



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
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Austin Caperton, Cabinet Secretary
www.dep.wv.gov

September 25, 2020

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

Re: Permit for SWN Production Company, LLC, Robert Bone BRK 405H. API number: 47-009-00319.

Mr. and Mrs. Mosa:

The Office of Oil and Gas (Office) has reviewed your August 19, 2020 mailed comment concerning the SWN Production Company, LLC application for the above referenced well. 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 application meets the requirements set forth in West Virginia Code Chapter 22 Article 6A and Legislative Rule Title 35 Series 8. Consequently, the Office will be issuing the permit today. For your information and convenience, I am including with this letter a copy of the permit as issued.

Please contact me at (304) 926-0499, extension 41108 if you have any questions.

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

Enclosures

September 22, 2020

Mr. Charles T. Brewer
Assistant Chief, Permitting
West Virginia Department of Environmental Protection
Division of Oil and Gas Management
601 57th Street
Charleston, WV 25304

Subject: Response to Permit Objection
SWN Production Company, LLC
Farm Name: Robert Bone
Well Nos.: Robert Bone BRK 405H
API Nos.: 47-009-00319
Buffalo District, Brooke County, West Virginia

Dear Mr. Brewer:

Reference is hereby made to certain correspondence you received from Mr. Benjamin M. Mosa and Mrs. Christine L. Mosa dated August 19, 2020 (the "Letter"), relating to the recently-filed permit application of SWN Production Company, LLC ("SWNPC") for the above-identified hydrocarbon well (the "Well") to be drilled on a well pad location in Brooke County (the "Pad"). SWNPC hereby respectfully submits to the West Virginia Department of Environmental Protection (the "Department") this response to the Letter's claim that SWNPC cannot legally drill the Well.

The contention in the Letter that SWNPC may not legally drill the Well under West Virginia law is erroneous and wholly without merit. As contemplated in the permit applications, the planned drilling of the Well on the Pad is in full compliance with all applicable laws, rules and regulations, and the Letter makes no valid objection to the issuance of the permits for the Well. Below we respond to the Letter's distinct allegations in the same order they are presented in the Letter. All conclusory statements made below are made to the best of SWNPC's knowledge given its review of the available facts and evidence.

Item 1: Mariner East 2 Pipeline Integrity

Allegation(s): Item 1 in the Letter references the Mariner East 2 pipeline and states that the drilling of Well on the Pad "will place this large pipeline at risk," citing potential "intense vibrations and ground disturbances," as well as potential damage to freshwater sources and the risk of an explosion with "devastating effects."

Response: The Pad was constructed prior to the Mariner East pipeline, and SWNPC is in compliance with all applicable regulatory requirements with respect to the pipeline, as well as with respect to its plans to drill and operate the Well. There is no regulatory or legal requirement that requires a set back of the Pad from the pipeline as seems to be sought by the Letter. From an operational perspective, SWNPC does not believe that its contemplated drilling and operation of the Well on the Pad will have any impact on the pipeline or the stability of the Pad, and sees no evidence to support such a conclusion.

Items 2 and 3: Alleged Supply Contamination

Allegation(s): Items 2 and 3 in the Letter reference “freshwater sources located within the vicinity of the [Pad],” including developed natural spring(s) within 250 feet and within the access road,” and indicate that the landowners utilize “natural springs, stream water, surface water, ground water, etc., which originates within the well site area.” It goes on to state that the landowners utilize this water for a variety of purposes – including for domesticated animals and a walnut grove – and that “SWN must not degrade our water sources, including ground and surface.” The implication is that SWNPC’s operations on the Pad would somehow impact and degrade the landowners’ water sources.

Response: West Virginia Code 22 Section 6A-12(a) specifically prohibits drilling wells “within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption.” However, this provision is inapplicable in the current circumstance because:

- (i) SWNPC finds no water wells or developed springs within the applicable 250 foot limit. Consistent with this view, Department Inspector Eric Blend previously inspected the relevant area in 2017, and determined that the spring identified by the landowners – which does not seem to be being utilized for either human or animal consumption – is located outside the 250 foot limit at approximately 428 feet from the proposed Well. To completely clear, the allegation of an additional spring within 428 feet is false. The spring located approximately 428 feet from the propose Well is the one which Ms. Mosa identifies as being located within 250 feet of the Well.
- (ii) Even if the water source in question was within the 250 foot limit, the prohibition of Section 6A-12(a) does 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, both of which are prior to the effective date of Section 6A-12. Thus, the location restrictions therein are not applicable in any event.

West Virginia Code 22 Section 6A-12(a) is clearly inapplicable with respect to the Well and the Pad, but it is important to note that regardless of how close or far the nearest water source(s), SWNPC strives to at all times conduct its operations in accordance with



all applicable regulations and good operating practices so as to ensure the protection of both public and private water sources.

Items 4 and 5: Alleged Notification Failures and Illegal Use of Property

Allegation(s): The Letter claims that (i) a portion of the access road is located on the landowners' property, and (ii) that SWNPC has been improperly traveling over such property and using a portion of same as a "laydown yard / staging area" without notification or permission.

Response: Neither the access road or "lay down" area, as constructed, is on the landowners' property. Referring to Exhibit 2 of the Letter, the drawing provided uses parcel boundaries and landowner names from County tax maps. These maps are often inaccurate and contain out dated information.

Prior to the submission of drawings that included the repairs to the access road in September 2019, SWNPC had a professional surveyor licensed in the state of West Virginia survey the relevant property boundaries. This survey showed that the correct property lines were different from the tax map property lines, and indicated that the access road and "lay down yard / staging area" are not located on the landowners' property.*

SWNPC likewise rejects the Letter's implication that we failed to comply with applicable notice requirements. Presumably the requirements being referenced are those of West Virginia Code 22 Section 6A-10(b), which requires that certain notice be given in connection with contemplated drilling activity, including notice to any landowner whose surface tract will be used for roads. This is not applicable to the Mosas because, as discussed above, neither the access road nor the "laydown / staging area" is located on property owned by the Mosas. Finally, please note that 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 in May of 2017.†

* With respect to the "laydown yard / staging area," SWNPC assumes that the Letter is referring to the area that was used by Anderson Excavating, LLC during the paving and repairs that were completed along Hukill Run Road. A review of the West Virginia Department of Highways ("DOH") mapping confirmed that this area was in the right-of-way for Hukill Run Road. SWNPC had permission for the staging area from the DOH during these operations.

† 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 of Pad center (but outside of 1,500 feet), they were notified and SWNPC sought the ability to test their water supply.



Item 6: Stream Diversion Along the Access Road

Allegation(s): Item 6 in the Letter claims that a “natural spring / stream” was “impounded and diverted” for approximately 30 feet parallel to the access road, and that this impoundment and diversion prohibits flow and that “damages remain.”

Response: The statement that a “stream was impounded and diverted for 30 ft” is false. There is a natural spring that originates upslope of the access road, flows through the road side ditch, and crosses under the access road through the culvert referred to in the Letter. The culvert being referenced was an existing, already-installed culvert beneath the access road that has been in place since the road was initially installed by American Tower Corporation when they constructed the road for their telecommunications tower. Erosion and sedimentation controls (in the form of silt sox) were installed along the access road to prevent any sediment from getting into the road side ditch, and these controls have been maintained from construction until today. As areas are stabilized, erosion and sedimentation controls are being removed. SWNPC followed the applicable approved Erosion and Sedimentation Control Plan (the “E&S Plan”) for the construction to stabilize the access road, as approved by the Department. Finally, SWNPC has never seen any evidence that the spring in question is a developed spring being used as a water source for human or animal consumption.

Items 7 and 8: Erosion and Sedimentation Related Design and Integrity Allegations

Allegation(s): In Items 7 and 8 the Letter makes a variety of allegations relating to erosion and sedimentation. These include:

- (i) That well site traffic has caused excessive sedimentation to freshwater sources;
- (ii) That the site access road does not comply with the “West Virginia Erosion and Sediment Control Field Manual” (the “WV E&S Field Manual”) and is thus “not stable or safe for industrial traffic”; and
- (iii) That the traffic on the access road, along with the work being performed on the access road, have caused a number of “slips” “mudslides” and other damaging “land erosion events.”

Response: There is no basis to any claim that the E&S Plan does not comply with the WV 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 the WV E&S Field Manual and all applicable laws, rules and regulations, and the E&S Plan and all applicable erosion and sediment controls were designed in full conformance therewith. This view is supported by the Department’s own review of the E&S Plan and the controls, as no deficiencies or associated violations have ever been identified.



SWNPC is not aware of any “slips,” “mudslides” or similar events caused by traffic during access road repairs, or that were otherwise caused as a result of the access road repairs. In fact, while the Letter claims that certain “slips” were not present prior to the access road repairs, in a Letter from the Mosas to the Department dated September 26, 2019 Mrs. Mosa refers to existing “slips” along the access road indicating that the road is not stable for the vehicular traffic required for the drilling and completing of wells. Additionally, if the “slips” were not present, SWNPC would have had no reason to have a geotechnical investigation performed and repairs designed by GTA Energy, LLC under the direction of a P.E. to further stabilize the road to ensure its ability to safely accommodate the traffic required for on-Pad operations.

Finally, while the Letter claims that there was excessive erosion from the construction activities at the access road and associated traffic, two different Inspectors from the Department (by Mr. Eric Blend and Mr. Jim Nicholson, respectively) visited the construction site numerous times during construction. Following one of the inspector visits, additional erosion and sedimentation controls were installed in conjunction with recommendations from the inspectors. Following the installation of those additional controls of Silt Sox, no additional issues were found and no erosion or sedimentation violations were noted nor any associated Notice of Violations issued.

Items 8(b), 8(e) and 9: Allegation of an “Open Dump”

Allegation(s): The Letter claims that SWNPC and its contractors have created an “open dump” near the Pad. Associated allegations include:

- (i) SWNPC contractor Deep Well demolished the garage of Creekside Auto at 2055 Hukill Run Road, and then hauled contaminated soil and debris from the demolition Auto up the access road to the “open dump.”
- (ii) Anderson Excavating, LLC hauled non-clean fill debris and waste from three separate locations to the “open dump.”
- (iii) Materials from the Robert Bone “open dump” will be used to “resurface” the Pad, resulting in a risk of encroachment and contamination of nearby freshwater sources.

Response: No “open dump” has been created near the Pad. At the request of the landowner, SWNPC used soil from the access road repairs to create a soil barrier to help block sound from the Pad during drilling and completion operations. The only material used to construct this soil barrier was excavated soil material from the access road repairs and excess cut from the road repairs along Hukill Run Road.

Material from the demolition of the Creekside Auto garage building was placed in dumpsters and hauled to a landfill. Photos of the dumpsters, with the demolition material in the dumpsters are attached to this letter.



Finally, the above-referenced soil material is not be utilized to “resurface” the Pad. As stated, the soil material has been utilized to construct a sound barrier between the Pad and the landowner’s home, at the request of the landowner.

Item 10: Alleged Noise Pollution and Related Issues

Allegation(s): The Letter claims that construction traffic has caused “high decibel noises and intense vibrations” that are damaging the landowners’ health, and expresses dismay over anticipated future noise levels that it says will be “24 hours, 7 days per week, for months.” The Letter further alleges that there is “no set back” from the landowners’ property and well site activity and the landowners’ property, which poses a health and safety threat to them.

Response: West Virginia Code 22 Section 6A-12 sets forth the location restrictions applicable to well pads, presumably to provide sufficient safety and nuisance protection for the public. Per Section 6A-12(a), “The center of the well pad may not be located within 625 feet of an occupied dwelling structure, or a building 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry.” The Mosa’s home is more than 625 feet from the center of the Pad, and thus the Pad is in compliance with West Virginia’s set-back requirements.

SWNPC does not believe that the allegations with respect to noise are credible. Further, with respect to noise pollution, the Department does not regulate sound and has no authority with respect to noise allegations made in the Letter. In addition to following its own internal protocols with respect to limiting noise and generally acting in accordance with our core value of being a good neighbor, SWNPC will of course during its operations comply with any and all applicable local ordinances governing noise levels.

Item 11: Alleged Leak of Fluid into Buffalo Creek

Allegation(s): Item 11 expands on the allegation initially set forth earlier in the Letter (Item 5) that a truck staged at the “laydown yard / staging area” leaked a large amount of liquid into Buffalo Creek. The Letter seems to state that this occurred on or before August 3, 2020, that the truck in question belonged to a contractor of SWNPC (Anderson Excavating, LLC), and that SWNPC and the contractor were both “immediately notified” but that the truck was left unattended until the next day.

Response: Simply put, SWNPC is not only unaware of the events described in the Letter, we are unaware of any spills from trucks occurring at this location at all. The photo provided in Exhibit 5 of the Letter does not appear to show a spill at all; it appears to show condensation from the truck’s air conditioning unit. Further, the photo provides no evidence that any of the liquid went beyond the staging area surface, and in fact illustrates the opposite. SWNPC has video of the dripping from the air conditioning unit that can be provided to the Department upon request.



Item 12: SWNPC Does Not Need to Drill the Well

Allegation(s): Item 12 in the Letter implies that SWNPC does not need the Pad and can economically access the minerals from other wells pads.

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

SWNPC is hopeful that the responses set forth above will satisfy the Department's needs with respect to the allegations and issues outlined in the Letter. 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

cc: H. Jason Harmon



PHOTOGRAPHS



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

August 19, 2020

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
ATTN: OFFICE OF OIL AND GAS
601 57TH STREET SE
CHARLESTON, WV 25304

Dear WV DEP – OFFICE OF OIL AND GAS

**Subject: OBJECTION TO HORIZONTAL 6A PERMITTING
ROBERT BONE: BROOKE COUNTY
PERMIT APPLICATION: 47-009-00319**

We are writing with objections to Horizontal 6A permit application (47-009-00319). In addition, we are requesting that the WV DEP re-evaluate that issuance of Horizontal 6A permits (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289). We do not believe that the Robert Bone well site, Horizontal 6A permit application (47-009-00319), or Horizontal 6A permits (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289) are in accordance with all applicable West Virginia and/or Federal laws, rules, regulations, and/or codes. In addition, the well work is a safety hazard to landowners' and the environment, it fails to protect freshwater sources and supplies, and the erosion and sediment control plan is ineffective.

- 1) Mariner East 2 Pipeline is within feet of the Robert Bone well pad. *Exhibit (1)*.
 - a. Intense vibrations and ground disturbances from hydraulic fracturing (Horizontal 6A wells) will place this large pipeline at risk.
 - I. Our freshwater sources will be destroyed if SWN causes damage to the pipeline.
 - II. If hydraulic fracturing triggers an explosion it will have devastating effects.
 - III. Grog Run is in direct vicinity of the ME2. It provides freshwater for the Hammond Public Service District.
 - b. The ME2 pipeline travels down two steep inclines at the Robert Bone location, thus limiting its stability
 - I. The ground in this area has proven to be susceptible to mudslides, slips, erosion, etc.
- 2) Our freshwater sources are located within direct vicinity of the Robert Bone well site. *Exhibit (2)*
 - a. Developed natural spring(s) initiate within 250 feet of the Robert Bone pad.

- b. In written communication with the WV DEP, SWN states that an additional spring location is within 428 feet of the well location
 - c. Developed natural spring (s) are located within the “access road.”
- 3) We require an abundant and healthy source of freshwater to maintain the quality of our farm. We utilize natural springs, stream water, surface water, ground water, etc., which originates within the well site area. Our water sources are maintained by a licensed water company.
- a. SWN must not degrade our water sources, including ground and surface.
 - b. We have well water, which initiates from these sources
 - c. Our domesticated animals drink this freshwater
 - d. Our Walnut Grove requires this water.
 - I. We have > 500 black walnut trees
 - e. Our farm will be worthless without healthy and abundant freshwater.
 - I. Destroying our freshwater source(s) and replacing it with another water source is unacceptable.
- 4) Our property is located within the Robert Bone “access road,” per boundary survey, which was completed by a professional engineer licensed in the state of West Virginia.
- a. This farm has always utilized the natural spring/stream water in this area, on our property, and we will continue to do so.
 - b. Necessary steps have been taken to prevent adverse possession, of our property, by SWN, Robert Bone, et al.
- 5) SWN has been utilizing our property yet failed to provide notification. *Exhibits (3)&(4)*
- a. SWN has been traveling our property to reach the Robert Bone well pad
 - I. Including property within the access road
 - II. & while traveling outside of the LOD (as noted when D.W. hit our tree).
 - b. SWN has been using another portion of our property as a laydown yard/ staging area without permission. *Exhibits (5)&(6)*
 - I. SWN construction superintendent directed contractors to park in our yard
 - II. Truck leaked large amount of liquid into Buffalo Creek at this location
 - III. Personally-identifiable-trash was left at this location.
 - IV. We requested that they move by calling both SWN and Anderson Excavating LLC. The SWN construction superintendent refused. A.E. continued to use (and damage) our property along Buffalo Creek. It was only when property owner (Mosa) stated that he would seek litigation that SWN agreed to have A.E. cease use of our property.

- 6) A natural spring/ stream was impounded and diverted for ~30 feet parallel to the access road. Restoration has yet to be completed. Damages remain and are exponentially worsened by SWN traffic. *Exhibit (7)*
 - a. The stream diversion makes it susceptible to sedimentation.
 - b. It should not have been impounded for an “access road.”
 - c. The water did not originally flow alongside the “access road” in a ditch.
 - d. Fill material from the “access road” prevents natural flow.
 - e. It previously flowed downhill, it is part of a developed natural spring that is used for human and animal consumption.
 - f. Downhill from the “access road” there is a constant flow of water (365 days per year).
 - g. This natural spring/ stream impoundment is harmful.

- 7) Well site traffic has caused excessive sedimentation in our freshwater source(s) *Exhibits (8),(9),(10),(11), & (12)*
 - a. This has left us with unusable freshwater for periods of time.
 - b. Well traffic continually drives through the natural spring/stream causing damage.
 - c. Deep Well graded the “access road” towards the natural spring/stream. *Video available.
 - d. Fill material was discharged into the natural spring/stream.
 - e. Material continues to be discharged into the natural spring/stream with continued “access road” use.
 - f. Various SWN contractors continue to drive, outside the LOD, through the natural spring/stream.

- 8) The “access road” to the Robert Bone site does not comply with the “West Virginia Erosion and Sediment Control Field Manual.” It is not stable or safe for industrial traffic. The “access road” is a safety risk for our family. Since the WV DEP issued Horizontal 6A permits (47-009-00286, 47-009-00287, 47-009-00288, 47-009-00289) in December of 2019, SWN has been performing construction and various industrial activities. Such “access road” use has had devastating effects on the property owners’ below, such as new onset slippage in the area of natural spring/ stream crossing. Construction activities and industrial traffic have also caused numerous mudslides and land erosion events.
 - a. Well site traffic has caused excessive sedimentation of our freshwater source(s)
 - I. This has left us without useable freshwater for periods of time.
 - II. Well traffic continually drives into the natural spring/stream causing damage.
 - III. Deep Well graded the “access road” towards the natural spring/stream. *Video available.
 - IV. Fill material was discharged into the natural spring/stream.

 - b. Deep Well caused a large mudslide at the bottom of the “access road.”
Exhibit (13)

- I. In January 2020, D.W. began to widen the base of the “access road” near Hukill Run Road. During this activity, D.W. caused a massive mudslide.
 - i. SWN claims that the “slip material” was present prior to initiation of construction. This is factually inaccurate.
 - ii. The garage belonging to Robert Bone and inhabited by Dusty Stevey for use as Creekside Auto was intact prior to initiation of construction.
 - iii. The mudslide was caused by D.W.’s tree removal and excavation activities
 - iv. There was no slip present prior to SWN authorizing the widening of the base of the “access road.”

- II. D.W. demolished and hauled the garage (& associated waste) of Dusty Stevey, dba Creekside Auto @ 2055 Hukill Run Rd, up to the Robert Bone dumpsite.

Exhibits (14)&(15)

 - i. Prior to initiation of SWN approved construction, there was no “encroachment” of “slip material” on Dusty’s garage.
 - ii. D.W. did not have a roll-off truck, so they dragged the dumpster up and down the “access road.” *Video available. This caused excessive vibrations, erosion, and sedimentation.

- III. D.W. hauled the material from the slip that they caused, along with the contaminated soil from Creekside Auto, up to the Robert Bone open dump. It was tons and tons of waste with the use of a CAT 725.

- c. We frequent the natural spring/ stream location, along the “access road,” to acquire freshwater. It was safe prior to SWN.
 - I. D.W. drove into our tree
 - II. Various SWN contractors’ drive outside of the LOD.

- d. SWN well site activity has caused a slip to develop on our property along the “access road.”

Exhibits (16),(17),(18),(19),(20), & (21)

 - I. It is in a location that our children frequent
 - II. It is in the location of a natural spring
 - III. It is a huge safety risk
 - IV. It threatens our freshwater source(s)

- e. Erosion was exemplified by Anderson Excavating activities.
 - I. SWN is having Anderson Excavating LLC, of Morgantown, WV, complete road work along Hukill Run Rd in Wellsburg, WV.
 - i. Anderson is hauling road waste, asphalt, and debris from three separate locations (from up to 1.5 miles away) up to the Robert Bone open dump.
 - a. This is not clean fill

- 9) SWN states that materials from the Robert Bone open dump will be used to “resurface” the well pad
- a. The “resurfacing” of the pad will place our freshwater source(s)/ springs at risk for contamination.
 - I. Natural springs are in proximity of the well pad.
 - b. We were under the impression that the pad was/is “Built-As.”
 - c. If the footprint of the well pad is increased, it will encroach on natural springs in the area
 - d. Run-off during “resurfacing” of the well pad is a concern

10) Noise pollution.

- a. Excessive construction traffic has been traveling through our backyard, across our property, along the length of our property, above our home, and up to the Robert Bone pad causing high decibel noises and intense vibrations.
 - I. For reference the CAT engine is >100 dBA
 - II. Our windows rattle
 - III. It is not just an inconvenience or nuisance, it is damaging our health
- b. The engine noises are extremely intense climbing up to the well pad.
- c. The engine brakes are deafening on the way down.
- d. Our baby is unable to nap at home during the day. Sleep deprivation was making him sick. I now must now take him elsewhere to sleep.
 - I. The industrial traffic has been limited to the daytime, and it is causing problems.
 - II. How will SWN meet EPA noise standards when they are working 24 hours a day, for months at a time?
 - III. Will SWN be able to meet the more stringent health and safety standards related to noise exposure in children?
- e. The drilling, hydraulic fracturing, and production will be 24 hours, 7 days per week, for months.
 - I. How does SWN expect us to function?
 - i. Due to the close proximity of well site activity, the environmental impact is too great on our family, especially the children and newborn/unborn baby
 - ii. Recent studies have proven that hydraulic fracturing and r/t activities are detrimental to the health of pregnant women and children.
 - II. There is no setback from our property to that of the well site activity.
 - i. SWN activity is a danger to our health and safety.
 - ii. The workers who travel our property wear OSHA gear, but we are expected to be safe without any.

11) As recently as August 3, 2020, Anderson Excavating LLC, had trucks and heavy equipment parked on our property. One of the trucks was leaking large amounts of fluid into Buffalo Creek.

- a. SWN and Anderson Excavating were immediately notified.
 - I. The truck was not attended to until the following morning.
- b. SWN, nor A.E., requested permission to use our yard as a laydown/staging/gathering area.
- c. Video of leakage available*
 - i. What will happen when this radioactive brine, arsenic, or one of the other toxic chemicals that SWN will be discharging into our freshwater sources from the Robert Bone pad?

12) SWN does not need to destroy our property and personal health to access these minerals.

- a. In 2019, SWN reported an “average completed lateral length of 10, 128 feet” per well.
 - I. There are approximately 14 well pads within 2 miles of our home.
 - II. SWN has other extraction options available. The Robert Bone pad is not a necessity.

We do not believe that the Robert Bone well site, Horizontal 6A permit application (47-009-00319), or Horizontal 6A permits (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289) are in accordance with all applicable West Virginia and/or Federal laws, rules, regulations, codes- including, but not limited to, the Clean Water Act (CWA); the West Virginia Water Pollution Control Act; WV §35-8-5.4; WV §35-8-5.5; WV §35-8-6.2.e; WV §35-8-6.2.j; WV §35-8-18; WV §22-6A-10; WV §22-12-2; WV §22-15A-4; WV §22-6A-12.

***Exhibits 1 – 21 and signature page included herein.**



EXHIBIT 1

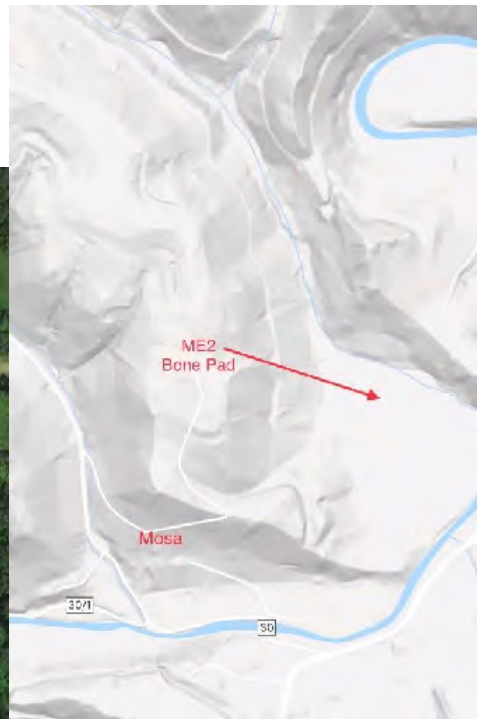


EXHIBIT 2



Content of this map is for general reference only. Information on this map was compiled using the best available data at the time but is not guaranteed accuracy.

Water Purveyor Map		Well Pad: Robert Bone BRK Pad	County: BROOKE
Map by: SWN	SWN	Robert Bone BRK Coordinates: 40.218962 -80.602546	

EXHIBIT 3



EXHIBIT 4



Caution tape and signage placed by landowners' (Mosa) for their safety.

They own property within the "access road" at this location.

EXHIBIT 5



EXHIBIT 6



EXHIBIT 7



EXHIBIT 8

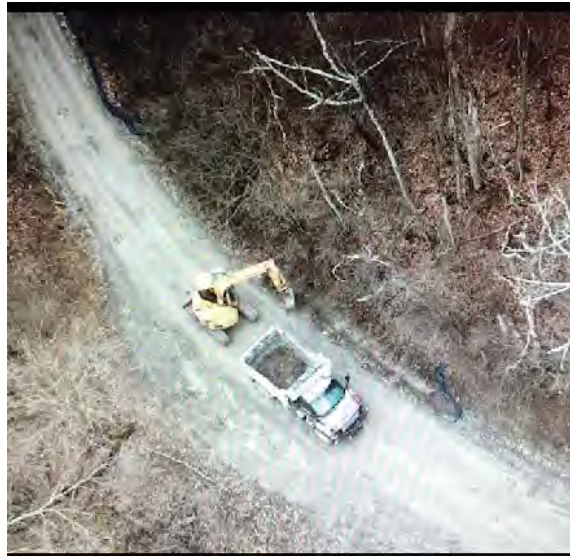


EXHIBIT 9



Water Sock Continually Knocked into the Spring.

EXHIBIT 10



D.W. dug a ditch next to the natural spring and connected it to the area where the clean spring water comes off the hill. They then graded the road towards the new ditch. This causes excessive sedimentation. Natural spring water mixes with SWN road waste. Additional pictures, documentation, and videos available.

EXHIBIT 11



Burns Drilling utilized the natural spring/ stream area as a staging zone/ gathering area. Per SWN permitting documentation, this area is not authorized as such, nor is it safe to be utilized as such. In addition to spring damage, they knocked over trees – causing damage + erosion to the Mosa’s property.

EXHIBIT 12



Both pictures were taken downhill from the “access road” near the natural spring crossing

-First is prior to Horizontal 6A permitting

-Second is post Horizontal 6A permitting (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289)

- Both pictures are a part of a video series
- Additional video and documentation are available
- Prior to permit issuance, the water never exhibited sedimentation

EXHIBIT 13



D.W. knocked over the trees and drove the mud downhill. They had no protective barrier installed between their debris and the waters of Hukill Run. Material was discharged into Hukill Run. No “encroachment” was present on Creekside Auto’s garage prior to SWN authorizing the widening of the base of the “access road.” Additional pictures/ videos available.

EXHIBIT 14



EXHIBIT 15



D.W. attempted to build a retaining wall in this location, but the mudslide continued to worsen. The retaining wall collapsed. Burn's Drilling then dumped tons of limestone on top of the mudslide that was caused by SWN/ D.W.

They also caused damage to the natural spring, along the access road Mosa property, while hauling massive amounts of waste up to the Robert Bone open dump.

EXHIBIT 16



Both pictures were taken from the same location on our property - near natural spring

-First is prior to Horizontal 6A permitting

- September 2019

-Second is post Horizontal 6A permitting

(47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289)

- January 2020

EXHIBIT 17



EXHIBIT 18



EXHIBIT 19



We placed caution tape. SWN has done nothing to ensure our safety.

This slip was caused by SWN activities

s/p issuance of (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289).

This will become a worsening issue with the issuance of 47-009-00319

EXHIBIT 20



Since the issuance of (47-009-00286; 47-009-00287; 47-009-00288; 47-009-00289), the entire Robert Bone “access road” is eroding down onto our home and property. This is not an “Act of God” type of slip, erosion, etc. The issues are being caused by well traffic. This will surely worsen with increased traffic r/t Horizontal 6A drilling – including 47-009-00319.

EXHIBIT 21



Please take note that the Robert Bone “access road” is located on the side of a steep hill that is filled with natural springs, streams, and wetlands. SWN’s use of this road (and our property) places not only our freshwater sources, but also our lives, in danger.

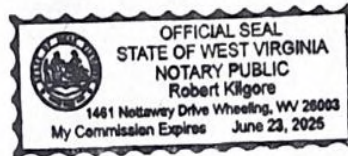
Respectfully Submitted,

Benjamin M. Mosa 8.19.2020
Benjamin M. Mosa Date

Christine L. Mosa 8-19-2020
Christine L. Mosa Date

Robert Kilgore 08-19-2020
Notary Public (signature) Date

Robert Kilgore
Notary Public (print)



June 23, 2025
Commission Expires



west virginia department of environmental protection

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

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

Friday, September 25, 2020
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 405H
47-009-00319-00-00

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 405H
Farm Name: ROBERT BONE
U.S. WELL NUMBER: 47-009-00319-00-00
Horizontal 6A New Drill
Date Issued: 9/25/2020

PERMIT CONDITIONS 4700900319

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

CONDITIONS

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

API Number: _____

PERMIT CONDITIONS 4700900319

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.

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-Buffal 247-Bethany & 62
Operator ID County District Quadrangle

2) Operator's Well Number: Robert Bone BRK 405H 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 Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

6) Existing Pad: Yes or No Yes  7-10-20

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- 5835', Target Base TVD- 5887', Anticipated Thickness- 52', Associated Pressure- 3827'

8) Proposed Total Vertical Depth: 5871'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 25863' RECEIVED
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11) Proposed Horizontal Leg Length: 16,399.3' JUL 28 2020

12) Approximate Fresh Water Strata Depths: 344'

13) Method to Determine Fresh Water Depths: Salinity Profile WV Department of
Environmental Protection

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

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

WW-6B
(04/15)

API NO. 47-⁰⁰⁹~~47009~~00319
 OPERATOR WELL NO. Robert Bone BRK 405H
 Well Pad Name: Robert Bone BRK Pad

18)

CASING AND TUBING PROGRAM

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	J-55	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	J-55	54.4#	420'	420'	414 sx/CTS
Coal	See	Surface	Casing				
Intermediate	9 5/8"	New	J-55	36#	1688'	1688'	533 sx/CTS
Production	5 1/2"	New	P-110 HP	20#	25,863'	25,863'	Tail 474Ccu/ 100' Inside Intermediate
Tubing							
Liners							

C-880 7.10.20

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	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							

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PACKERS

Kind:				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. In some instances, additional toe prep may be performed by pumping additional water in the toe of the well prior to perforating and pumping Stage 1 to ensure that the toe guns/toe sleeves are fully open prior to pumping stage 1. 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:

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Environmental Protection

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: Atach additional sheets as needed.

4700900319

CEMENT ADDITIVES

INTERVAL	SCHLUMBERGER PRODUCT NAME	BJ PRODUCT NAME	NEXTER PRODUCT NAME	PRODUCT USE	CHEMICAL NAME	CAS-Number
SURFACE (FRESHWATER)	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
COAL PROTECTION	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
INTERMEDIATE	D020	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	D047	FP 28L	 	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	 	INTEGRA SEAL	CJ600	LOST CIRC MATERIAL	CELLOPHANE FLAKES	9005-81-6
	CemNet	 	 	LOST CIRC MATERIAL	COATED FIBERGLASS FIBERS	PROPRIETARY
	SUGAR	SUGAR	CJ795	CMT RETARDER	SUCROSE	57-50-1
	S001	A-7P	CJ110	ACCELERATOR	CALCIUM CHLORIDE	10043-52-4
PRODUCTION	 	 	CJ111	ACCELERATOR	SODIUM CHLORIDE	7440-23-5
	 	55-11W	CJ880	SURFACTANT	NONIONIC SURFACTANT	6540-99-4
	D047	FP 28L	 	LIQUID ANTIFOAM AGENT	POLYPROPYLENE GLYCOL	25322-69-4
	 	 	CJX157011	SOLID ANTIFOAM AGENT	FULLERS EARTH(ATTAPULGITE)	8031-18-3
	 	 	CJ540	HP FLUID LOSS ADDITIVE	ALIPHATIC AMIDE POLYMER	PROPRIETARY
	D255	 	 	MED TEMP FLUID LOSS ADDITIVE	POLYACRILIC POLYMER	PROPRIETARY
	 	 	CJ213	RETARDER	CHRYSTALLINE SILICA	14808-60-7
	 	FL-66	CJ501	LOW TEMP FLUID LOSS ADD	POWDERED POLYSACCHARIDE	PROPRIETARY
	 	BENTONITE	CJ020	EXTENDER	BENTONITE	1302-78-9
	D208	ASA-301	 	VISCOSIFIER/ANTI- SETTLING AGENT	REFINED POLYMER/ CHRYSTALLINE SILICA	PROPRIETARY
	D198	R-3		CEMENT RETARDER	LIGNIN	8068-51-6
SUGAR	SUGAR	CJ795	CEMENT RETARDER	SUCROSE	57-50-1	

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Southwestern Energy Company

Proposed Drilling Program

Well: ROBERT BONE BRK 405 Re-entry Rig: TBD
 Field: PANHANDLE FIELD WET Prospect: Marcellus Shale
 County: BROOKE State: WV
 SHL: 40.2189 Latitude -80.6024 Longitude
 BHL: 40.2688 Latitude -80.6179 Longitude
 KB Elev: 1,174 ft MSL KB: 26 ft GL Elev: 1,148 ft MSL



PROD TOC Lead @ 1,767' MD
 PROD TOC Tail @ 5,021' MD

C. Hall
7-10-20

TUBULAR DETAIL

Casing String	Casing Size (in)	Weight (Min)	Grade (Min)	Planned Interval	
				From	To
Conductor	20	94.0 #	J-55	0'	100'
Surface/Coal	13.375	54.4 #	J-55	0'	420'
Intermediate	9.625	36.0 #	J-55	0'	1,688'
Production	5.5	20.0 #	P-110 HP	0'	25,863'

CEMENT DETAIL

	Sacks	Class	Density
Conductor:	151	A	19.3
Surface:	414	A	15.6
Intermediate:	533	A	15.6
Production:	4740	A	15.6



KOP at 5,866' MD

Freshwater Depth - 344' TVD

Coal Depth - 309' TVD

Saltwater Depth - 627' TVD

TVD - 5,871'

TMD - 25,863'

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5,871' Target Center

TD at 25,863' MD

5,667' TVD

EOB at 7,122' MD

EOB at 5,871' TVD

July 13, 2020

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

RE: Proposed New Well Robert Bone BRK 405H

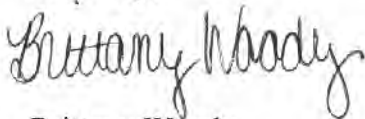
Dear Ms. Adkins

SWN has reviewed the area of the above mentioned well and discovered no shallow wells within 500' of the lateral. This well is situated on the Bone's property, in Buffalo District, Brooke County, West Virginia.

If you have any questions or desire additional information, please me at 304-884-1613.

Thank you.

Sincerely,



Brittany Woody
Senior Regulatory Analyst
Southwestern Energy Production Company, LLC

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The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+®

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., 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 Various Approved Facilities)
- Reuse (at API Number At the next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain recovery and solidification on site)

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. (All oil based drilling fluids must be with SOBM 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)

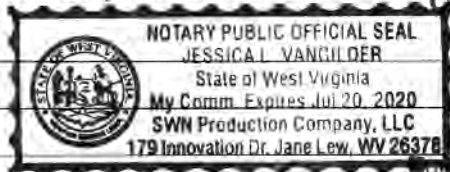
-Landfill or offsite name/permit number? Meadowhill SWF- 1032, Short Creek SWF-1034, Carbon Limestone MSWL018781, Wetzel County 102

Apex Sanitary Landfill U6-U8438, Brooke Co SWF-1013,
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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JUL 28 2020
WV Department of Environmental Protection

Subscribed and sworn before me this 16th day of July 20 20

Jessica L. VanMilder Notary Public

My commission expires 7-20-20

SWN Production Co., 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 600/500 lbs/acre

Mulch Hay/Straw Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type _____ lbs/acre


Seed Type _____ lbs/acre

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:  7-10-20

Comments: _____

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Title: Oil & Gas Inspector

Date: 7-10-20

Field Reviewed? Yes No

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, SOBMM)

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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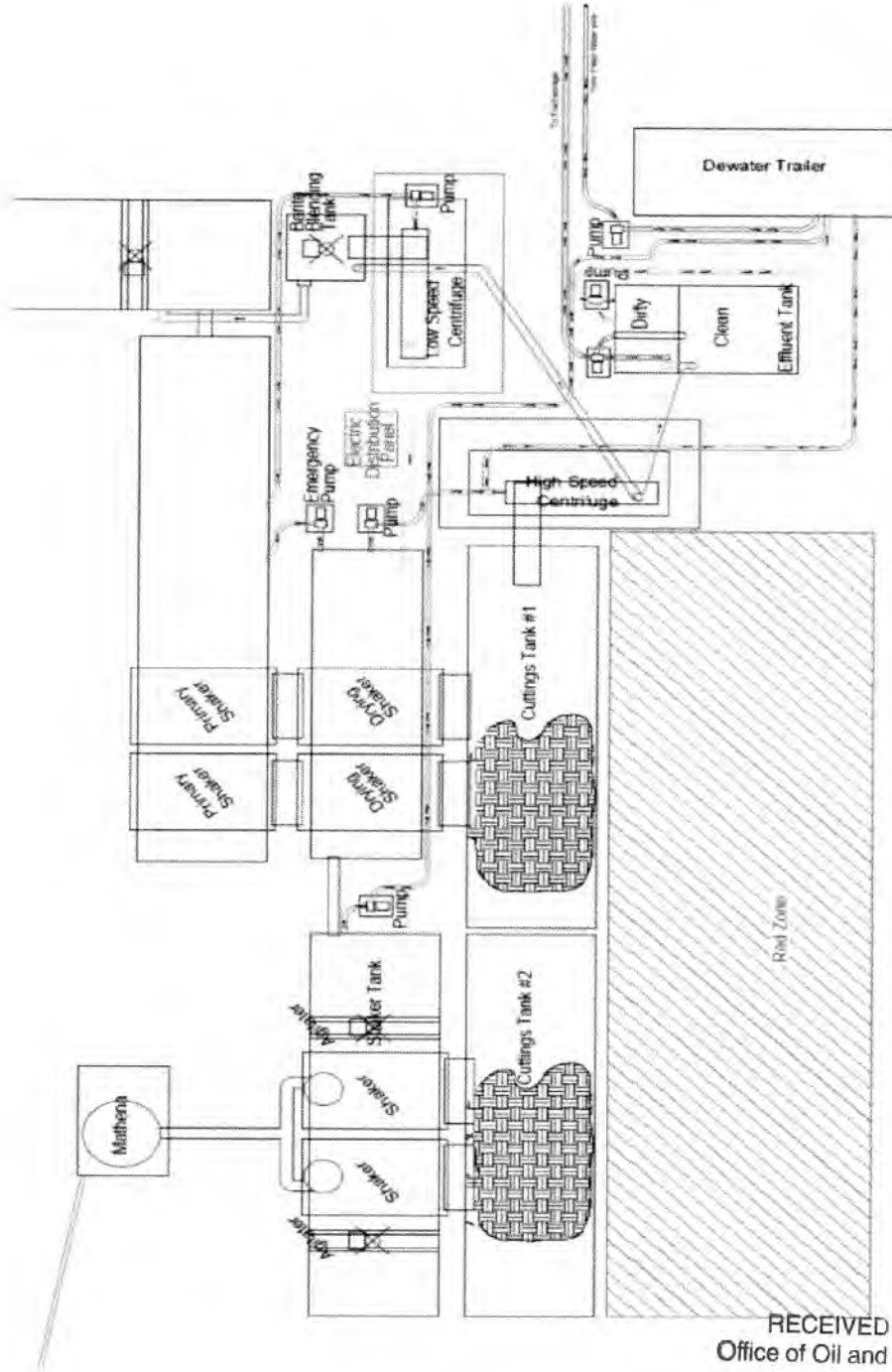
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4700500319

SWN
Southwestern Energy

Solids Control Layout

EXAMPLE SCHEMATIC FOR CLOSED LOOP SOLIDS CONTROL SYSTEM



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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

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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MARCELLUS WELL DRILLING PROCEDURES AND WELL SITE SAFETY PLAN

Scanned on Q
7/29/20 - WS



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

API NO. 47-XXX-XXXXX
WELL NAME: Robert Bone BRK 405H
Bethany/Steubenville East QUAD
Buffalo DISTRICT
Brooke COUNTY, WEST VIRGINIA

Submitted by:

Name: Brittany Woody

Brittany Woody

Date: 6/22/2020

Title: Senior Regulatory Analyst

SWN Production Co., LLC

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Environmental Protection

Approved by:

Name: *[Signature]*

Date: 7-10-20

Title: Oil and Gas Inspector

Approved by:

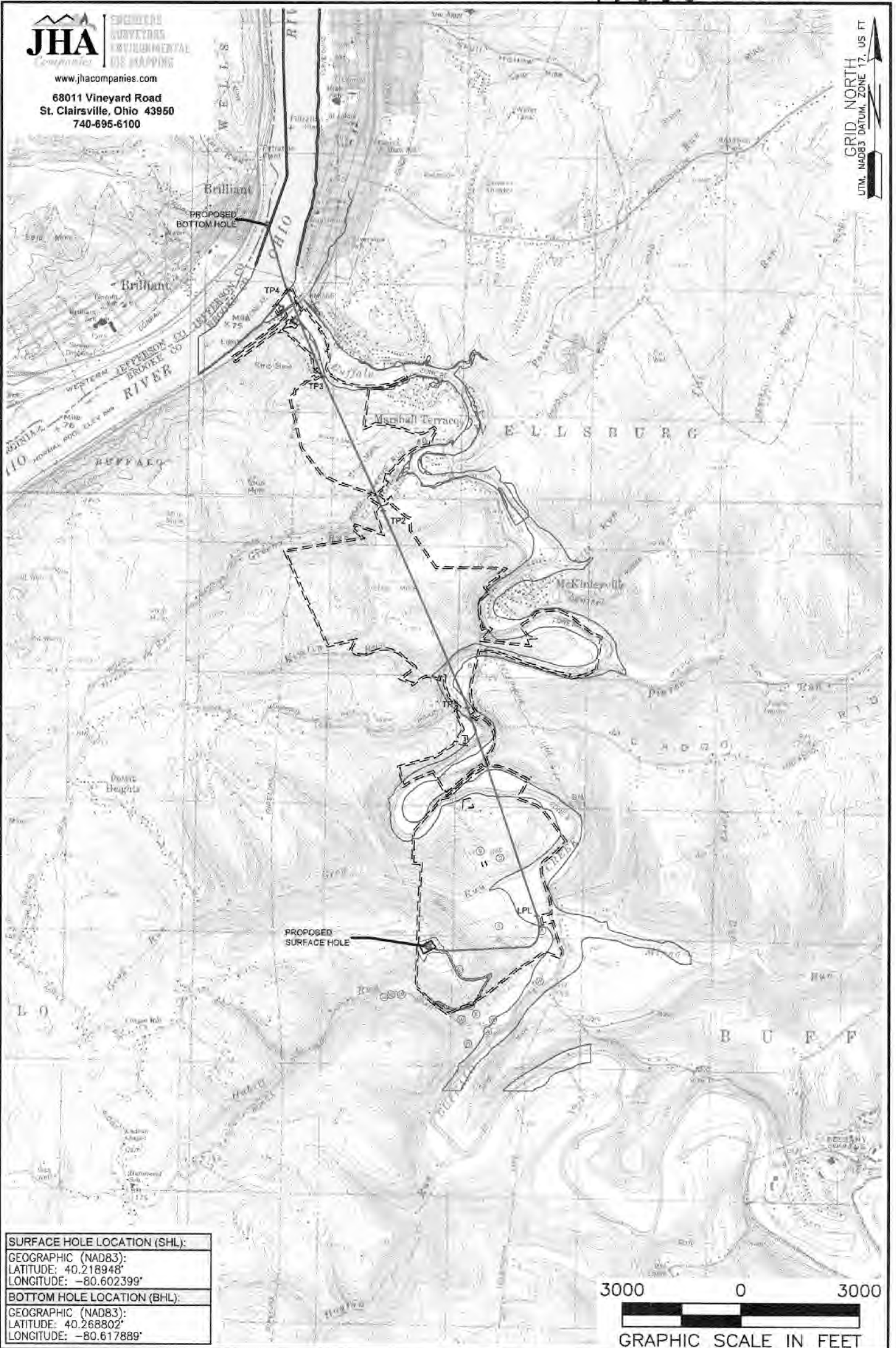
Name: _____

Date: _____

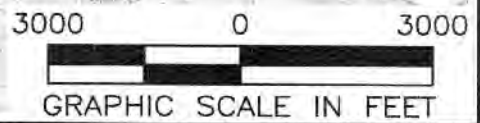
Title: _____

JHA
 Companies
 ENGINEERS
 SURVEYORS
 ENVIRONMENTAL
 GIS MAPPING
 www.jhacompanies.com
 68011 Vineyard Road
 St. Clairsville, Ohio 43950
 740-695-6100

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.218948°
LONGITUDE: -80.602399°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.268802°
LONGITUDE: -80.617889°



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
- LPL* LANDING POINT LOCATION
- FLOOD PLAIN
- NATURAL WATERWAY
- 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 # 405H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201, MORGANTOWN, WV 26508	COUNTY: BROOKE	CODE: 009	DISTRICT: BUFFALO
SURFACE OWNER: ROBERT BONE	USGS 7 1/2 QUADRANGLE MAP NAME: BETHANY, WV		
			API # 47-009-XXXX

LATITUDE: 40°15'00" SURFACE HOLE (2000' SCALE)

5363'

LATITUDE: 40°17'30" BOTTOM HOLE (2000' SCALE)

9689'



www.jha.companies.com

88011 Vineyard Road
St. Clairsville, Ohio 43960
740-696-6100



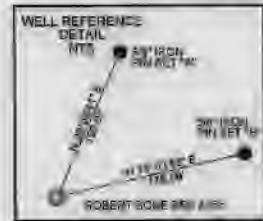
METERS ON SURVEY

- COORDINATE SYSTEM IS UTM NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND OTHER BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS SHOWING BY CURVE AND/OR FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS OR BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
- NO PERMANENT STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 110 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURAL GAS PRODUCTIONS TRAIL STREAM WITHIN 300 FEET OF THE LIMITS OF DISTURBANCE.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.

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

LINE	BEARING	DISTANCE
L1	N 55°14'36" E	870.88'
L2	S 78°03'41" E	2,093.92'

SURFACE HOLE LOCATION (SHL)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4452134.51 EASTING: 533830.53
LANDING POINT LOCATION (LPL)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4452380.84 EASTING: 534663.89
TURNING POINT LOCATION (TPL1)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4453979.74 EASTING: 534099.10
TURNING POINT LOCATION (TPL2)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4455481.47 EASTING: 533419.95
TURNING POINT LOCATION (TPL3)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4456503.25 EASTING: 532933.43
TURNING POINT LOCATION (TPL4)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4457158.97 EASTING: 532649.40
BOTTOM HOLE LOCATION (BHL)
UTM (NAD83, ZONE 17, METERS): NORTHING: 4457662.35 EASTING: 532488.63



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** SWN ^{LLC}
Production Company, LLC Production Company™

<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034</p>	<p>MINIMUM DEGREE OF ACCURACY: 1/200</p> <p>PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)</p>	<p>ROBERT BONE BRK</p> <p>OPERATOR'S WELL #: 405H</p> <p>API WELL #: 47 009 00319</p> <p>STATE COUNTY PERMIT</p>
	<p>WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/></p> <p>WATERSHED: UPPER OHIO SOUTH</p> <p>DISTRICT: BUFFALO COUNTY: BROOKE</p> <p>SURFACE OWNER: ROBERT BONE</p> <p>OIL & GAS ROYALTY OWNER: ROBERT BONE</p> <p>DRILL <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/></p> <p>CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY)</p> <p>TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 5,871' TVD 25,863' TMD</p>	<p>ELEVATION: 1,147.5'</p> <p>QUADRANGLE: BETHANY, STEUBENVILLE EAST</p> <p>ACREAGE: ±80.99</p> <p>ACREAGE: ±80.99</p>

<p>WELL OPERATOR: SWN PRODUCTION COMPANY, LLC</p> <p>ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201</p> <p>CITY: MORGANTOWN STATE: WV ZIP CODE: 26508</p>	<p>DESIGNATED AGENT: BRITTANY WOODY</p> <p>ADDRESS: 1300 FORT PIERPONT DRIVE, SUITE 201</p> <p>CITY: MORGANTOWN STATE: WV ZIP CODE: 26508</p>
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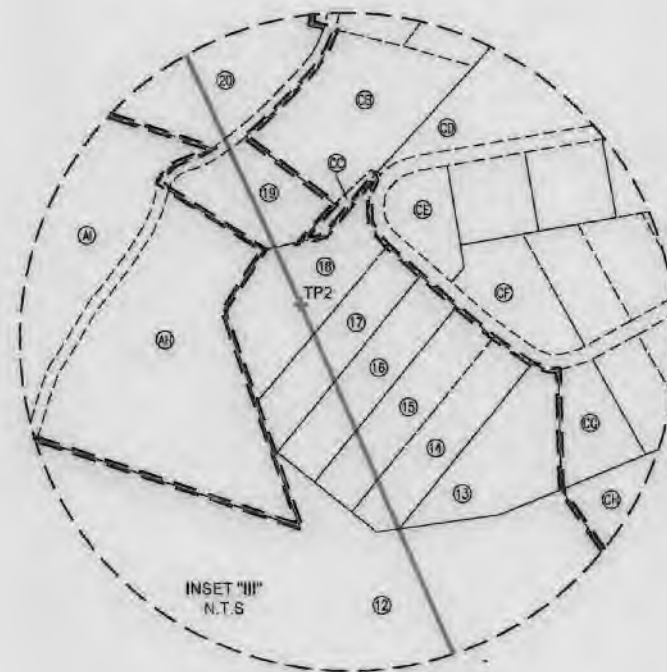
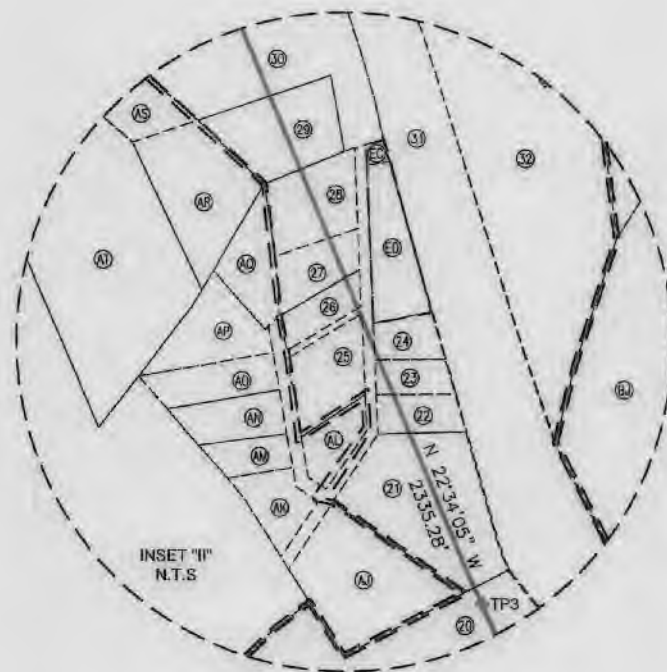
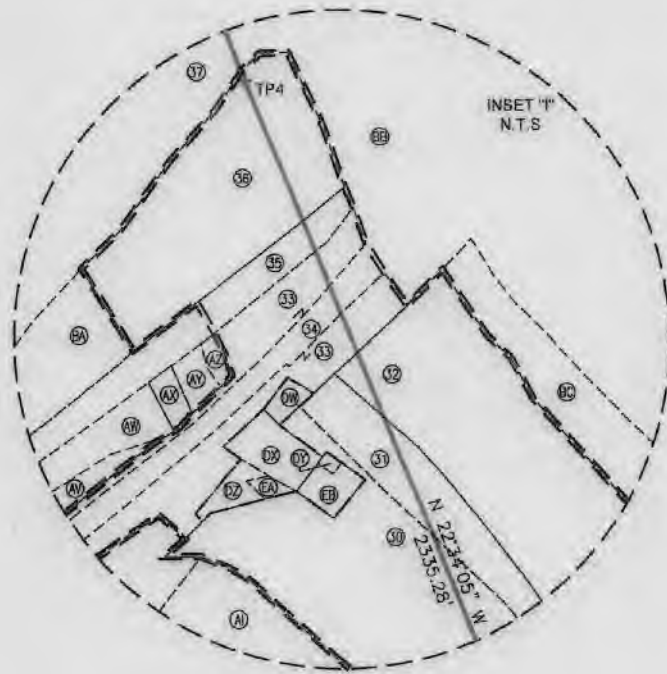
<p>LEGEND:</p> <ul style="list-style-type: none"> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊗ EXISTING / PRODUCING WELLHEAD LPL= LANDING POINT LOCATION ● EXISTING WATER WELL ⊙ EXISTING SPRING — NATURAL WATERWAY — SURVEYED BOUNDARY == LEASE BOUNDARY — PROPOSED PATH — PUBLIC ROAD 	<p>REVISIONS:</p> <table border="1"> <tr> <td>DATE: 06-18-2020</td> </tr> <tr> <td>API NO: 47-069-XXXXX</td> </tr> <tr> <td>DRAWN BY: R.GRIMES</td> </tr> <tr> <td>SCALE: 1" = 3000'</td> </tr> <tr> <td>DRAWING NO: 2017-219</td> </tr> <tr> <td>WELL LOCATION PLAT</td> </tr> </table>	DATE: 06-18-2020	API NO: 47-069-XXXXX	DRAWN BY: R.GRIMES	SCALE: 1" = 3000'	DRAWING NO: 2017-219	WELL LOCATION PLAT
DATE: 06-18-2020							
API NO: 47-069-XXXXX							
DRAWN BY: R.GRIMES							
SCALE: 1" = 3000'							
DRAWING NO: 2017-219							
WELL LOCATION PLAT							

LONGITUDE: 80°35'00" SURFACE HOLE (2000' SCALE)

LONGITUDE: 80°35'00" BOTTOM HOLE (2000' SCALE)

8340'

11317'



REVISIONS:

COMPANY:					
OPERATOR'S		ROBERT BONE BRK		DATE: 06-18-2020	
WELL #:		47-009-00319-HGA 405H		API NO: 47-069-XXXX	
DISTRICT:		COUNTY:		SCALE:	
BUFFALO		BROOKE		N/A	
		STATE:		DRAWING NO: 2017-219	
		WV		WELL LOCATION PLAT	

WELL BOTTOM TABLE FOR SURFACE/ROYALTY OWNERS		
TRACT	SURFACE OWNER(S) / ROYALTY OWNER(S)	TRAP PAGES
1	ROBERT D. BONE (S/R)	03-837-081.0
SURFACE OWNER		
2	WILLIAM E. & HAZEL E. JOHNSTON	03-837-081.0
3	MARK A. CHRISTMAN	03-837-085.0
4	VINCENT & PHILIP MAZZELLA	03-837-086.0
5	MAZZELLA WELDING & FABRICATION INC	03-837-086.1
6	JOSEPH E. & PENNY L. MORRIS	03-837-129.0
7	KEVIN R. & SANDRA A. COLLINS	03-837-130.0
8	HAMMOND PUBLIC SERVICE DISTRICT	03-837-135.0
9	BRENNARD L. JR & DOMINA J. MILLER (SURVIVOR)	03-837-139.0
10	HARRY & JUDITH COLES	03-837-133.0
11	SAMUEL HERVEY HUBBARD	03-837-096.0
12	SCHIAPPA & COMPANY, INC	03-837-000.0
13	JAY D. & KAREN SUE RECK	03-837-008.0
14	PATRICIA SALVAGEDI & GLORIA PREMESA	03-837-068.0
15	WILLIAM WHEAT & CARRIE HIGGS (ITVS)	03-837-070.0
16	WILLIAM WHEAT & CARRIE HIGGS (ITVS)	03-837-071.0
17	MELANIE J. LUNSFORD	03-837-072.0
18	LISH FAMILY TRUST, EDWARD C. & DISTRICT M. LISH TRUSTEES	03-837-073.0
19	WILLIAM E., CAROLYN E. & JESSICA WALNCHA (SURVIVOR)	03-837-077.0
20	ROBBIE & GERTRUDE LOUISE MCSHANE	03-837-030.0
21	JOHN J. FRISCO SR. (1/3) & JOSEPHINE IWANYSHYN	03-837-190.0
22	WILA & STANLEY PATRYNSKI	03-837-131.0
23	NILA & STANLEY PATRYNSKI	03-837-132.1
24	RONALD E. & SANDRA L. WILLIAMS	03-837-132.0
25	GEORGE & MARIA JUNE KILLER	03-837-133.0
26	RONALD E. & SANDRA L. WILLIAMS	03-837-134.0
27	RONALD E. & SANDRA L. WILLIAMS	03-837-137.0
28	LINDA S. WILLIAMS	03-837-136.0
29	LINDA S. WILLIAMS	03-837-136.0
30	DAVID P. LOMBARDI	03-837-211.0
31	ABANDON RAILWAY SOUTH OF BUFFALO CREEK	03-837-138.0
32	BROOKE COUNTY BOARD OF EDUCATION	03-837-212.0
33	STATE OF WEST VIRGINIA, DEPARTMENT OF HIGHWAYS	03-837-054.0
34	STATE OF WEST VIRGINIA, DEPARTMENT OF HIGHWAYS	STATE ROUTE 2
35	STATE OF WEST VIRGINIA, DEPARTMENT OF HIGHWAYS	03-837-011.0
36	CAMPBELL TRANSPORTATION COMPANY INC	03-837-003.0
37	STATE OF WEST VIRGINIA	CHIO RIVER
ADDITIONAL OWNERS TABLE		
TRACT	SURFACE OWNER	TRAP PAGES
A	JOSEPH E. & GLORIA SCHWAB (SURVIVOR)	03-837-086.0
B	JOSEPH E. & GLORIA SCHWAB (SURVIVOR)	03-837-086.1
C	CAROLE SILVER, ETAL	03-837-071.0
D	WILLIAM E. & HAZEL E. BERTY JOHNSTON (SURVIVOR)	03-837-074.1
E	BENJAMIN M. MOSE & CHRISTINE L. HEISE (ITVS)	03-837-074.0
F	BENJAMIN M. MOSE & CHRISTINE L. HEISE (ITVS)	03-837-074.0
G	TERRENCE & SUSAN BONE	03-837-060.0
H	ERIN E. & DINA M. HANEY (SURVIVOR)	03-837-077.0
I	VENURI HOME & GARDENS LLC	03-837-072.0
J	DEBRA CYPHER, ETAL	03-837-080.0
K	DEBRA CYPHER, ETAL	03-837-081.0
L	SCHIAPPA AND COMPANY INC	03-837-023.0
M	SCHIAPPA AND COMPANY INC	03-837-022.0
N	JAMES L. CHILDS	03-837-043.0
O	VINCENT & PHILIP MAZZELLA	03-837-078.0
P	KEVIN D. & BRIDGET KOSUT (SURVIVOR)	03-837-042.0
Q	RENECIA L. HIRLY	03-837-139.0
R	DAVID L. & JULIA A. HALL (SURVIVOR)	03-837-135.0
S	KEVIN R. & SANDRA A. COLLINS	03-837-130.1
T	DAVID L. & JULIA A. HALL (SURVIVOR)	03-837-136.0
U	DAVID L. & JULIA A. HALL (SURVIVOR)	03-837-137.0
V	DAVID L. & JULIA A. HALL (SURVIVOR)	03-837-137.1
W	PATRICIA WILLIAMS	03-837-134.0
X	PATRICIA WILLIAMS	03-837-135.0
Y	DAVID MCGOWAN	03-837-180.0
Z	ROBERT G. TREADWELL JR	03-837-188.0
AA	LILIAN MCCOY	03-837-185.0
AB	MASLO FARMS LLC, A PENNSYLVANIA LLC	03-837-010.0
AC	DAVID VIDERMAN ETAL	03-837-013.0
AD	RENNY HAMILTON	03-837-011.0
AE	SCHIAPPA AND COMPANY INC	03-837-010.0
AF	ROBBIE & GERTRUDE LOUISE MCSHANE	03-837-030.0
AG	DAVID E. JONES	03-837-002.0
AH	ROBBIE & GERTRUDE LOUISE MCSHANE	03-837-029.0
AI	NORRA JEAN LULLY	03-837-017.0
AJ	JOHN J. FRISCO SR. (1/3) & JOSEPHINE IWANYSHYN (2/3)	03-837-189.0
AK	BANDY M. & BRENDA WILLIAMS (SURVIVOR)	03-837-202.0
AL	JOHN J. FRISCO SR. (1/3) & JOSEPHINE IWANYSHYN (2/3)	03-837-190.0
AM	BANDY M. & BRENDA WILLIAMS (SURVIVOR)	03-837-203.0
AN	BANDY & BRENDA WILLIAMS	03-837-204.0
AO	ROBERT C. III, & ROMICA L. CRISS (SURVIVOR)	03-837-205.0
AP	ROBERT C. III, & ROMICA L. CRISS (SURVIVOR)	03-837-206.0
AQ	BANDY M. & BRENDA WILLIAMS (SURVIVOR)	03-837-207.0
AR	BANDY M. & BRENDA KAY WILLIAMS (SURVIVOR)	03-837-208.0
AS	BANDY & BRENDA WILLIAMS	03-837-209.0
AT	ALLEN LEFT & DAVID PAUL FIDRYTHIE	03-837-210.0
AU	HFS LIMITED LIABILITY COMPANY	03-837-012.0
AV	GREG PROVENZANO	03-837-009.0
AW	CAMPBELL TRANSPORTATION COMPANY INC	03-837-008.0
AX	SMITH REAL ESTATE LLC	03-837-007.0
AY	SMITH REAL ESTATE LLC	03-837-006.0
AZ	SMITH REAL ESTATE LLC	03-837-005.0

ADDITIONAL OWNERS TABLE		
TRACT	SURFACE OWNER	TRAP PAGES
BA	CAMPBELL TRANSPORTATION COMPANY INC	03-837-002.0
BB	STATE OF WEST VIRGINIA	BUFFALO CREEK
BC	STATE ROAD COMMISSION	03-837-135.0
BD	STATE ROAD COMMISSION	03-837-134.0
BE	STATE ROAD COMMISSION	03-837-133.0
BF	RICHARD H. WINE	03-837-093.0
BG	SHAWN HUFF	03-837-181.0
BH	SHAWN HUFF	03-837-180.0
BI	SHAWN HUFF	03-837-179.0
BJ	U.S. GOVERNMENT	03-837-178.0
BK	UNITED STATES OF AMERICA	03-837-164.0
BL	BEVERLY K. FUCHS	03-837-159.0
BM	UNKNOWN	03-837-025.0
BN	THOMAS L. BUTTS	03-837-001.0
BO	THOMAS L. BUTTS	03-837-003.0
BP	DANIEL E. & CASSANDRA J. KEENER (SURVIVOR)	03-837-002.0
BQ	MERLE D. ERNEST	03-837-003.0
BR	LEMONS L. ROBBIE BAUGH	03-837-004.0
BS	JOSEPH PAUL STEIN	03-837-005.0
BT	EDWARD MACIAK	03-837-001.0
BU	LUCINDA E. & WICKALIA. WICKMAN (SURVIVOR)	03-837-000.0
BV	EVA R. & GARY L. ELLIOTT (SURVIVOR)	03-837-004.0
BW	EDWARD W. & LISA M. MICHOLESON	03-837-002.0
BX	GREGORY DEITCH	03-837-001.0
BY	RONALD A. PETRUCCI (1/E ROBERT A. & MARIE ELIZABETH PETRUCCI)	03-837-003.0
BZ	RONALD A. PETRUCCI (1/E ROBERT A. & MARIE ELIZABETH PETRUCCI)	03-837-003.0
CA	GERRI A. & SUSAN L. STEWART	03-837-004.0
CB	WILLIAM WALNCHA	03-837-005.0
CC	LISH FAMILY TRUST, BEATRICE M. & EDWARD C. LISH TRUSTEES	03-837-006.0
CD	CHRISTOPHER & JACQUELINE SNORDERLY	03-837-007.0
CE	WILLIAM M. & HAZEL ANN CARTE	03-837-009.0
CF	WILLIAM D. & SHARLEY A. MUSHET	03-837-050.0
CG	JEFFREY P. JACKFERT	03-837-057.0
CH	JAY D. & KAREN S. RECK (SURVIVOR)	03-837-087.1
CI	HERBERT MCGOWAN	03-837-067.0
CJ	VENURI HOME & GARDENS LLC	03-837-061.0
CK	DOLE LEE OHLER	03-837-002.0
CL	KAY A. ELLIOTT	03-837-003.0
CM	KAY A. ELLIOTT	03-837-004.0
CN	LARRY MICHAEL & DEBORAH REBECCO (ITVS)	03-837-005.0
CO	LARRY M. & DEBORAH R. REBO (SURVIVOR)	03-837-006.0
CP	SCHIAPPA & COMPANY INC	03-837-009.0
CQ	MATTHEW PATRICK TOMENACK	03-837-009.0
CR	PAUL W. & SUSAN A. FODOR	03-837-009.0
CS	MICHAEL DELLA SERVICI	03-837-006.0
CT	JAMES E. & ANNETTE M. BEST (SURVIVOR)	03-837-203.0
CU	ALBERT & LOTTIE STEWART	03-837-050.0
CV	STARNACK INDUSTRIES	03-837-054.0
CW	SAMUEL HERVEY HUBBARD	03-837-007.0
CX	MARY & GEORGIA FEDAK	03-837-009.0
CY	JAMIE L. & LESLIE OHLER (SURVIVOR)	03-837-009.1
CZ	MARY & GEORGIA FEDAK (SURVIVOR)	03-837-100.0
DA	MARY & GEORGIA FEDAK	03-837-101.0
DB	MARY A. & GEORGIA M. FEDAK	03-837-102.0
DC	MARY A. & GEORGIA M. FEDAK	03-837-103.0
DD	MARY & GEORGIA FEDAK (SURVIVOR)	03-837-104.0
DE	LLOYD T. & JUDITH E. VAN HORN (T.O.D. AMY LYNN VAN HORN ETAL)	03-837-104.0
DF	LLOYD T. & JUDITH E. VAN HORN (T.O.D. AMY LYNN VAN HORN ETAL)	03-837-105.0
DG	LLOYD T. VAN HORN	03-837-106.0
DH	RONALD E. & SANDRA LOUISE WILLIAMS	03-837-109.0
DI	BERNARD L. & DOMINA J. MILLER	03-837-110.0
DJ	VENURI HOME & GARDENS LLC	03-837-111.0
DK	VENURI HOME & GARDENS LLC	03-837-112.0
DL	ANGREA CUFORNE	03-837-113.0
DM	HS LLC	03-837-114.0
DN	VENURI HOME & GARDENS LLC	03-837-115.0
DO	ROWDY T. GEORGETTI	03-837-116.0
DP	PHYLLIS WARKER & PATRICIA WARKER-SCHMEL (SURVIVOR)	03-837-127.0
DQ	DWARNA NATH VENURI, DBA AMERICAN HEART ASSOCIATES	03-837-047.0
DR	RICHARD RODGERS, CHERI SHARP, EDWARD OPIPER ETAL	03-837-088.0
DS	WILLIAM E. & HAZEL E. JOHNSTON (SURVIVOR)	03-837-053.1
DT	BUFFALO CREEK CAMP	03-837-051.0
DU	MARVIN G. SR. & JOY CRAWFORD	03-837-086.0
DV	JOHN E. & SHERILL J. RIPLEY (SURVIVOR) (1/E WILDA RIPLEY)	03-837-082.0
DW	JOSEPH E. & GLORIA S. SCHWAB (SURVIVOR)	03-837-086.0
DX	THANE MENDEL	03-837-011.0
DY	DIANA W. MENDEL	03-837-213.0
DZ	DANIEL P. & DARLA ANN LOMBARDI	03-837-015.0
EA	DANIEL P. & DARLA ANN LOMBARDI	03-837-015.0
EB	JOANN KREYNWIK	03-837-214.0
EC	LINDA S. WILLIAMS	03-837-194.0
ED	SARIE PARKS	03-837-193.0
EE	DEYWA A. MAZZELLA	03-837-048.0
EF	HAMMOND PUBLIC SERVICE DISTRICT	03-837-045.1

REVISIONS:	COMPANY: SWN Production Company, LLC		DATE: 06-18-2020	
	OPERATOR'S: ROBERT BONE BRK		API NO: 47-069-XXXX	
	WELL #: 47-009-00317-46A 405H		DRAWN BY: R.GRIMES	
	DISTRICT: BUFFALO	COUNTY: BROOKE	STATE: WV	SCALE: N/A
			DRAWING NO: 2017-219	
			WELL LOCATION PLAT	

COMPLETION ID: 2501168470
PAD ID: 3001155606

WW-6A1
(5/13)

Operator's Well No. _____

**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

RECEIVED
Office of Oil and Gas

JUL 28 2020

WV Department of
Environmental Protection

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

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

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

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

Well Operator: SWN Production Co., LLC

By: _____

Its: _____

Gary Nuckolls, 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 405H
 Brooke County, West Virginia

4700900319

#	TMP	LESSOR	LESSEE	ROYALTY	BK/PG
1)	03-0837-0081-0000-0000 ✓	Robert O. Bone	Chesapeake Appalachia, LLC SWN Production Company, LLC	14.00%	10/424 30/480
2)	03-0837-0050-0000-0000	John L. Latimer and Angela Latimer, and Deborah Starr	Great Lakes Energy Partners Range Resources - Appalachia, LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	14.00%	9/713 20/733 10/552 30/480
		William E. Johnston and Hazel E. Johnston	Chesapeake Appalachia, LLC	18.00%	12/298
3)	03-0837-0045-0000-0000 ✓	Schiappa Mary 74 Trust f/b/o Huberta A Siciliano JP	SWN Production Company, LLC Chesapeake Appalachia, LLC	20.00%	30/480 10/470
		Schiappa Mary 74 Trust f/b/o Teresa Schiappa	SWN Production Company, LLC Chesapeake Appalachia, LLC	20.00%	30/480 10/469
4)	03-0837-0046-0000-0000 ✓	Vivian Mazzella, a widow	SWN Production Company, LLC Chesapeake Appalachia, LLC	18.00%	30/480 14/730
5)	03-0837-0046-0001-0000 ✓	Mazella Welding and Fabrication, Inc.	SWN Production Company, LLC Chesapeake Appalachia, LLC	18.00%	30/480 14/730
6)	03-0832-0129-0000-0000 ✓	Joseph C. Morris and Penny J. Morris, husband and wife	SWN Production Company, LLC Range Resources - Appalachia, LLC	12.50%	30/480 10/304
		Ina Grace Walker, a widow	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	18/254 30/480
7)	03-0832-0130-0000-0000 ✓	James C. Ditty, a widower	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	18/265 30/480

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 Brooke County, West Virginia

Marilyn McCord, a widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/309
	SWN Production Company, LLC		30/480
Nila Helen Boyd, widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/314
	SWN Production Company, LLC		30/480
John Cheffy McCord III and Patricia McCord	Chesapeake Appalachia, LLC	18.00%	18/319
	SWN Production Company, LLC		30/480
Clinton Douglas McCord and Christy A. McCord	Chesapeake Appalachia, LLC	18.00%	18/498
	SWN Production Company, LLC		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, LLC		30/480
Ralph Johnston	SWN Production Company, LLC	18.00%	35/427
Robert Johnston	SWN Production Company, LLC	18.00%	35/416
Daniel Johnston	SWN Production Company, LLC	18.00%	35/223
Kenneth Johnston	SWN Production Company, LLC	18.00%	35/229
Brian Johnston	SWN Production Company, LLC	18.00%	35/241
Joyce A. Brady	SWN Production Company, LLC	18.00%	35/235
Ina Grace Walker, a widow	Chesapeake Appalachia, LLC	18.00%	18/254
	SWN Production Company, LLC		30/480
James C. Ditty, a widower	Chesapeake Appalachia, LLC	18.00%	18/265
	SWN Production Company, LLC		30/480
Marilyn McCord, a widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/309
	SWN Production Company, LLC		30/480
Nila Helen Boyd, widow and remarried	Chesapeake Appalachia, LLC	18.00%	18/314

8) 03-0832-0135-0000-0000

EXHIBIT A

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 Robert Bone BRK 405H
 Brooke County, West Virginia

11)	03-0832-0096-0000-0000	George Markley Lewis, a married man, dealing herein with his separate property	SWN Production Company, LLC	16.00%	34/577
		Margaret Lewis Stevens, a married woman, delaing herein with her separate property	SWN Production Company, LLC	16.00%	34/573
		Peery Britain Lewis, Jr., a married man, dealing herein with his separate property	SWN Production Company, LLC	16.00%	34/640
		David Markley Lewis, single	SWN Production Company, LLC	16.00%	34/636
		Golden Eagle Resources II, LLC	SWN Production Company, LLC	18.00%	40/586
		Samuel H Hubbard and Sheila Hubbard	Chesapeake Appalachia, LLC	18.00%	11/720
12)	03-0832-0009-0000-0000	Schiappa and Company, Inc.	SWN Production Company, LLC	15.50%	30/480
13)	03-0832-0068-0000-0000	Jay D. Reck and Karen Sue Reck	Chesapeake Appalachia, LLC	18.00%	22/313
14)	03-0832-0069-0000-0000	Patricia Sauvageot	SWN Production Company, LLC	17.00%	30/480
		Gloria Premesa	SWN Production Company, LLC	17.00%	35/567
15)	03-0832-0070-0000-0000	Floyd J. Swiger and Virginia A. Swiger	Chesapeake Appalachia, LLC	18.00%	22/318
16)	03-0832-0071-0000-0000	Floyd J. Swiger and Virginia A. Swiger	SWN Production Company, LLC	18.00%	30/480
17)	03-0832-0072-0000-0000	Jeanne L. Lunsford	Chesapeake Appalachia, LLC	18.00%	22/318
		Melanie Jeanne Lunsford	SWN Production Company, LLC	18.00%	30/480
18)	03-0832-0073-0000-0000	Edward Chester Lish and Beatrice Marie Lish	Chesapeake Appalachia, LLC	18.00%	24/242
19)	03-0832-0007-0000-0000	Nolte Van Camp and Gladys R. Van Camp	SWN Production Company, LLC	18.00%	30/480
			SWN Production Company, LLC	14.00%	22/333
			SWN Production Company, LLC		30/480
			Chesapeake Appalachia, LLC		23/41

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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 405H
 Brooke County, West Virginia

		SWN Production Company, LLC	30/480
	Charles H. Crossley and Bessie A. Crossley	Chesapeake Appalachia, LLC	23/46
		14.00%	
20)	Gertrude Louise McShane Robie and Richard Robert Robie	SWN Production Company, LLC	30/480
		SWN Production Company, LLC	33/605
		18.00%	
21)	Dorothy L. Frisco	Chesapeake Appalachia, LLC	25/291
		SWN Production Company, LLC	30/480
		14.00%	
	Nancy Gist	SWN Production Company, LLC	41/368
	Roseanna Taylor	SWN Production Company, LLC	41/433
	Patricia Jo Wnek	Chesapeake Appalachia, LLC	25/286
		SWN Production Company, LLC	30/480
		14%	
22)	Nila and Stanley Potkoski	SWN Production Company, LLC	34/386
23)	Nila and Stanley Potkoski	SWN Production Company, LLC	34/386
24)	Ronald E. and Sandra L. Williams	SWN Production Company, LLC	38/348
25)	George L. and Maria June Killien	SWN Production Company, LLC	39/367
26)	Ronald E. and Sandra L. Williams	SWN Production Company, LLC	38/352
27)	Ronald E. and Sandra L. Williams	SWN Production Company, LLC	38/352
28)	Linda Sue Williams	SWN Production Company, LLC	48/393
29)	Linda Sue Williams	SWN Production Company, LLC	39/372
30)	Daniel P. and Darla Ann Lombardi	Chesapeake Appalachia, LLC	19/202
		SWN Production Company, LLC	30/480
		14.00%	
31)	Brooke County Board of Education	Chesapeake Appalachia, LLC	23/763,
		18.00%	26/181
			30/480
		SWN Production Company, LLC	19/202
	Daniel P. and Darla Ann Lombardi	Chesapeake Appalachia, LLC	30/480
		SWN Production Company, LLC	30/480
		14.00%	
32)	Brooke County Board of Education	Chesapeake Appalachia, LLC	23/763,
		18.00%	26/181
			30/480
		SWN Production Company, LLC	30/480

4700900319

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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 405H
 Brooke County, West Virginia

33)	03-0B27-0004-0000-0000	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20%	55/301
34)	State Route 2	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20%	55/301
35)	03-0B27-0011-0000-0000	West Virginia Department of Transportation, Division of Highways	SWN Production Company, LLC	20%	55/301
36)	03-0B27-0003-0000-0000	HFS Limited Liability Company	Chesapeake Appalachia, LLC SWN Production Company, LLC	18.00%	15/394 30/480
37)	Ohio River	State of West Virginia, Department of Commerce, Division of Natural Resources	SWN Production Company, LLC	15%	55/479

4700900319

June 26, 2020

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 405H in Brooke County, West Virginia, Drilling under WV-2, Greens Run Road, Hukill Run Road, Bethany Pike, Coss Road, and McCord Hill Road.

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 WV-2, Greens Run Road, Hukill Run Road, Bethany Pike, Coss Road, and McCord Hill Road. 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



The Right People doing the Right Things,
wisely investing the cash flow from our
underlying Assets, will create Value+[®]

4700900319

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

Date of Notice Certification: 7/27

API No. 47- 009 -
Operator's Well No. Robert Bone BRK 405H
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>583,830.53</u>
County:	<u>009-Brook</u>	UTM NAD 83 Northing:	<u>4,452,134.51</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>HOKILL Run Road</u>
Quadrangle:	<u>Bethany/Staubenville 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.

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:

*PLEASE CHECK ALL THAT APPLY

- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
- 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or
 WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- 4. NOTICE OF PLANNED OPERATION
- 5. PUBLIC NOTICE
- 6. NOTICE OF APPLICATION

RECEIVED
Office of Oil and Gas
JUL 28 2020
WV Department of
Environmental Protection

OOG OFFICE USE ONLY	
<input type="checkbox"/>	RECEIVED/ NOT REQUIRED
<input type="checkbox"/>	RECEIVED
<input checked="" type="checkbox"/>	RECEIVED/ NOT REQUIRED
<input type="checkbox"/>	RECEIVED
<input checked="" type="checkbox"/>	RECEIVED
<input checked="" type="checkbox"/>	RECEIVED

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.

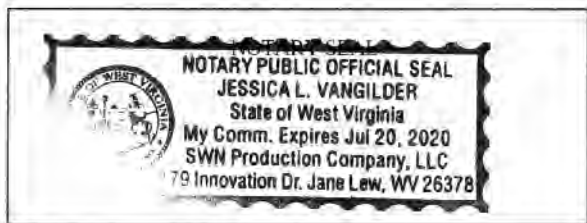
4700000319

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 16th day of July, 2020
Jessica L. Vangilder 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.

RECEIVED
 Office of Oil and Gas
 JUL 28 2020
 WV Department of
 Environmental Protection

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

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

Date of Notice: 7/27 Date Permit Application Filed: 7/27

RECEIVED
Office of Oil and Gas

JUL 28 2020

WV Department of
Environmental Protection

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
Wellburg, WV 26070

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

Name: _____
Address: _____

COAL OPERATOR
Name: _____
Address: _____

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

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

Name: _____
Address: _____

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

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

*Please attach additional forms if necessary

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: 7/21 Date Permit Application Filed: 7/21

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.

RECEIVED
Office of Oil and Gas

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to JUL 28 2020

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: Wheating-Pittsburgh Corp.
Address: 1154 Market Street
Wheating, WV 26083

WV Department of
Environmental Protection

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

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.denr.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.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.

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 16th day of July, 2020.
Jessica L. VanMilder Notary Public
My Commission Expires 7-20-20

4700900319

ATTACHMENT 13








PARID	OWNER	ADDRESS	CITY	STATE	ZIP	WATERSOURCE
03 B37008100000000	BONE ROBERT O	611 PAW PAW RIDGE LN	WELLSBURG	WV	26070	2
03 B37008400000000	TOBER KAREN K	PO BOX 154	WINDSOR HEIGHTS	WV	26075	1

RECEIVED
Office of Oil and Gas

JUL 28 2020

WV Department of
Environmental Protection

4700900319

Date: 6/25/2020 Author: Willisb		Coordinates: 40.218917, -80.602435	Units: Meter Coordinate System: NAD 1983 UTM Zone 17N
Southwestern Energy 			
Water Purveyor Map Well Pad: Robert Bone County: BRK		Spring 	 1 in = 417 ft
		1500' Buffer 	Water Well 
		Parcel 	Pond 



**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: 06/15/2020 **Date Permit Application Filed:** 7/1/20

RECEIVED
Office of Oil and Gas

JUL 28 2020

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

HAND DELIVERY CERTIFIED MAIL RETURN RECEIPT REQUESTED

WV Department of Environmental Protection

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall 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>533,830.53</u>
County:	<u>Brooke</u>	UTM NAD 83 Northing:	<u>4,452,134.51</u>
District:	<u>Buffalo</u>	Public Road Access:	<u>Hickill Run Road</u>
Quadrangle:	<u>Bethany, WV & East Staubenville, 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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov

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

RECEIVED
Office of Oil and Gas
JUL 28 2011
WV Department of
Environmental Protection

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**
Date of Notice: 06/15/2010 **Date Permit Application Filed:** 7/18/11

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

- CERTIFIED MAIL HAND DELIVERY
- RETURN RECEIPT REQUESTED DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s)

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

Name: <u>Robert Bone</u>	Name: _____
Address: <u>611 Paw Paw Ridge Ln</u>	Address: _____
<u>Wellsburg, WV 26070</u>	

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>539,830.53</u>
County: <u>Brooke</u>	Northing: <u>4,452,134.51</u>
District: <u>Buffalo</u>	Public Road Access: <u>Hukill Run Road</u>
Quadrangle: <u>Bethany, WV & East Steuvenville, 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: <u>SWN Production Company, LLC</u>	Address: <u>1300 Fort Pierpont Dr., Suite 201</u>
Telephone: <u>304-231-8329</u>	<u>Morgantown, WV 26508</u>
Email: <u>Reid_Groff@swn.com</u>	Facsimile: <u>304-884-1691</u>

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.



4700900319

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/
Commissioner of Highways

September 3, 2019

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

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

RECEIVED
Office of Oil and Gas

JUL 28 2020

WV Department of
Environmental Protection

Subject: DOH Permit for the Robert Bone Pad, Brooke County
Robert Bone BRK 405H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2011-0364 which has been issued to Southwestern Energy 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,

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
		Butylcellulose	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	127-08-1
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, Exoalkylated 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
GYPTRON T-390 (Champion Technologies)	Scale Inhibitor	Inorganic Salt	Proprietary
		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
DPTI-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, Exoalkylated	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, Exoalkylated	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
Plexaid 655 NM	Scale Inhibitor	Diethylenetriamine penta (methylene phosphonic acid)	15827-30-8
Plexslick 922	no data available	Copolymer of 2-propenamide	69418-26-4
		Distillates (petroleum), hydrotreated light	64742-47-8
		Ammonium chloride ((NH4)Cl)	12125-02-9
		Oleic Acid Diethanolamide	93-83-4
Tolcide PSS0A	Biocidal product	Tetrakis (hydroxymethyl) phosphonium sulphate	55566-30-8
		Acrylic acid terpolymer containing carboxylate phosphonate and sulfonate groups	397256-50-7
LD-2950	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8
		Ethoxylated alcohol	Proprietary
		Poly (oxy-1,2-ethanediyl) alpha,-tridecyl-omega,-hydroxy-, branched	69011-36-5
Legend LD-7750W	Scale Control	Methanol	67-56-1
		Phosphonic Acid Salt	Proprietary
MC MX 8-4743	Specialty Product	Sodium Nitrate	7631-99-4

As of 1/16/2020

OPERATOR: SWN Production Co., LLC WELL NO: Robert Bone BRK 405H

PAD NAME: Robert Bone BRK Pad

REVIEWED BY: _____ SIGNATURE: Brittany Moody

WELL RESTRICTIONS CHECKLIST

HORIZONTAL 6A WELL

**Pad Built 9/22/11*

Well Restrictions

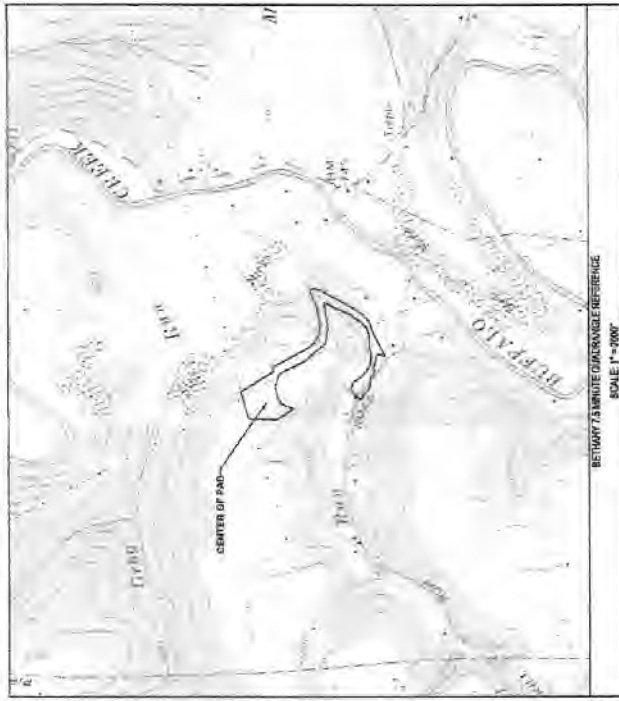
- At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR
 - DEP Waiver and Permit Conditions
- At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR
 - DEP Waiver and Permit Conditions
- At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR
 - DEP Waiver and Permit Conditions
- At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR
 - Surface Owner Waiver and Recorded with County Clerk. OR
 - DEP Variance and Permit Conditions
- At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR
 - Surface Owner Waiver and Recorded with County Clerk. OR
 - DEP Variance and Permit Conditions
- At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR
 - Surface Owner Waiver and Recorded with County Clerk, OR
 - DEP Variance and Permit Conditions

RECEIVED
Office of Oil and Gas
JUL 28 2020
WV Department of
Environmental Protection

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 NRS 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.

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



COORDINATES:
CENTER OF PAD
 (NAD 83)
 LAT: 40.218938°
 LONG: -80.602417°
SITE ENTRANCE
 (NAD 83)
 LAT: 40.214996°
 LONG: -80.601844°

LANDS NIF OF
 BONE ROBERT O
 TMP # (05-03-B37-0081)
 LIMIT OF DISTURBANCE = 17.54
 ACRES

Handwritten notes:
 8.12.19
 7-10-20

PROJECT CONTACTS
OPERATOR:
 SOUTHWESTERN ENERGY, LLC
 1309 FORT PIERPONT DRIVE
 MIDGANTOWN, WV 26508
 PHONE: (804) 884-3666
 WWW.SWN.COM

PROJECT COORDINATOR:
 KALAB TAYLOR
 SOUTHWESTERN ENERGY, LLC
 FIELD PLANNING SUPERVISOR - WV DIV.
 1300 FORT PIERPONT DRIVE
 MORGANTOWN, WV 26508
 PHONE: (804) 884-3630
 EMAIL: KALAB_TAYLOR@SWN.COM

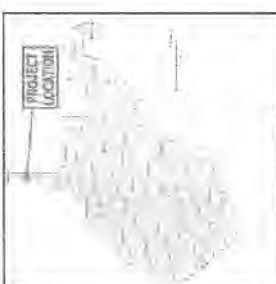
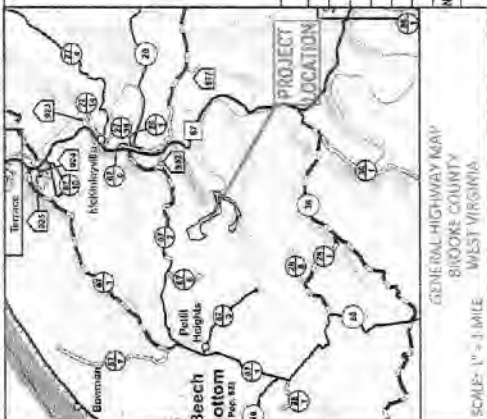
ENGINEER
 JHA COMPANIES
 88011 VINEYARD ROAD
 ST. CLAIRSVILLE, OHIO 43950
 PHONE: (740) 285-6898

PROJECT MANAGER:
 CHRIS WADDELL

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

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.

DWG. NO	DRAWING DESCRIPTION
C-001	COVER SHEET
C-002 - C-003	EVACUATION ROUTE / PREVAILING WINDS
C-101 - C-108	EXISTING CONDITIONS
C-201 - C-208	GRADING / EROSION AND SITE PLANS
C-401 - C-405	PROFILES
C501 - C-521	DETAILS



NO.	DTE	DESCRIPTION

PREPARED FOR:
 AMSS UTILITY OF WEST VIRGINIA
 800-245-4648

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 88011 VINEYARD ROAD
 ST. CLAIRSVILLE, OH 43950
 (740) 285-6100
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PROJECT NO.	DATE	SCALE	PROJECT NAME	PROJECT LOCATION
2019-083	10/20/19	AS NOTED	ROBERT BONE BRK SLIP REPAIR	LOCATED IN BUFFALO DISTRICT, BROOKE COUNTY, WEST VIRGINIA

PLANTING	COVER SHEET	SHEET NO.
	FINAL	C.001

THESE DRAWINGS SHALL NOT BE REPRODUCED OR COPIED WITHOUT THE SPECIFIC WRITTEN PERMISSION OF JHA COMPANIES