SWN.COM

PROJECT COORDINATOR:
KALAB TAYLOR,
SOUTHWESTERN ENERGY, LLC
FIELD PLANNING SUPERVISOR - WV DIV.
1300 FORT PIERPONT DRIVE
MORGANTOWN, WV 26508
PHONE: (304) 884-1650
EMAIL: KALAB_TAYLOR@SWN.COM

ENGINEER
JHA COMPANIES
68011 VINEYARD ROAD
ST. CLAIRSVILLE, OHIO 43950
PHONE: (740) 285-6898

PROJECT MANAGER:
CHRIS WADDELL

TOPOGRAPHIC INFORMATION:
GROUND SURVEY DATED JUNE 4, 2018
DATUM: HORZ. NAD 83 WEST VIRGINIA NORTH
VERT. NAVD 88

DWG. NO	DRAWING DESCRIPTION
C.001	COVER SHEET
C.002 - C.003	EVACUATION ROUTE / PREVAILING WINDS
C.101 - C.109	EXISTING CONDITIONS
C.201 - C.209	GRADING / EROSION AND SITE PLANS
C.401 - C.407	PROFILES
C501 - C.521	DETAILS

NO	DATE	DESCRIPTION
1	11/26/19	Per WVDEP Comments

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE
800-245-4948
MISS UTILITY OF WEST VIRGINIA

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PA • OH • NY • WV

PROJECT ID: 29194203 DRAWN: LMC
DATE: 8/10/2019 CHECKED: CLW
SCALE: AS NOTED CHECKED: CLW






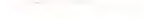







CONSTRUCTION PLAN
FOR
ROBERT BONE BRK SLIP REPAIR
LOCATED IN BUFFALO DISTRICT,
BROOKE COUNTY, WEST VIRGINIA

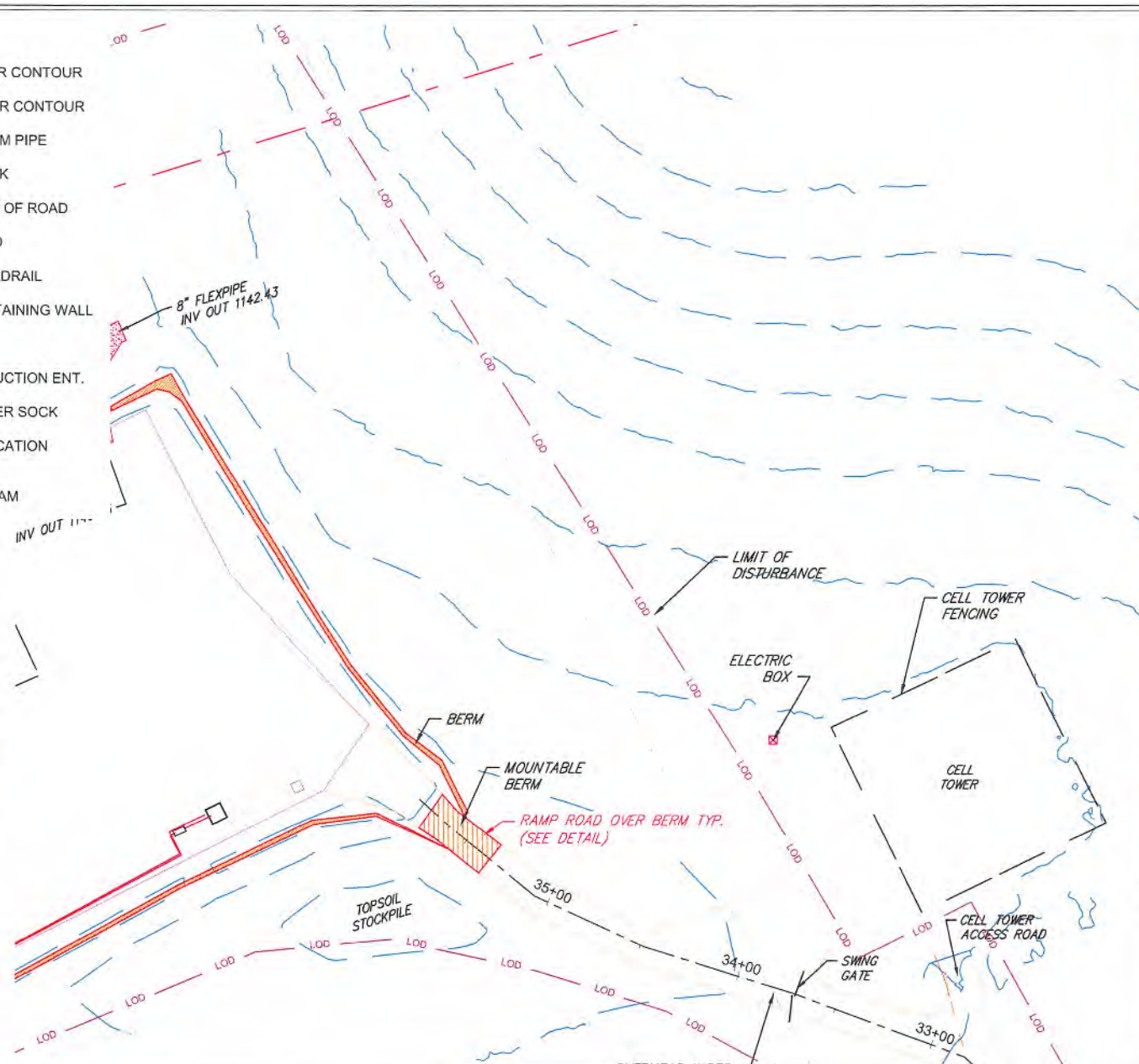
TITLE:
COVER SHEET

PLAN TYPE: FINAL SHEET NO: C.001

THESE DRAWINGS SHALL NOT BE UTILIZED IN ANY MANNER, FORM OR COMPOSITION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF JHA COMPANIES

LEGEND

-  EXISTING MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING STORM PIPE
-  EXISTING CREEK
-  EXISTING EDGE OF ROAD
-  **LOD** PROPOSED LOD
-  EXISTING GUARDRAIL
-  PROPOSED RETAINING WALL
-  PARCEL
-  ROCK CONSTRUCTION ENT.
-  COMPOST FILTER SOCK
-  BORE HOLE LOCATION
-  ROCK CHECK DAM



**WVDEP OOG
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12/3/2019



LOCATION MAP NOT TO SCALE

1	11/26/19	Per WVDEP Comments
NO.	DATE	DESCRIPTION
2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE 800-245-4848 MISS UTILITY OF WEST VIRGINIA		

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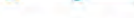





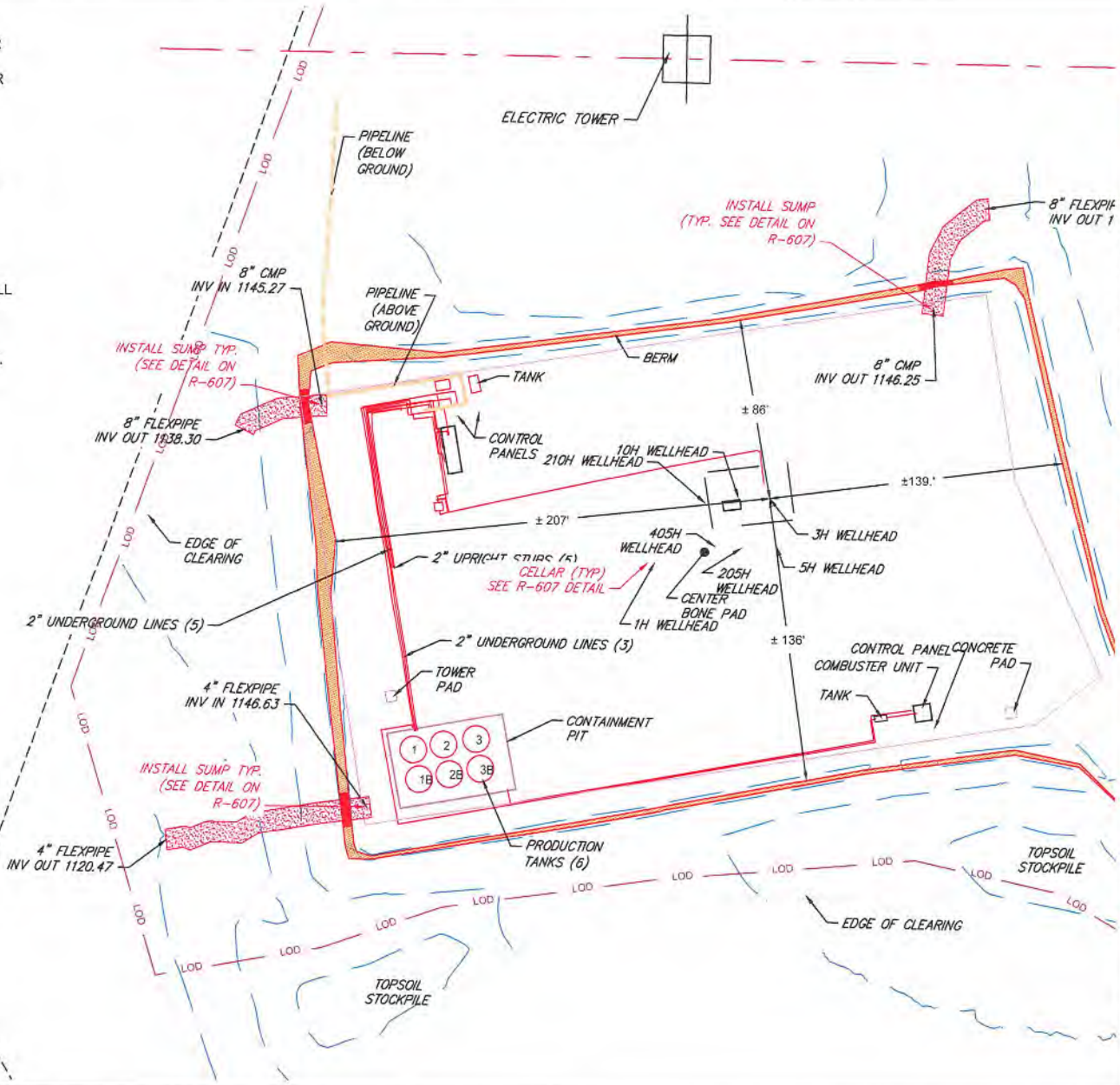
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PROJECT ID	20182093	DRAWN	LMC
DATE	8/18/2019	DESIGN	CLW
SCALE	AS NOTED	CHECKED	CLW
CONSTRUCTION PLAN FOR ROBERT BONE PAD LOCATED IN BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA			
TITLE: SITE PLAN			
PLAN TYPE	FINAL	SHEET NO.	C.208

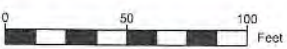
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LEGEND

-  EXISTING MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING STORM PIPE
-  EXISTING CREEK
-  EXISTING EDGE OF ROAD
-  PROPOSED LOD
-  EXISTING GUARDRAIL
-  PROPOSED RETAINING WALL
-  PARCEL
-  ROCK CONSTRUCTION ENT.
-  COMPOST FILTER SOCK
-  BORE HOLE LOCATION
-  ROCK CHECK DAM



**WVDEP OOG
ACCEPTED AS-BUILT**
12/3/2019






LOCATION MAP NOT TO SCALE	
NO.	Per WVDEP Comments
DATE	DESCRIPTION
1 11/26/19	2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE 800-246-8488 MISS UTILITY OF WEST VIRGINIA

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PROJECT ID	ROBERT BONE PAD	DRAWN	LMC
DATE	6/19/2019	DESIGN	CLW
SCALE	AS NOTED	CHECKED	CLW

CONSTRUCTION PLAN
FOR
ROBERT BONE PAD
LOCATED IN BUFFALO DISTRICT,
BROOKE COUNTY, WEST VIRGINIA

TITLE: **SITE PLAN**

PLAN TYPE	FINAL	SHEET NO.	C.209
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