



 west virginia department of environmental protection

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

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

Thursday, May 9, 2019

WELL WORK PLUGGING PERMIT
 Vertical Plugging

BOONE EAST DEVELOPMENT CO., LLC
 PO BOX 261

JULIAN, WV 25529

Re: Permit approval for Ritter 29
 47-109-00120-00-00

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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, 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: Ritter 29
 Farm Name: RITTER, W. M. LMBR. CO.
 U.S. WELL NUMBER: 47-109-00120-00-00
 Vertical Plugging
 Date Issued: 5/9/2019

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05/10/2019

PERMIT CONDITIONS

West Virginia Code §22-6-11 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. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

05/10/2019

WW-4B
Rev. 2/01

1) Date 01/30, 2019
2) Operator's
Well No. Ritter Lumber Co #29
3) API Well No. 47-109-00120

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil ___ / Gas X / Liquid injection ___ / Waste disposal ___ /
(If "Gas, Production X or Underground storage ___) Deep X / Shallow ___

5) Location: Elevation 1516.4 Watershed Upper Big Branch of Guyandotte River
District Center County Wyoming Quadrangle Pineville

6) Well Operator Boone East Development Co., LLC 7) Designated Agent Timothy Ryan McGrady
Address 636 Shelby Street, 3rd Floor Address 300 Running Right Way, PO Box 261
Bristol, TN 37620 Julian, WV 25529

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Gary Kennedy Name Ultra Production Company, LLC
Address 66 Old Church Lane Address PO Box 289
Pipestem, WV 25979 Cedar Bluff, VA 24609

10) Work Order: The work order for the manner of plugging this well is as follows:

See attached Plugging Prognosis.

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MSHA 101 C
EXEMPTION

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *Gary Kennedy* Date 3/7/19

05/10/2019

Plugging Prognosis
47-109-00120

WW-4B Attachment

Procedures:

- Approved
JAN 4/26/19
- 1 Notify State and Federal Agencies 48 hours prior to starting.
 - 2 Disassemble surface facilities and gain access to the well head.
 - 3 Tool in hole with the logging probes.
 - 4 Pull 3-1/2" casing. If it doesn't pull, shoot it off at lowest possible joint and remove.
 - 5 Repeat bond log if necessary for 7" casing.
 - 6 Pull 7" casing. If it doesn't pull, shoot it off at lowest possible joint and remove.
 - 7 Repeat bond log if necessary for 8-5/8" casing.
 - 8 Pull 8-5/8" casing. If it doesn't pull, shoot it off at lowest possible joint and remove.
 - 9 Run Bond and E-Logs for 10-3/4" casing.
 - 10 If 10-3/4" casing doesn't pull and cannot be shot off below the lowest mineable coal seam, it will be cut, milled, ripped or perforated at 50 ft. intervals beginning 200 ft. below the lowest mineable coal seam to at least 100 ft. above the upper most mineable coal seam. The casing will also be cut, milled, ripped or perforated at 5 ft. intervals for each minable seam beginning 10 ft. below to 10 ft. above each seam.
 - 11 Expanding cement (minimum of 0.5% expansion upon setting) will be pumped under pressure (at least 200psi) from the total depth to surface.
 - 12 Set Monument according to WV DEP 35CSR4 specifications and reclaim the site.
 - 13 Complete and submit the Plugging Affidavit.

Notes:

- MUST NOTIFY INSPECTOR TO GAIN APPROVAL FOR AN ALTERNATIVE PLUGGING METHOD.
JAN 4/26/19
- 1 If removing any section of casing could possibly damage the integrity of the well and thus hinder the remainder of the plugging process, a bridge plug will be set at least 200 ft. below the lowest mineable seam. All remaining casing above the plug will then be treated as described in Step 10 and the well will be plugged as described in Step 11.
 - 2 If the operator encounters any situation that may affect the validity of the plugging procedure or cause any safety concerns, the appropriate agencies will be notified.

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U.S. Department of Labor

Mine Safety and Health Administration
 201 12th Street South, Suite 401
 Arlington, Virginia 22202-5452



JAN 18 2019

In the matter of:

Spartan Mining Company, LLC
 Road Fork # 52 Mine
 I.D. No. 46-09522

MSHA IDIC
 EXEMPTION

Petition for Modification

Docket No. M-2018-015-C

PROPOSED DECISION AND ORDER

On May 11, 2018, a petition was filed seeking a modification of the application of 30 C.F.R. § 75.1700 to Spartan Mining Company, LLC's Road Fork # 52 Mine located in Wyoming County, West Virginia. The Petitioner filed the petition to permit an alternative method of compliance with the standard with respect to vertical oil and gas wells into the underground coal seams. The Petitioner alleges that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded miners under 30 C.F.R. § 75.1700 as that provided by the standard, which states:

§ 75.1700 Oil and gas wells.

Each operator of a coal mine shall take reasonable measures to locate oil and gas wells penetrating coalbeds or any underground area of a coal mine. When located, such operator shall establish and maintain barriers around such oil and gas wells in accordance with State laws and regulations, except that such barriers shall not be less than 300 feet in diameter, unless the Secretary or his authorized representative permits a lesser barrier consistent with the applicable State laws and regulations where such lesser barrier will be adequate to protect against hazards from such wells to the miners in such mine, or unless the Secretary or his authorized representative requires a greater barrier where the depth of the mine, other geologic conditions, or other factors warrant such a greater barrier.

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The petition addresses items for which district manager approval is required, procedures for cleaning out and preparing oil and gas wells prior to plugging or re-plugging, procedures for plugging or re-plugging oil or gas wells to the surface, procedures for plugging or re-plugging oil or gas wells for use as degasification boreholes, alternative procedures for preparing and plugging or re-plugging oil or gas wells, and procedures after approval has been granted to mine through a plugged or re-plugged well.

On June 6, 2018 MSHA personnel conducted an investigation of the petition and filed a report of their findings with the Administrator for Coal Mine Safety and Health. After a careful review of the entire record, including the petition, MSHA's investigative report and comments received from several miners from Road Fork # 52 Mine, this Proposed Decision and Order is issued.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The Road Fork # 52 Mine is currently under development and employs 5 to 30 contract miners including supervisory personnel developing the belt and supply slope into the Pocahontas No. 3 seam. The average coal seam height is 48 inches. The Road Fork #52 Mine is currently in non-producing status and eventually will operate two continuous miner sections producing coal five to six days per week. The slope construction is ventilated with a blowing fan. The methane liberations for this mine have not yet been determined. No methane has been encountered during the slope construction.

The miners at this mine are not represented by a labor union; nor do they have a designated miner's representative.

Although MSHA has granted modifications of this standard at different mines over the years, changing circumstances in oil and gas drilling technology and practices compels MSHA to reconsider the safest approach to mining around or through such wells. In recent years, changes in hydraulic fracturing (fracking) technology, marketplace and resource conditions have led to an increase in the number and depth of oil and gas wells penetrating the Pittsburgh and other coal seams. Since deeper wells are usually associated with higher well pressures, modifications of § 75.1700 must include appropriate measures to better protect miners. In addition to the risks associated with higher well pressures, MSHA is concerned that operators may be preparing and plugging wells to inadequate depths for convenience or to lower costs, which may result in reduced safety for miners.

This PDO addresses these concerns as they affect the Road Fork # 52 Mine. There are several differences between the petitioner's proposal and the amended terms and conditions set forth by MSHA. The essential changes include:

1. Making a diligent effort to clean out the well bore to the original total depth. MSHA believes that cleaning wells to the original total depth provides miners

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with a higher degree of safety by ensuring all gas producing zones have been effectively sealed.

2. Unknown total depth: If the total depth of the well is unknown the operator must contact the District Manager before proceeding. MSHA believes, by including this step in the process, that miner safety will be better served because the petitioner and the District Manager can work together to evaluate the conditions of the well to be plugged as well as the safest way to accomplish the plugging.

As stated in petitioner's petition for modification on page 3, item 8, "the first such vertical well to be encountered in the mine plan for the Road Fork #52 Mine is the well with an API of 47-109-00120. United Producing Company drilled this vertical gas well from March to July in 1946. EQT Production currently operates the producing well. The well was drilled to a depth of 3450 feet. The Pocahontas No. 3 seam was drilled through by the vertical well at a depth of +/- 608 feet. Casing of 3 1/2", 7", 8 5/8", and 10 3/4" was left in the well to below the No. 3 seam."

In the petitioner's item 11, page 3, **Procedure for cleaning, preparing and plugging oil and gas wells. Section b, Plugging oil or gas wells to the surface.** The following procedures shall be utilized when plugging gas or oil wells to the surface:

1) A cement plug shall be set in the wellbore by pumping an expanding cement slurry down the tubing to displace the gel and fill the borehole to the surface. (As an alternative, the cement slurry may be pumped down the tubing so that the borehole is filled with Portland cement or a Portland cement-fly ash mixture from a point approximately 100 feet above the top of the lowest mineable coalbed to the surface with an expanding cement plug extending from at least 200 feet below the lowest mineable coalbed to the bottom of the Portland cement.) There shall be at least 200 feet of expanding cement below the base of the lowest mineable coalbed.

The terms and conditions required by MSHA will prepare these wells for safe intersection by making a diligent effort to clean the wells to the original total depth, removing all casing and plugging to the total depth by pumping expanding cement slurry and pressurizing to at least 200 psi. If the total depth cannot be reached and casing cannot be removed, these alternative methods included in this proposed decision and order have proven safe and effective when properly implemented.

Therefore, the terms and conditions as amended by MSHA will at all times guarantee no less than the same measure of protection afforded the miners under 30 CFR 75.1700 for wells at least 2,000 to 4,000 feet or greater in depth. On the basis of the petition, comments received, and the findings of MSHA's investigation, Spartan Mining Company, LLC is granted a modification of the application of 30 C.F.R. § 75.1700 to its Road Fork # 52 Mine .

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ORDER

Under the authority delegated by the Secretary of Labor to the Administrator for Coal Mine Safety and Health, and under § 101(c) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 811(c), and 30 C.F.R. Part 44, a modification of the application of 30 C.F.R. § 75.1700 at Spartan Mining Company, LLC's Road Fork # 52 Mine is hereby:

GRANTED, subject to the following terms and conditions:

1. DISTRICT MANAGER APPROVAL REQUIRED

- a. The type of oil or gas well that will be considered under this Petition includes wells that have been depleted of oil or gas production or have not produced oil or gas and may have been plugged, or active conventional vertical wells which are not producing gas or oil, subject to the provisions below. **Unconventional wells in the Marcellus, Utica, and all other unconventional shale oil and gas wells are not subject to this modification.** Nothing in these provisions is meant to lessen, diminish, or substitute any provision found in applicable state laws or regulations.
- b. A safety barrier of 300 feet in diameter (150 feet between any mined area and a well) shall be maintained around all oil and gas wells (defined herein to include all active, inactive, abandoned, shut-in, previously plugged wells, water injection wells, and carbon dioxide sequestration wells) until approval to proceed with mining has been obtained from the district manager.

Wells that were drilled into potential oil or gas producing formations that did not produce commercial quantities of either gas or oil (exploratory wells, wildcat wells or dry holes) are classified as oil or gas wells by MSHA.

- c. Prior to mining within the safety barrier around any well that the mine plans to intersect, the mine operator shall provide to the district manager a sworn affidavit or declaration executed by a company official stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed as described by the terms and conditions of this order.

The affidavit or declaration must be accompanied by all logs described in subparagraphs 2(a)(2) and 2(a)(3) below and any other records described in those subparagraphs which the district manager may request. The district manager will review the affidavit or declaration, the logs and any other records that have been requested, and may inspect the well itself, and will then determine if the operator has complied with the procedures for cleaning out, preparing, and plugging each well as described by the terms and conditions of

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this Order. If the district manager determines that the procedures have been complied with, he will provide his approval, and the mine operator may then mine within the safety barrier of the well, subject to the terms of this Order.

If well intersection is not planned, the mine operator may request a permit to reduce the 300 foot diameter of the safety barrier that does not include intersection of the well. The district manager may require documents and information that help verify the accuracy of the location of the well in respect to the mine maps and mining projections.

This information may include survey closure data, down-hole well deviation logs, historical well intersection location data and any additional data required by the district manager. If the district manager determines that the proposed barrier reduction is reasonable, he will provide his approval, and the mine operator may then mine within the safety barrier of the well.

- d. The terms and conditions of this Order apply to all types of underground coal mining.

2. **MANDATORY PROCEDURES FOR CLEANING OUT, PREPARING, PLUGGING, AND RE-PLUGGING OIL OR GAS WELLS**

a. **MANDATORY PROCEDURES FOR CLEANING OUT AND PREPARING VERTICAL OIL AND GAS WELLS PRIOR TO PLUGGING OR RE-PLUGGING**

The mine operator shall test for gas emissions inside the hole before cleaning out, preparing, plugging, and re-plugging oil and gas wells. The District Manager shall be contacted if gas is being produced.

- (1) A diligent effort shall be made to clean the well to the original total depth. The mine operator shall contact the District Manager prior to stopping the operation to pull casing or clean out the total depth of the well.

If this depth cannot be reached, and the total depth of the well is less than 4,000 feet, the operator shall completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam, unless the district manager requires cleaning to a greater depth based on his judgment as to what is required due to the geological strata, or due to the pressure within the well. The operator shall provide the district manager with all information it possesses concerning the geological nature of the strata and the pressure of the well. If the total depth of the well is 4,000 feet, or greater, the operator shall completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam. Wells of this greater depth are under greater pressure, so the 400 feet requirement

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provides greater protection for miners. The operator shall remove all material from the entire diameter of the well, wall to wall. If the total depth of the well is unknown and there is no historical information, the mine operator must contact the District Manager before proceeding.

- (2) The operator shall prepare down-hole logs for each well. Logs shall consist of a caliper survey, a gamma log, a bond log and a deviation survey for determining the top, bottom, and thickness of all coal seams down to the lowest minable coal seam, potential hydrocarbon producing strata and the location of any existing bridge plug. In addition, a journal shall be maintained describing the depth of each material encountered; the nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; length of casing(s) removed, perforated or ripped or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well shall be maintained as part of this journal and provided to MSHA upon request.
- (3) When cleaning out the well as provided for in subparagraph (a)(1), the operator shall make a diligent effort to remove all of the casing in the well. After the well is completely cleaned out and all the casing removed, the well should be plugged to the total depth by pumping expanding cement slurry and pressurizing to at least 200 psi. If the casing cannot be removed, it must be cut, milled, perforated or ripped at all mineable coal seam levels to facilitate the removal of any remaining casing in the coal seam by the mining equipment. Any casing which remains shall be perforated or ripped to permit the injection of cement into voids within and around the well. All casing remaining at mineable coal seam levels shall be perforated or ripped at least every 5 feet from 10 feet below the coal seam to 10 feet above the coal seam.

Perforations or rips are required at least every 50 feet from 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. See Appendix A. The mine operator must take appropriate steps to ensure that the annulus between the casing and the well walls are filled with expanding (minimum 0.5% expansion upon setting) cement and contain no voids.

If it is not possible to remove all of the casing, the operator shall notify the District Manager before any other work is performed. **If the well cannot be cleaned out or the casing removed, the operator shall prepare the well as described from the surface to at least 200 feet below the base of the lowest mineable coal seam for wells less than 4000 feet in depth and 400 feet below**

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the lowest mineable coal seam for wells 4000 feet or greater, unless the District Manager requires cleaning out and removal of casing to a greater depth based on his judgement as to what is required due to geological strata, or due to the pressure within the well.

If the operator, using a casing bond log can demonstrate to the satisfaction of the district manager that all annuli in the well are already adequately sealed with cement, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), any casing which remains shall be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used in lieu of ripping or perforating multiple strings.

- (4) If the District Manager concludes that the completely cleaned-out well is emitting excessive amounts of gas, the operator must place a mechanical bridge plug in the well. It must be placed in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the district manager requires a greater distance based on his judgment that it is required due to the geological strata, or due to the pressure within the well. The operator shall provide the District Manager with all information it possesses concerning the geological nature of the strata and the pressure of the well. If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used. The mine operator shall document what has been done to "kill the well" and plug the hydrocarbon producing strata.
- (5) If the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the coal seam to be mined, or the lowest minable coal seam, whichever is lower, the operator shall properly place mechanical bridge plugs as described in subparagraph (a)(4) to isolate the hydrocarbon-producing stratum from the expanding cement plug. Nevertheless, the operator shall place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the district manager requires a greater distance based on his judgment that it is required due to the geological strata, or due to the pressure within the well.

b. MANDATORY PROCEDURES FOR PLUGGING OR RE-PLUGGING OIL OR GAS WELLS TO THE SURFACE

After completely cleaning out the well as specified in paragraph 2(a) above, the following procedures shall be used to plug or re-plug wells:

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- (1) The operator shall pump expanding cement slurry down the well to form a plug which runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the of the coal seam to be mined, or the lowest mineable coal seam (or lower if required by the district manager based on his judgment that a lower depth is required due to the geological strata, or due to the pressure within the well) to the surface. The expanding cement will be placed in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the district manager based on his judgment that a higher distance is required due to the geological strata, or due to the pressure within the well) to the surface.
- (2) The operator shall embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, a 4-inch or larger diameter casing, set in cement, shall extend at least 36 inches above the ground level with the API well number engraved or welded on the casing. When the hole cannot be marked with a physical monument (e.g. prime farmland), high-resolution GPS coordinates (one-half meter resolution) are required.

c. MANDATORY PROCEDURES FOR PLUGGING OR RE-PLUGGING OIL AND GAS WELLS FOR USE AS DEGASIFICATION WELLS

After completely cleaning out the well as specified in paragraph 2(a) above, the following procedures shall be utilized when plugging or re-plugging wells that are to be used as degasification wells:

- (1) The operator shall set a cement plug in the well by pumping an expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the coal seam to be mined, or the lowest mineable coal seam whichever is lower, unless the District Manager requires a greater depth based on his judgment that a greater depth is required due to the geological strata, or due to the pressure within the well. The expanding cement will be placed in the well under a pressure of at least 200 pounds per square inch. The top of the expanding cement shall extend at least 50 feet above the top of the coal seam being mined, unless the District Manager requires a greater distance based on his judgment that a greater distance is required due to the geological strata, or due to the pressure within the well.

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- (2) The operator shall securely grout into the bedrock of the upper portion of the degasification well a suitable casing in order to protect it. The remainder of this well may be cased or uncased.
- (3) The operator shall fit the top of the degasification casing with a wellhead equipped as required by the district manager in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (4) Operation of the degasification well shall be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.
- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, the operator must plug all degasification wells using the following procedures:
 - (i) The operator shall insert a tube to the bottom of the well or, if not possible, to within 100 feet above the coal seam being mined. Any blockage must be removed to ensure that the tube can be inserted to this depth.
 - (ii) The operator shall set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
 - (iii) The operator shall embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, a 4-inch or larger casing, set in cement, shall extend at least 36 inches above the ground level with the API well number engraved or welded on the casing.
 - (iv) This provision does not apply to traditional degasification holes which have not intersected the seam to be mined, have not commercially produced gas and have no API number.

d. MANDATORY ALTERNATIVE PROCEDURES FOR PREPARING AND PLUGGING OR RE-PLUGGING OIL OR GAS WELLS

The following provisions apply to all wells which the operator determines, and with which the MSHA district manager agrees, cannot be completely cleaned out due to damage to the well caused by subsidence, caving, or other factors.

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- (1) The operator shall drill a hole adjacent and parallel to the well, to a depth of at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the coal seam to be mined, or the lowest mineable coal seam, whichever is lower, unless the district manager requires a greater depth based on his judgment that a greater depth is required due to the geological strata, or due to the pressure within the well.

The operator shall use a geophysical sensing device to locate any casing which may remain in the well.

- (2) If the well contains casing(s), the operator shall drill into the well from the parallel hole. From 10 feet below the coal seam to 10 feet above the coal seam, the operator shall perforate or rip all casings at least every 5 feet. Beyond this distance, the operator shall perforate or rip at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the coal seam to be mined, or the lowest mineable coal seam, whichever is lower, up to 100 feet above the seam being mined, unless the district manager requires a greater distance based on his judgment that a greater distance is required due to the geological strata, or due to the pressure within the well. The diagram shown in Appendix A is representative of the locations of the perforations or ripping that must be done.

The operator shall fill the annulus between the casings and between the casings and the well wall with expanding (minimum 0.5% expansion upon setting) cement, and shall ensure that these areas contain no voids. If the operator, using a casing bond log, can demonstrate to the satisfaction of the district manager that the annulus of the well is adequately sealed with cement, then the operator will not be required to perforate or rip the casing for that particular well, or fill these areas with cement. When multiple casing and tubing strings are present in the coal horizon(s), any casing which remains shall be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used in lieu of ripping or perforating multiple strings.

- (3) Where the operator determines, and the District Manager agrees, that there is insufficient casing in the well to allow the method outlined in subparagraph (d)(3) to be used, then the operator shall use a horizontal hydraulic fracturing technique to intercept the original well. From at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the coal seam to be mined, or the lowest mineable coal seam, whichever is lower, to a point at least 50 feet above the seam

being mined, the operator shall fracture in at least six places at intervals to be agreed upon by the operator and the District Manager after considering the geological strata and the pressure within the well. The operator shall then pump expanding cement into the fractured well in sufficient quantities and in a manner which fills all intercepted voids.

- (4) The operator shall prepare down-hole logs for each well. Logs shall consist of a caliper survey, a gamma log, a bond log and a deviation survey for determining the top, bottom, and thickness of all coal seams down to the coal seam to be mined, or lowest minable coal seam, whichever is lower, potential hydrocarbon producing strata and the location of any existing bridge plug. The operator may obtain the logs from the adjacent hole rather than the well if the condition of the well makes it impractical to insert the equipment necessary to obtain the log.
- (5) A journal shall be maintained describing the depth of each material encountered; the nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; length of casing(s) removed, perforated or ripped or left in place; any sections where casing was cut or milled; and other pertinent information concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well shall be maintained as part of this journal and provided to MSHA upon request.
- (6) After the operator has plugged the well as described in subparagraphs (d)(3) and/or (d)(4), the operator shall plug the adjacent hole, from the bottom to the surface, with Portland cement or a lightweight cement mixture.

The operator shall embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as permanent magnetic monument of the well. In the alternative, a 4-inch or larger casing, set in cement, shall extend at least 36 inches above the ground level.

A combination of the methods outlined in subparagraphs (d)(3) and (d)(4) may have to be used in a single well, depending upon the conditions of the hole and the presence of casings. The operator and the District Manager shall discuss the nature of each hole. The District Manager may require that more than one method be utilized. The mine operator may submit an alternative plan to the district manager for approval to use different methods to address wells that cannot be completely cleaned out. The District Manager may require additional documentation and certification by a registered petroleum engineer to support the proposed alternative methods.

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3. MANDATORY PROCEDURES WHEN MINING WITHIN A 100-FOOT DIAMETER BARRIER AROUND WELL

- a. A representative of the operator, a representative of the miners, the appropriate State agency, or the MSHA District Manager may request that a conference be conducted prior to intersecting any plugged or re-plugged well. Upon receipt of any such request, the District Manager shall schedule such a conference. The party requesting the conference shall notify all other parties listed above within a reasonable time prior to the conference to provide opportunity for participation. The purpose of the conference shall be to review, evaluate, and accommodate any abnormal or unusual circumstance related to the condition of the well or surrounding strata when such conditions are encountered.
- b. The operator shall intersect a well on a shift approved by the District Manager. The operator shall notify the District Manager and the miners' representative in sufficient time prior to intersecting a well in order to provide an opportunity to have representatives present.
- c. When using continuous mining methods, the operator shall install drivage sights at the last open crosscut near the place to be mined to ensure intersection of the well. The drivage sites shall not be more than 50 feet from the well.

When using longwall-mining methods, distance markers shall be installed on 5-foot centers for a distance of 50 feet in advance of the well in the headgate entry and in the tailgate entry.

- d. The operator shall ensure that fire-fighting equipment including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the well intersection (when either the conventional or continuous mining method is used) is available and operable during all well intersections. The fire hose shall be located in the last open crosscut of the entry or room. The operator shall maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section. When the longwall mining method is used, a hose to the longwall water supply is sufficient.
- e. The operator shall ensure that sufficient supplies of roof support and ventilation materials shall be available and located at the last open crosscut. In addition, emergency plugs and suitable sealing materials shall be available in the immediate area of the well intersection.

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- f. On the shift prior to intersecting the well, the operator shall service all equipment and check it for permissibility. Water sprays, water pressures, and water flow rates used for dust and spark suppression shall be examined and any deficiencies corrected.
- g. The operator shall calibrate the methane monitor(s) on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to intersecting the well.
- h. When mining is in progress, the operator shall perform tests for methane with a handheld methane detector at least every 10 minutes from the time that mining with the continuous mining machine or longwall face is within 30 feet of the well until the well is intersected. During the actual cutting process, no individual shall be allowed on the return side until the well intersection has been completed, and the area has been examined and declared safe. All workplace examinations on the return side of the shearer will be conducted while the shearer is idle. The operator's most current Approved Ventilation Plan will be followed at all times unless the District Manager deems a greater air velocity for the intersect is necessary.
- i. When using continuous or conventional mining methods, the working place shall be free from accumulations of coal dust and coal spillages, and rock dust shall be placed on the roof, rib, and floor to within 20 feet of the face when intersecting the well. On longwall sections, rock dusting shall be conducted and placed on the roof, rib, and floor up to both the headgate and tailgate gob.
- j. When the well is intersected, the operator shall de-energize all equipment, and thoroughly examine and determine the area to be safe before permitting mining to resume.
- k. After a well has been intersected and the working place determined to be safe, mining shall continue in by the well a sufficient distance to permit adequate ventilation around the area of the well.
- l. If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. However, in rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame shall be permitted in the area until adequate ventilation has been established around the well bore and methane levels of less than 1.0% are present in all areas that will be exposed to flames and sparks from the torch. The operator shall apply a thick layer of rock dust to the roof, face, floor, ribs and any exposed coal within 20 feet of the casing prior to the use of torches.

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- m. Non-sparking (brass) tools will be located on the working section and will be used exclusively to expose and examine cased wells.
- n. No person shall be permitted in the area of the well intersection except those actually engaged in the operation, including company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- o. The operator shall alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift. This warning shall be repeated for all shifts until the well has been mined through.
- p. The well intersection shall be under the direct supervision of a certified individual. Instructions concerning the well intersection shall be issued only by the certified individual in charge.
- q. If the mine operator cannot find the well in the middle of the longwall panel or if a development section misses the anticipated intersection, the operator shall cease mining to examine for hazardous conditions at the projected location of the well, notify the District Manager, and take reasonable measures to locate the well, including visual observation/inspection or through survey data. Mining may resume if the well is located and no hazardous conditions exist. If the well cannot be located, the mine operator shall notify the District Manager to resolve any issues before mining resumes.
- r. The provisions of this Order do not impair the authority of representatives of MSHA to interrupt or halt the well intersection, and to issue a withdrawal order, when they deem it necessary for the safety of the miners. MSHA may order an interruption or cessation of the well intersection and/or a withdrawal of personnel by issuing either a verbal or written order to that effect to a representative of the operator, which order shall include the basis for the order. Operations in the affected area of the mine may not resume until a representative of MSHA permits resumption. The mine operator and miners shall comply with verbal or written MSHA orders immediately. All verbal orders shall be committed to writing within a reasonable time as conditions permit.
- s. A copy of this Order shall be maintained at the mine and be available to the miners.
- t. If the well is not plugged to the total depth of all minable coal seams identified in the core hole logs, any coal seams beneath the lowest plug will remain

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subject to the barrier requirements of 30 C.F.R. § 75.1700, should those coal seams be developed in the future.

- u. All necessary safety precautions and safe practices according to Industry Standards, required by MSHA regulations and State regulatory agencies having jurisdiction over the plugging site will be followed to provide the upmost protection to the miners involved in the process.
- v. All miners involved in the plugging or re-plugging operations will be trained on the contents of this Petition prior to starting the process and a copy of this Petition will be posted at the well site until the plugging or re-plugging has been completed.
- w. Mechanical bridge plugs should incorporate the best available technologies that are either required or recognized by the State regulatory agency and/or oil and gas industry.
- x. Within 30 days after this Order becomes final, the operator shall submit proposed revisions for it's approved 30 C.F.R. Part 48 training plan to the District Manager. These proposed revisions shall include initial and refresher training on compliance with the terms and conditions stated in the Order. The operator shall provide all miners involved in well intersection with training on the requirements of this Order prior to mining within 150 feet of the next well intended to be mined through.
- y. The responsible person required under 30 C.F.R. § 75.1501 Emergency Evacuations, is responsible for well intersection emergencies. The well intersection procedures should be reviewed by the responsible person prior to any planned intersection.
- z. Within 30 days after this Order becomes final, the operator shall submit proposed revisions for its approved mine emergency evacuation and firefighting program of instruction required under 30 C.F.R § 75.1502. The operator will revise the program of instruction to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of submittal.

Any party to this action desiring a hearing on this matter must file in accordance with 30 C.F.R. § 44.14, within 30 days. The request for hearing must be filed with the Administrator for Coal Mine Safety and Health, 201 12th Street South, Suite 401, Arlington, Virginia 22202-5452.

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If a hearing is requested, the request shall contain a concise summary of position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the proposed decision.

A party other than Petitioner who has requested a hearing shall also comment upon all issues of fact or law presented in the petition, and any party to this action requesting a hearing may indicate a desired hearing site. If no request for a hearing is filed within 30 days after service thereof, the Decision and Order will become final and must be posted by the operator on the mine bulletin board at the mine.



David L. Weaver
Acting Deputy Administrator
For Coal Mine Safety and Health

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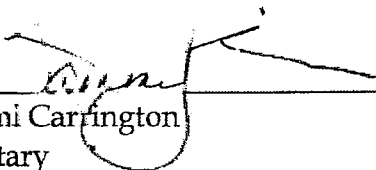
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Environmental Protection

05/10/2019

Certificate of Service

I hereby certify that a copy of this proposed decision was served personally or mailed, postage prepaid, or provided by other electronic means this 18th day of January 2019, to:

Christopher D. Pence, Esq.
James P. McHugh, Esq.
Hardy Pence PLLC
500 Lee Street, East, Suite 701
Charleston, WV 25329



Terri Carrington
Secretary

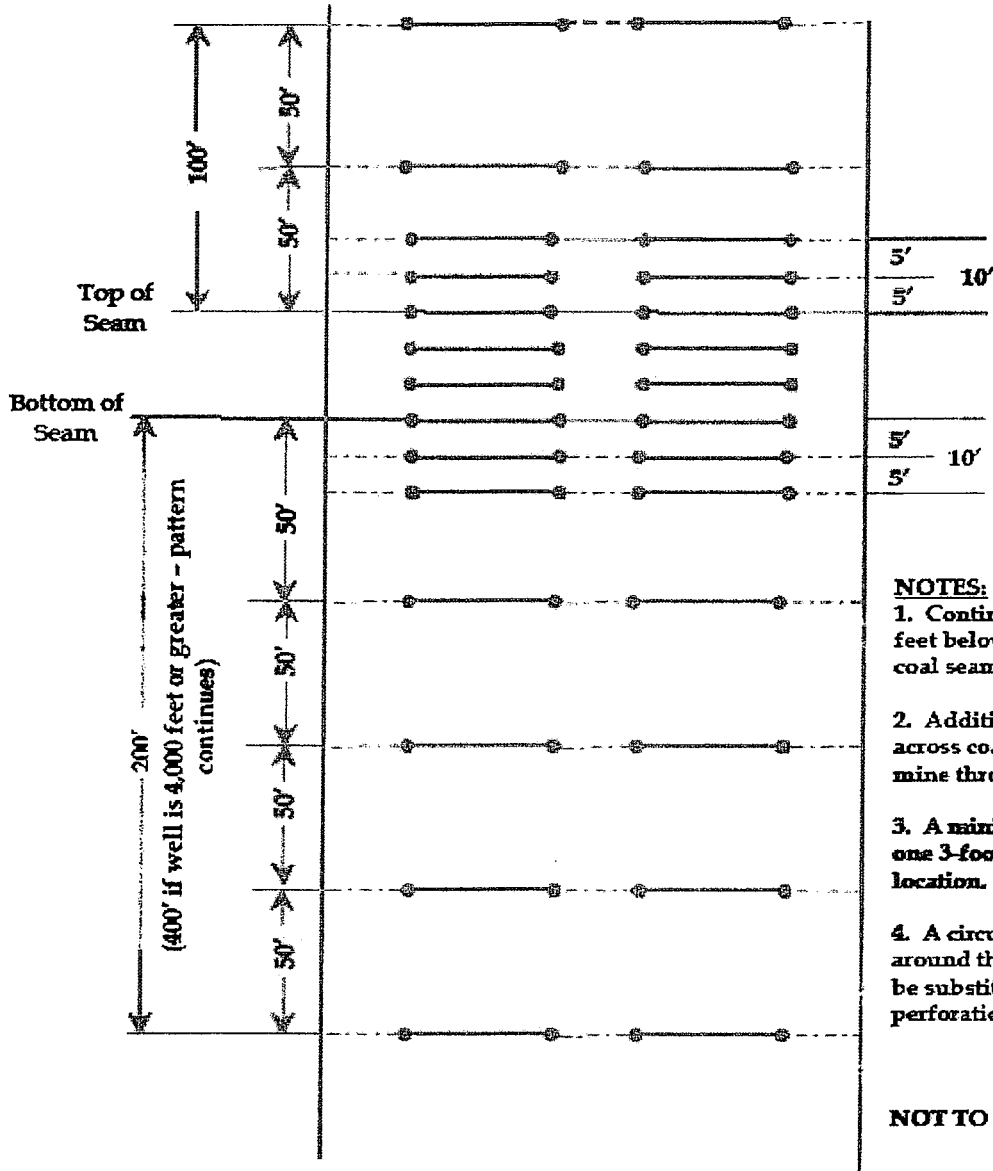
cc: Eugene White, Director Office of Miners' Health Safety & Training #7 Players Club
Dr. Suite 2, Charleston WV 25311
Eugene.E.White@wv.gov

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Appendix A



NOTES:

1. Continuous rip from 10 feet below to 10 feet above coal seam or like sketch.
2. Additional rips made across coal seam to facilitate mine through.
3. A minimum of 4 shots or one 3-foot rip at each location.
4. A circumferential cut around the entire casing may be substituted for the perforation or ripping.

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47-109-00120P



Select County: **(109) Wyoming** | Select datatypes: (Check All)

Enter Permit #: **00120**

Location Production Plugging
 Owner/Completion Stratigraphy Sample
 Pay/Show/Water Logs Btm Hole Loc

Get Data Reset

- [Table Descriptions](#)
- [County Code Translations](#)
- [Permit Numbering Series](#)
- [Usage Notes](#)
- [Contact Information](#)
- [Disclaimer](#)
- [WVGES Main](#)
- ["Pipeline-Plus" New](#)

WV Geological & Economic Survey:

Well: County = 109 Permit = 00120

Report Time: Friday, April 26, 2019 8:12:03 AM

Location Information: [View Map](#)

API	COUNTY	PERMIT	TAX DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
4710900120	Wyoming	120	Center	Pineville	Pineville	37.568207	-81.584256	448404.3	4158068.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4710900120	7/29/1946	Original Loc	Completed	WM Ritter Lumbr 29		1345				United Producing Company			

Completion Information:

API	CMP_DT	SPUD_DT	ELEV DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD	G_BEFO	G_AFT	O_BEFO	O_AFT	NGL_BEFO	NGL_AFT	P_BEFO	TI_BEFO	P_AFT	TI_AFT	BH_P_BEFO	BH
4710900120	7/29/1946	3/19/1946	1522	Ground Level	Pineville	Berea Ss	Berea Ss	Development Well	Development Well	Gas	unknown	Shot	3455		3455	0	900	0	0	0	0	0	0	800	48		

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEFO	G_AFT	O_BEFO	O_AFT	WATER_QNTY
4710900120	7/29/1946	Water	Unknown Water	Vertical			160						1
4710900120	7/29/1946	Show	Gas	Vertical			1288	Ravencroft/Avis Ss	0	0			
4710900120	7/29/1946	Show	Gas	Vertical			2940	Undr PRICE blw INJN	0	0			
4710900120	7/29/1946	Pay	Gas	Vertical	3430	Berea Ss	3446	Berea Ss	0	900			

Production Gas Information: (Volumes in Mcf) * 2018 data for H6A wells only. Other wells are incomplete at this time.

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710900120	Ashland Exploration Co.	1981	8,609	42	1,092	667	719	690	893	563	956	737	762	842	646
4710900120	Ashland Exploration Co.	1982	7,620	633	797	656	776	783	628	653	746	649	252	210	837
4710900120	Ashland Exploration Co.	1983	6,029	551	694	451	577	313	721	692	768	406	124	176	556
4710900120	Ashland Exploration Co.	1984	8,035	864	678	629	579	728	692	691	686	404	860	529	595
4710900120	Ashland Exploration Co.	1985	7,176	745	805	367	726	604	568	674	517	696	431	471	572
4710900120	Ashland Exploration Co.	1986	7,641	635	738	421	784	597	661	661	659	750	557	638	540
4710900120	Ashland Exploration Co.	1987	6,117	552	544	596	641	438	273	575	572	570	99	663	594
4710900120	Ashland Exploration Co.	1988	6,640	613	593	533	340	646	676	625	619	610	576	306	503
4710900120	Ashland Exploration Co.	1990	5,058	342	695	566	684	593	642	619	113	101	0	0	703
4710900120	Ashland Exploration Co.	1991	4,586	114	93	224	0	0	0	668	1,116	997	352	88	914
4710900120	Ashland Exploration Co.	1992	7,759	0	0	839	744	782	739	0	982	1,071	794	988	820
4710900120	Ashland Exploration Co.	1993	10,444	863	679	522	783	868	1,012	910	717	817	1,780	828	665
4710900120	Ashland Exploration Co.	1994	6,755	382	4	497	639	672	746	658	583	682	669	630	593
4710900120	Ashland Exploration Co.	1995	7,044	525	524	609	596	645	585	527	765	512	612	564	578
4710900120	Ashland Exploration Co.	1996	7,653	513	582	615	593	554	521	760	712	601	858	699	645
4710900120	Stonewall Gas Co., Inc.	1997	8,733	747	662	731	825	1,112	633	1,000	681	735	822	785	0
4710900120	Stonewall Gas Co., Inc.	1997	3,849	338	394	372	427	502	255	412	281	256	307	294	11
4710900120	Stonewall Gas Co., Inc.	1997	6,168	583	529	545	547	826	435	687	476	488	529	505	18
4710900120	Stonewall Gas Co., Inc.	1997	6,307	607	503	518	544	829	471	711	490	530	555	530	19
4710900120	Eastern States Oil & Gas, Inc.	1997	8,835	659	638	842	765	820	408	736	860	792	821	724	770
4710900120	Stonewall Gas Co., Inc.	1997	7,007	634	559	579	646	912	521	821	553	552	629	601	0
4710900120	Ashland Exploration Co.	1998	9,775	980	925	941	1,144	1,060	1,014	757	1,061	686	642	550	5
4710900120	Eastern States Oil & Gas, Inc.	1999	3,685	122	336	372	360	464	538	268	280	224	224	243	254
4710900120	Ashland Exploration Co.	2000	1,946	163	153	163	158	163	158	163	163	163	163	163	168
4710900120	Equitable Production Company	2001	3,321	295	287	322	338	305	296	313	318	295	186	180	186
4710900120	Equitable Production Company	2002	1,810	186	168	186	179	187	127	131	131	127	131	127	130
4710900120	Equitable Production Company	2003	1,537	131	118	130	126	131	127	130	131	127	130	126	130
4710900120	Equitable Production Company	2004	1,706	131	68	131	127	131	127	131	181	127	186	180	186
4710900120	Equitable Production Company	2005	2,190	186	168	186	180	186	180	186	186	180	186	180	188
4710900120	Equitable Production Company	2006	2,192	186	168	186	180	186	180	186	186	180	186	180	188
4710900120	Equitable Production Company	2007	2,118	192	146	186	181	191	174	166	183	174	182	164	179
4710900120	EQT Production Company	2008	1,936	189	177	137	166	171	136	161	157	158	162	156	166
4710900120	EQT Production Company	2009	2,019	163	149	165	162	204	166	170	170	165	170	165	170
4710900120	EQT Production Company	2010	1,693	156	154	172	165	171	166	167	148	153	101	131	129
4710900120	EQT Production Company	2011	1,632	120	121	129	130	132	128	132	136	138	137	133	196
4710900120	EQT Production Company	2012	2,030	233	186	163	148	171	171	185	57	130	252	142	192
4710900120	EQT Production Company	2013	2,183	305	188	193	170	168	162	188	166	165	171	152	155
4710900120	EQT Production Company	2014	1,916	176	169	164	169	184	175	183	147	142	131	135	141
4710900120	EQT Production Company	2015	1,839	173	176	144	146	160	137	153	147	174	148	140	141
4710900120	EQT Production Company	2016	1,740	194	142	141	142	158	114	125	131	132	144	152	165
4710900120	EQT Production Company	2017	1,206	165	113	130	130	154	193	155	0	0	0	4	162

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil * 2018 data for H6A wells only. Other wells are incomplete at this time.

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710900120	Ashland Exploration Co.	1981	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1982	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1983	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1984	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1985	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1986	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1987	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1988	0	0	0	0	0	0	0	0	0	0	0	0	0

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4710900120	Ashland Exploration Co.	1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Stonewall Gas Co., Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Stonewall Gas Co., Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Stonewall Gas Co., Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Stonewall Gas Co., Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Eastern States Oil & Gas, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Stonewall Gas Co., Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Eastern States Oil & Gas, Inc.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Ashland Exploration Co.	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	Equitable Production Company	2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil * 2018 data for H6A wells only. Other wells are incomplete at this time.

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710900120	EQT Production Company	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4710900120	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons) * 2018 data for H6A wells only. Other wells are incomplete at this time.

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4710900120	EQT Production Company	2016	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4710900120	Original Loc	unidentified coal	Well Record	285	Reasonable	3	Reasonable	1522	unknown
4710900120	Original Loc	unidentified coal	Well Record	365	Reasonable	3	Reasonable	1522	unknown
4710900120	Original Loc	unidentified coal	Well Record	564	Reasonable	4	Reasonable	1522	unknown
4710900120	Original Loc	unidentified coal	Well Record	608	Reasonable	4	Reasonable	1522	unknown
4710900120	Original Loc	Ravencliff/Avis Ss	Well Record	1240	Reasonable	80	Reasonable	1522	unknown
4710900120	Original Loc	Maxton	Well Record	2100	Reasonable	55	Reasonable	1522	unknown
4710900120	Original Loc	Greenbrier Group	Well Record	2312	Reasonable	451	Reasonable	1522	unknown
4710900120	Original Loc	Big Lime	Well Record	2312	Reasonable	451	Reasonable	1522	unknown
4710900120	Original Loc	Big Injun (Price&eq)	Well Record	2763	Reasonable	62	Reasonable	1522	unknown
4710900120	Original Loc	Berea Ss	Well Record	3425	Reasonable	21	Reasonable	1522	unknown
4710900120	Original Loc	UDev undfBer/LoHURN	Well Record	3446	Reasonable	0	Reasonable	1522	unknown

There is no Wireline (E-Log) data for this well

There is no Plugging data for this well

There is no Sample data for this well

Ultra Production Company, LLC
 Plugging Volumes and Location
 API# 47-109-00120

Volumes

Footage	Casing Size	Outside Diameter (in)	Inside Diameter (in)	Weight (lbs/ft)	Fill Volume OD (CuFt)	Fill Volume ID (CuFt)	Total Weight (lbs)
12	13-3/8	13.375	12.531	60	11.70	10.27	720
655	10-3/4	10.750	9.876	49	412.63	348.27	32,242
1,056	8-5/8	8.625	7.804	37	428.24	350.59	38,544
2,374	7	7.000	6.229	28	634.14	502.14	65,285
3,450	3-1/2	4.000	3.281	13	300.92	202.46	45,405
					1,787.63	1,413.73	182,197

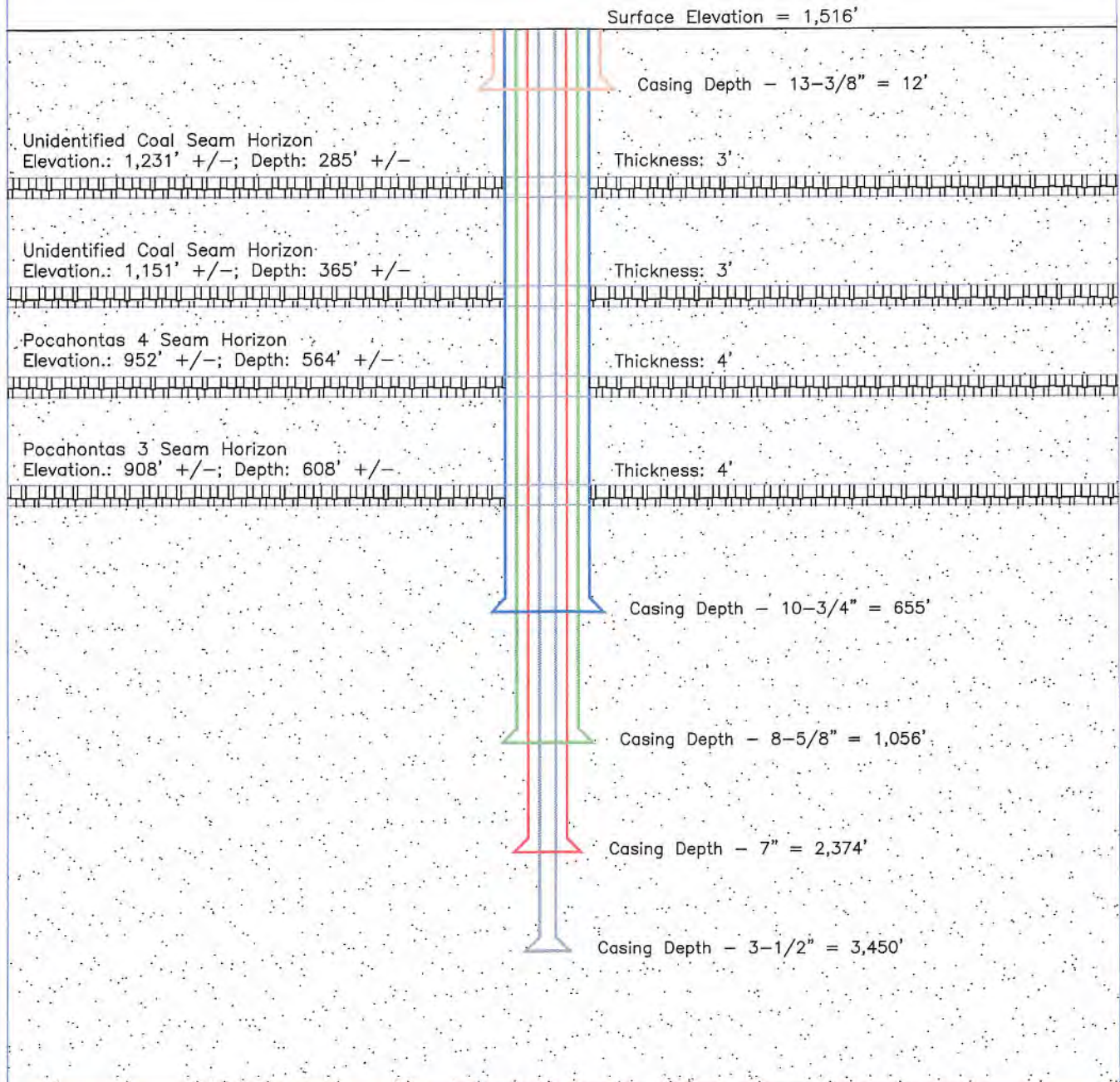
*Inside Diameter and Weight per Foot are estimated figures

Location







Geographic Coordinates (d/m/s) WGS 1984		UTM - NAD 83 - 17 North - Meters	
Latitude	Longitude	Northing	Easting
37° 34' 03.76342"	-81° 35' 01.28497"	4158013.624	448453.967

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API: 47-109-00120



LEGEND

-  Coal Seam
-  13 3/8" Diameter Casing
-  10 3/4" Diameter Casing
-  8 5/8" Diameter Casing
-  7" Diameter Casing
-  3 1/2" Diameter Casing

47-109-00120 Well Profile

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Information gathered from WV - Department of Mines
Oil & Gas Division - Well Record

WV Department of
Environmental Protection

SCALE: NTS

ULTRA PRODUCTION CO., LLC
112 River Road, PO Box 289
Cedar Bluff, VA 24609

DRAWN BY: [Signature]
FILE: Well Profiles

DATE: 01/28/2019

WW-4A
Revised 6-07

1) Date: 1/30/19
2) Operator's Well Number
Ritter #29
3) API Well No.: 47 - 109 - 00120

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

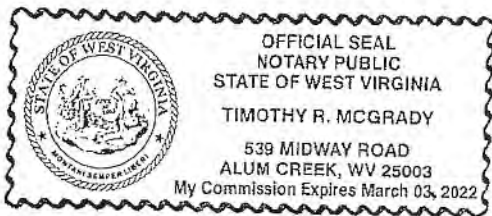
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Hearwood Forest Land Fund</u>	Name <u>Spartan Mining Co.</u>
Address <u>19045 Stone Mountain Road</u>	Address <u>208 Business Street</u>
<u>Abingdon, VA 24210</u>	<u>Beckley, WV 25801</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Western Pocahontas Properties, LLC</u>
	Address <u>5260 Irwin Road</u>
	<u>Huntington, WV 25705</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Gary Kennedy</u>	(c) Coal Lessee with Declaration
Address <u>66 Old Church Lane</u>	Name <u>Spartan Mining Co.</u>
<u>Pipestem, WV 25979</u>	Address <u>208 Business Street</u>
Telephone <u>304-382-8402</u>	<u>Beckley, WV 25801</u>

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator Boone East Development Co., LLC
 By: [Signature]
 Its: Authorized Agent
 Address 300 Running Right Way
Jackson WV
 Telephone 304-369-8500

Subscribed and sworn before me this 15 day of February 2019
[Signature] Notary Public
 My Commission Expires March 3, 2022

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a 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.

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47-109-00120P
05/10/2019

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WW-9
(5/16)

WV Department of
Environmental Protection

API Number 47 - 108 - 00120
Operator's Well No. Riber #29

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Boone East Development Co., LLC GP Code 310294

Watershed (HUC 10) 0507010103 Quadrangle Pineville

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 *JAC*

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 (if selected provide a completed form WW-9-GPP)

____ Underground Injection (UIC Permit Number _____)

____ Reuse (at API Number _____)

____ Off Site Disposal (Supply form WW-9 for disposal location)

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05/07/19
K&H

Other (Explain ANY & ALL WASTE FROM THIS PLUGGING WILL BE DISPOSED OFF-SITE IN THE PERMIT COAL REFUSE DISPOSAL AREA FOR SPARTAN MINING CO., LLC)

Will closed loop systems be used? If so, describe: N/A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. N/A

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

Additives to be used in drilling medium? N/A

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

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

-Landfill or offsite name/permit number? _____

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 April 1, 2016, 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 *James A. Cappucci*

Company Official (Typed Name) JAMES A. CAPPUCCI

Company Official Title Authorized Agent

Subscribed and sworn before me this 15 day of February, 2019

Timothy R. McGrady
My commission expires March 3, 2022



Form WW-9

Operator's Well No. Ritter #29

Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH _____

Lime 2 Tons/acre or to correct to pH 6.0

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 0.5 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Orchard Grass	6	Orchard Grass	6
Perennial Rye Grass	39	Perennial Rye Grass	39
Red Clover	17	Red Clover	17

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, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *[Signature]*

Comments: _____

Title: Inspector Date: 3/7/19

Field Reviewed? () Yes () No

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

Operator Name: Boone East Development Co., LLC
Watershed (HUC 10): 0507010103 Quad: Pineville
Farm Name: W.M. Ritter Lumber Co.

- 1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

The only fluid involved in this operation is fresh water; therefore, no threat to groundwater contamination exists.

- 2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

N/A

- 3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Unnamed tributary of Upper Big Branch is less than 0.1 mile from location.

- 4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

- 5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

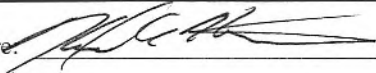
No waste material will be used for deicing or fill material.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

N/A

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

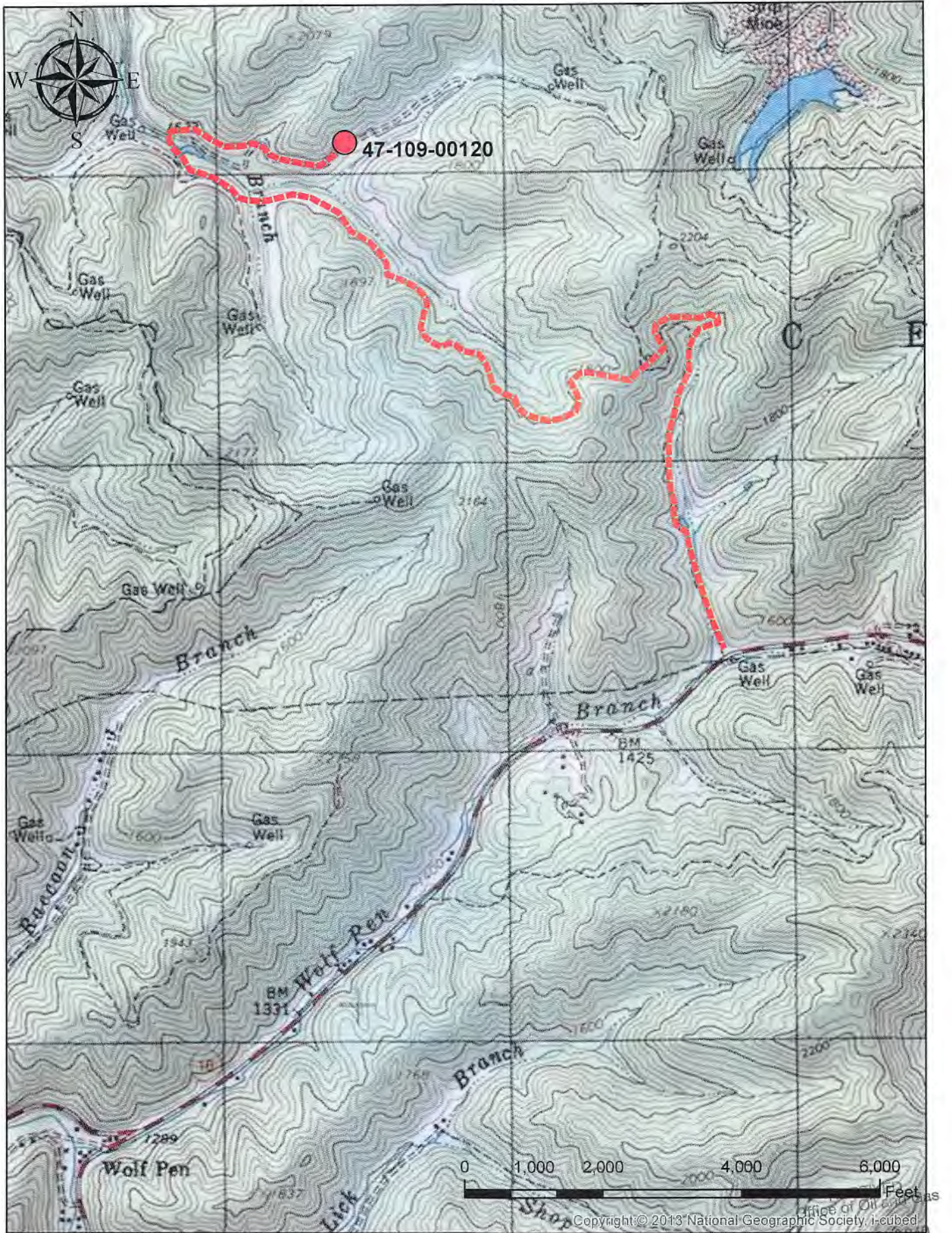
N/A

Signature: 

Date: 2/13/19

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47-109-00120 - Location & Access



FEB 19 2019

WV Department of

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-109-00120 WELL NO.: #29

FARM NAME: W. M. Ritter Lumber Co.

RESPONSIBLE PARTY NAME: Boone East Development Co., LLC

COUNTY: Wyoming DISTRICT: Center

QUADRANGLE: Pineville

SURFACE OWNER: Heartwood Forest Land Fund

ROYALTY OWNER: Plum Creek Timberlands

UTM GPS NORTHING: 4158013.624

UTM GPS EASTING: 448453.967 GPS ELEVATION: 1,516.89' / 462.35m

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS : Post Processed Differential

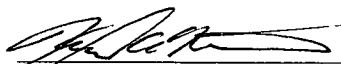
Real-Time Differential

Mapping Grade GPS : Post Processed Differential

Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.


Signature

MANAGER
Title

2/13/19
Date

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