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

Jim Justice , Governor
Austin Caperton , Cabinet Secretary
www.dep.wv.gov

Monday, September 25, 2017
WELL WORK PERMIT
Vertical / Plugging

PANTHER CREEK MINING, LLC
3228 SUMMIT SQUARE PLACE
SUITE 180
LEXINGTON, KY 40509

Re: Permit approval for L.R.P-A 49
47-005-00861-00-00

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: L.R.P-A 49
Farm Name: GATTY, FRANK ENGINEERING
U.S. WELL NUMBER: 47-005-00861-00-00
Vertical / Plugging
Date Issued: 9/25/2017

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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.

09/29/2017

Ck# 030326
$100.00

5008618

WW-4B
Rev. 2/01

1) Date Sep. 6, 2017
2) Operator's
Well No. 49
3) API Well No. 47-005-00861

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____ / Liquid injection __X__ / Waste disposal_____ /
(If "Gas, Production____ or Underground storage____) Deep____ / Shallow____

5) Location: Elevation 1,554.3' Watershed: Joe's Creek
District Sherman County Boone Quadrangle Sylvester

6) Well Operator Panther Creek Mining, LLC
Address 3228 Summit Square Place, Suite 180
Lexington, KY 40509

7) Designated Agent Gary E. Acord
Address P.O. Box 99
Dawes, WV 25054

8) Oil and Gas Inspector to be notified
Name Gary Kennedy
Address 252 Circle Ave.
Rainelle, WV 25962

9) Plugging Contractor
Name CJ's Well Service
Address 1013 Cydney Circle
Oakwood, VA 24631

10) Work Order: The work order for the manner of plugging this well is as follows:
See attached plugging prognosis
&
MSHA 101 C EXEMPTION

TOP OF REMAINING 8 5/8" IS 333' 8 5/8" BOTTOM IS 1077'.
TOP OF REMAINING 5 1/2" IS 1960' 5 1/2" BOTTOM IS 3239'.

7" REMOVED.

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 9/7/17

RECEIVED
Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

09/29/2017

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PLUGGING PROGNOSIS

Well #49
API# 47-005-00861
Sherman District, Boone County

Current Status

Elevation: 1,554.3'
Total Depth: 3,276' (Per Well Drilling Record)
Active: No
Plugged: Yes
Lowest mineable coal seam between 1045' – 1047'
Highest mineable coal seam between 109' – 113'
Mineable coal seam are ≥ 20 inches or currently being mined

Procedure for Plugging

1) Notify state inspector, Gary Kennedy, @ 304-382-8402, before starting.
2) Cleanout hole to at least 200 ft. below the lowest mineable seam of coal. Clean out to 1,247 ft.
3) Perforate casing (if Applicable) to 101C standards from 200 ft. below to 100 ft. above the Eagle Coal seam
4) Set a 474 ft. expanding cement plug from 1247 ft. to 773 ft. Continue with expanding cement plugs to the surface since the highest mineable coal seam top is at 109 ft.
5) Cement will be set to the surface.
6) Depending on site conditions, plugging procedures may be modified after approval of the inspector.
7) All changes to the plugging procedures will be noted in the plugging affidavit.
8) Erect permanent monument with API number.
9) Reclaim the site and access road.

09/29/2017

500861 P

MSHA 101 C
EXEMPTION

FEDERAL MINE SAFETY AND HEALTH ADMINISTRATION
1100 Wilson Boulevard, Room 2352
Arlington, VA 22209-3939

IN THE MATTER OF SPEED MINING LLC, AMERICAN EAGLE MINE [1]	)	PETITION FOR MODIFICATION
Petitioner	)	MSHA Docket No. M-2013-050-C

CONSENT ORDER

Pursuant to 30 C.F.R. § 44.27, Panther Creek Mining LLC ("Panther Creek"), by its undersigned counsel, and the Solicitor for the Administrator of Coal Mine Safety, Mine Safety and Health Administration, hereby agree to a Consent Order resolving the above-referenced matter.

1) Pursuant to 30 U.S.C. § 101(c) and 30 C.F.R. Part 44, Panther Creek sought modification of 30 C.F.R. § 75.1700, which provides as follows:

> Each operator of a coal mine shall take reasonable measures to locate oil and gas wells penetrating coal beds or any underground areas 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.

2) In its Petition for Modification, Panther Creek alleged that, pursuant to 30 C.F.R. § 44.4(a)(1), its proposed method was an alternative method of achieving the result of the

[1] The American Eagle Mine at issue in this matter is no longer operated by Speed Mining LLC. Instead, it is now operated by Panther Creek Mining LLC. Accordingly, the petitioner herein shall be referred to as Panther Creek Mining LLC.

standard which would at all times guarantee no less than the same measure of protection afforded by the standard.

3) MSHA personnel conducted an investigation of the petition and filed a report of their findings and recommendations with the Administrator of Coal Mine Safety and Health.

4) On July 31, 2015, MSHA issued a Proposed Decision and Order granting the Petition for Modification.

5) Panther Creek disagreed with a number of conditions of the Petition for Modification and requested a hearing before a Department of Labor Administrative Law Judge pursuant to 30 C.F.R. § 44.14. The parties have entered into settlement discussions and negotiated this Consent Agreement. In accordance with 30 C.F.R. § 44.27(b), this Consent Agreement contains Consent Findings and a Consent Order disposing of the entire proceeding.

Consent Findings

6) In accordance with 30 C.F.R. § 44.27(b)(1), both MSHA and Panther Creek agree that the following Consent Order shall have the same effect as if made after a full hearing.

7) In accordance with 30 C.F.R. § 44.27(b)(2), both MSHA and Panther Creek agree that the record on which the following Consent Order is based consists of the petition and agreement and all other pertinent information as set forth in Section 44.27(b)(2).

8) In accordance with 30 C.F.R. § 44.27(b)(3), both MSHA and Panther Creek agree to waive any further procedural steps before the Administrative Law Judge and Assistant Secretary.

9) In accordance with 30 C.F.R. § 44.27(b)(4), both MSHA and Panther Creek agree to waive any right to challenge or contest the validity of the Consent Findings and Consent Order made in accordance with this Consent Agreement.

10) Both MSHA and Panther Creek agree that the terms and conditions of the following Consent Order will at all times guarantee no less than the same measure of protection afforded by the existing standard under the conditions present at this particular mine.

Consent Order

Under the authority delegated by the Secretary of Labor to the Administrator for Coal mine Safety and Health and under § 811(c) and 30 C.F.R. Part 44, modification of the application of 30 C.F.R. § 75.1700 at the American Eagle Mine is hereby GRANTED as set forth below.

1. **DISTRICT MANAGER APPROVAL REQUIRED**

   a. 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.

   b. 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 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 but to not intersect the well. The district manager may require documents and information that help quantify 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.

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

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

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

(1) If 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. The operator shall remove all material from the entire diameter of the well, wall to wall.

(2) The operator shall prepare down-hole logs for each well. They shall consist of a caliper survey and log(s) suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon producing strata and the location for a bridge plug. The district manager may approve the use of a down-hole camera survey in lieu of down-hole logs. 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. Coal seam depth will be based on an e-log survey completed at the time of the well plugging. This e-log information is used for determining the coal seam depth and the depths of the perforations or rips in the casing from the surface reference point. 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. If it is not possible to remove all of the casing, the operator must take appropriate steps to ensure that the annulus between the casing and between the casings and the well walls are filled with expanding (minimum 0.5% expansion upon setting) cement and contain no voids. 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. The operator shall ensure that work

performed prior to the date of this order to perforate or rip all casing remaining at mineable coal seam levels is consistent with either Appendix A or Appendix B (attached). All work performed after the date of this order to perforate or rip all casing remaining at mineable coal seam levels shall be consistent with Appendix A. Perforations or rips consistent with Appendix A or Appendix B, as applicable by the date of this order, 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.

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.

(5) If the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam, 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. <u>MANDATORY PROCEDURES FOR PLUGGING OR REPLUGGING OIL OR GAS WELLS TO THE SURFACE</u>

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

(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 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 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 (i.e. prime farmland), high-resolution GPS coordinates (one-half meter resolution) are required.

c. MANDATORY PROCEDURES FOR PLUGGING OR REPLUGGING 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 replugging 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 lowest mineable coal seam, 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.

(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.

(4) Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.

(5) 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.

(6) 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 degas 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.

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

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

(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 lowest mineable coal seam, 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.

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

(3) If the well contains casing(s), the operator shall drill into the well from the parallel hole. All casings shall be perforated or ripped to permit the injection of cement into voids within and around the well. The operator shall ensure that work performed prior to the date of this order to perforate or rip all casing remaining at mineable coal seam levels is consistent with either Appendix A or Appendix B (attached). All work performed after the date of this order to perforate or rip all casing remaining at mineable coal seam levels shall be consistent with Appendix A. Perforations or rips consistent with Appendix A or Appendix B, as applicable by the date of this order, are required 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 lowest mineable coal seam 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 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.

(4) 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 lowest mineable coal seam 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.

(5) The operator shall prepare down-hole logs for each well. They shall consist of a caliper survey and log(s) suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon producing strata and the location for the bridge plug. The operator may obtain logs from the adjacent hole rather than the well if the condition of the well makes its impractical to insert the equipment necessary to obtain the log. The district manager may approve the use of a down-hole camera survey in lieu of down-hole logs if in his judgment such logs would not be suitable for obtaining the above-listed data or are

impractical to obtain due to the condition of the drill hole. 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; 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 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.

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 presences of casings. The operator and the district manager should 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.

3. **MANDATORY PROCEDURES WHEN MINING WITHIN 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 replugged 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(s) 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 the 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 the 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.

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.

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 is safe before mining is resumed.

k. After a well has been intersected and the working place determined to be safe, mining shall continue inby 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.

m. Non-sparking (brass) tools will be located on the working section and will be used 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. 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 a 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.

r. A copy of this Order shall be maintained at the mine and be available to the miners.

s. Within 30 days after this Order becomes final, the operator shall submit proposed revisions for its approved 30 CFR Part 48 training plan to the district manager. These proposed revisions shall include initial and refresher training regarding compliance with the terms and conditions stated in the Order. The operator shall provide all

miners involved in the well intersection with training regarding the requirements of this Order prior to mining within 150 feet of the next well intended to be mined through.

t. The responsible person required under 30 CF.R. § 75.1501 is responsible for well intersection emergencies. The well intersection procedures should be reviewed by the responsible person prior to any planned intersection.

u. 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.

IR-38
7-Feb-94

RECEIVED
WV Division of Environmental Protection
MAY 20 94
Permitting
Office of Oil & Gas

API # 47- 5-00861-P

500861 P

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

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE IN TRIPLICATE, one copy mailed to the Division, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: GATTY, FRANK ENGINEERING Operator Well No.:L.R.P-A #49

LOCATION: Elevation: 1,544.82 Quadrangle: SYLVESTER
District: SHERMAN County: BOONE
Latitude: 11400 Feet South of 38 Deg. 7 Min. 30 Sec.
Longitude 3025 Feet West of 81 Deg. 32 Min. 30 Sec.

Well Type: OIL X_____ GAS ______

Company: C J Services
Rt. 2, Box 159
Hamlin, WV 25523

Coal Operator ____________
or Owner ____________

Agent: Jerry Holcomb

Coal Operator ____________
or Owner ____________

Permit Issued: 02/22/94

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Boone ss:

Chris Sowards and Charles [illegible] being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by the above named well operator, and participated in the work of plugging and filling the above well, and Rick Campbell Oil and Gas Inspector representing the Director, say that said work was commenced on the 8th day of April, 1994, and that the well was plugged and filled in the following manner:

TYPE	FROM	TO	PIPE REMOVED	LEFT
Cement	3115	2915		
Gel	2915	1965	1960 5½	1279
Cement	1965	1865		
Gel	1865	1100	333 8 5/8	744
Cement	1100	990		
Gel	990	890	Perf 8 5/8 @ Coal Seams	
Cement	890	790	1047-1024	875
Gel	790	340		
Cement	340	240		5/23/94
Gel	240	170		
Cement	170	0		

Description of monument: 8" with API # attached
and that the work of plugging and filling said well was completed on the 14th day of April, 1994.

And furthur deponents saith not.

Chris Sowards
Charles E Kay

Sworn and subscribed before me this 12th day of May, 1994
My commission expires: Aug 28 2001

Cherry L Holcomb
Notary Public

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
CHERRY L. HOLCOMB
RT. 2, BOX 159
HAMLIN, WV
My Commission Expires Aug 28, 2001

Oil and Gas Inspector: Richard L. Campbell

0800-6-008

09/29/2017

500861 P

Form 248A Rev. 5M 11-19-46

THE PURE OIL COMPANY

WELL LOG AND RELATED DATA

DIVISION Eastern Producing DISTRICT Charleston LEASE L. R. & P. "A"
ACRES 1951 LEASE NO. 227 AFE NO. 4134 ELEVATION Gr. 1544.82 WELL NO. 49
LOT-SEC. ____ TWP. ____ RGE. ____ MAG. DIST. Sherman
SURVEY ____ COUNTY Boone STATE West Virginia

LOG

FROM	TO	TOTAL	FORMATION
0	50	50	Sand, brown
50	60	10	Sand,yellow,med.hard
60	70	10	Slate, blue, soft
70	89	19	Sand,white,med.hard
89	100	11	Sand, white, hard
100	109	9	Slate, blue, soft
109	113	4	Coal, black, soft
113	125	12	Slate, blue, soft
125	127	2	Coal, black, soft
127	165	38	Slate, black, soft
165	185	20	Sand, white, hard
185	200	15	Sand,white,med.hard
200	215	15	Slate, gray, soft
215	221	6	Sand, gray, med. hard
221	260	39	Sand,yellow,med. hard
260	278	18	Slate, black, soft -
278	284	6	Sand,yellow,med.hard
284	290	6	Sand, white, hard
290	295	5	Slate, black, soft
295	403	108	Sand,white,med.hard
403	429	26	Sand, white, hard
429	432	3	Slate, gray, soft
432	448	16	Sand, white, hard
448	465	17	Slate, black, soft
465	480	15	Sand, white,med.hard
480	496	16	Slate, gray, soft
496	564	68	Slate & Shls,gray,soft
564	585	21	Sand, white,med.hard
585	595	10	Sand, white, hard 3 BWH @ 585'.
595	630	35	Slate & Shls,gray,med.hard
630	690	60	Sand, white, hard
690	780	90	Slate & Shls,gray,med. Wtr Increased - HF
780	790	10	Sand, white, med.
790	873	83	Slate & Shls,lt.gray, med.
873	877	4	Coal, black, soft
877	905	28	Lime, gray, med. Water @ 895'.
905	932	27	Sand, white, hard
932	938	6	Lime, black, med.
938	969	31	Sand, white, hard
969	983	14	Steel Line Correction
983	1013	30	Sand, white, hard
1013	1022	9	Sand, white, med.
1022	1024	2	Coal, black, soft
1024	1045	21	Slate & Shls,dk,soft
1045	1047	2	Coal, black, soft
1047	1050	3	Slate, dark, soft
1050	1052	2	Slate, gray, soft
1052	1063	11	Lime, gray, hard
1063	1087	24	Lime, gray,med.hard
1087	1094	7	Sand, white, med.
1094	1115	21	Sandy Shls & Slate, gray, med.
1115	1122	7	Sandy Lime,gray,hd.
1122	1142	20	Lime, gray, hard
1142	1154	12	Gritty Lime,gray,hd.
1154	1177	23	Lime, gray, med.
1177	1196	19	Slate, gray, med.
1196	1226	30	Lime,brown,med.hard
1226	1263	37	Slate & Shls,black,med.
1263	1272	9	Lime, gray, hard.
1272	1283	11	Sand, gray, med.
1283	1300	17	Sand, white, hard
1300	1330	30	Lime, brown, med.
1330	1340	10	Slate, black, soft
1340	1395	55	Lime, gray, hard
1395	1405	10	Sand, gray, hard
1405	1406	1	Lime, gray, hard

HIGHEST MINEABLE COAL → 109–113

LOWEST MINEABLE COAL → 1045–1047

LOCATION

API Well No. 47-005-00861-P

____ FEET NORTH OF SOUTH SECTION LINE
____ FEET EAST OF WEST SECTION LINE
____ FEET SOUTH OF NORTH SECTION LINE
____ FEET WEST OF EAST SECTION LINE

NORTH / WEST / EAST / SOUTH

SCALE 2"–1 MILE

CASING AND CEMENTING RECORD

SIZE CASING	10-3/4"	8-5/8"	* 7"	5-1/2"
THREAD	8V	8R	10V	8R
WEIGHT	32.75#	24#	20#	14#
GRADE	LW	J55 R2	C45&LW	H40 R1&2
CONDITION	LP-SP	New	2P	2
SET AT	16'	1077'	1990'	3239'
SACKS CEMENT				25
SIZE OF HOLE				

* Pulled all 7" csg. 1/25/52.

LINER RECORD

SIZE	WT.	COND.	LENGTH	BLANK	PERF.	SET AT

GUN PERFORATING RECORD

DATE	CASING	FROM	TO	SIZE SHOTS	NO. SHOTS

SHOT ~~ACIDIZING~~ RECORD

DATE	TOP	BOTTOM	SHOT-ACID	REMARKS
		NOT SHOT		

DRILLING: COMMENCED 10-18-51 COMPLETED 1-21-52
ELECTRICAL SURVEY BY ____ DATE ____
DRILLED WITH Chas. Drlg. Co., Inc. Cable ** TOOLS
DRILLED IN WITH " " " " " ** TOOLS
~~NATURAL~~ PROD.—NAT. DATE ____ HRS. Est. 1.0 BBLS. oil
____ WATER ____ M CU. FT. GAS ____ LBS. ROCK PRE
FIRST PROD. AFTER SHOT/ACID—DATE ____ HRS. ____ BBLS. ____
____ WATER ____ M CU. FT. GAS ____ LBS
GAS/OIL RATIO ____ POTENTIAL ____
GRAVITY ____ TEMP. ____ GRADE ____

** Drilled with drilling machine.
Drilled for a Water Injection Well.
Well was not shot.

DATE ABANDONED—SOLD ____ 19__

09/29/2017

5008610

FROM	TO	TOTAL	FORMATION
1406	1475	69	Sand, gray, hard
1475	1584	109	GRAMPUS SAND, gray, hard
1584	1640	56	Lime, black, med.
1640	1675	35	Lime, gray, hard
1675	1938	263	SALT SAND, white, hard 1 BWH @ 1790'. Water @ 1925'-Filled up 350'.
1938	1936	- 2	Steel Line Correction
1936	1982	46	SALT SAND, white, hard
1982	2000	18	Lime, black, hard
2000	2030	30	Slate & Shls, med.
2030	2045	15	Lime, gray, hard
2045	2085	40	Sand, white, hard
2085	2096	11	Lime, black, med.hard
2096	2170	74	Slate & Shls, dark, med.
2170	2184	14	Lime, dark, hard
2184	2190	6	Lime, black, hard
2190	2207	17	Red Rock, red, soft
2207	2227	20	Lime, gray, hard
2227	2302	75	MAXON SAND, white, hard Water @ 2265' - 1 BPH
2302	2317	15	Lime, gray, hard
2317	2338	21	Red Rock, red, med.
2338	2366	28	Lime, gray, med.
2366	2386	20	Red Rock, red, med.
2386	2417	31	Lime, gray, hard
2417	2450	33	Lime, gray, med.
2450	2458	8	Slate, black, soft
2458	2531	73	LITTLE LIME, gray, hard
2531	2536	5	Slate, gray, med.
2536	2548	12	Lime, gray, hard
2548	2775	227	BIG LIME, white, hard Show of gas 2724'.
2775	2796	21	BIG INJUN, red, med.
2796	2816	20	Lime, black, hard
2816	2854	38	Slate & Shls, dark, med.
2854	2868	14	Lime, blue, hard
2868	2876	8	Slate, gray, soft
2876	2947	71	Slate & Lime Shells, gray, soft
2947	2959	12	Slate & Shls, dark, med.
2959	3075	116	WEIR SAND, gray, med. Show of gas @ 2990'.
3075	3109	34	Slate & Shls, gray, med.
3109	3118	9	Steel Line Correction
3118	3220	102	Slate & Shls, gray, med.
3220	3236	16	Shale, brown, soft
3236	3272	36	BEREA SAND 3239' CTM equals 3239'SLM
3272	3276	4	Slate, dark, hard
	3276	SLM	TOTAL DEPTH

FROM	TO	TOTAL	FORMATION
BEREA SAND			
3236	3251	15	Sand, gray, hard
3251	3259	8	Sand, gray, med.hard
3259	3260	1	Sand, gray, med.soft Seum black oil & show of gas. Ran SLM at 3260 CTM No correction.
	3260		1st show of green oil.
3260	3272	12	Sand, light gray, soft Increase in oil & gas. Not enough gas to gauge.

GREEN OIL PAY 3260'-3272'

INJECTIVITY TEST

1/23/52 - Injected 1,305 bbls. water in 24 hours with 500# maximum pressure.

ACID RECORD

4-20-54 - Calipered and surveyed well.

4-21-54 - Acidized w/ 290 gals of DI-FP and 1340 gals 15% HCl acid. 200 gals of 15% HCl as a pre-flush ahead of the acid mixture. Pumping preflush & acid mixture required 1/2 hour & displacement required 1 hr 50 mins Max pumping pressure 1000 to 1100 PSIG. After all of acid mixture was pumped into well & followed w/ 4200 gals water, the tbg pressure steadily dropped from 1100 PSIG to 400 PSIG. An additional 1500 gals of water was displaced at about 400 PSIG before the well was turned back on the normal water inj system. Prior to acidizing the steady water inj rate was 40 B/D at 550 PSIG & 2 hrs after acidizing, the well was taking 1080 B/D at 350 PSIG on the regular water inj system. Input before acidizing 14.2 B/D at 560 PSIG. Input after acidizing: 1 hr after acid 1080.0 B/D @ 300 PSIG. 18 hrs 555.0 B/D @ 450 PSIG. 49 hrs 480.0 B/D @ 500 PSIG. 65 hrs 396.0 B/D @ 500 PSIG.

5- 4-54 - Birdwell surveyed well again.

API. Well No.
42-005-00861-P.

09/29/2017

500861P

Ck # 030326 $100.00

WW-4A
Revised 6-07

1.) Date: 09/06/17
2.) Operator's Well Number
49
3.) API Well No.:
47-005-00861

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name LaFollette (Gaddy Engineering) Waiver
Address 303 West Washington St.
Charleston, WV 25302

(b) Name _____
Address _____
_____

(c) Name _____
Address _____
_____

6) Inspector Gary Kennedy
Address 252 Circle Ave
Rainelle, WV 25962
Telephone 304-382-8402

5) (a) Coal Operator
Name Panther Creek Mining, LLC Waiver
Address 3228 Summit Square Place, Suite 180
Lexington, KY 40509

(b) Coal Owner(s) with Declaration
Name LaFollette (Gaddy Engineering) Waiver
Address 303 West Washington St.
Charleston, WV 25302
Name _____
Address _____
_____

(c) Coal Lessee with Declaration
Name Panther Creek Mining, LLC
Address 3228 Summit Square Place, Suite 180
Lexington, KY 40509

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 Panther Creek Mining, LLC
By: Gary Acord Gary E Acord
Its: Agent
Address P.O. Box 99
Dawes, WV. 25054
Telephone 304-205-8847

RECEIVED
Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

Subscribed and sworn before me this 6 day of September, 2017
Jessica Duerr
My Commission Expires 2/14/2022

OFFICIAL SEAL
Notary Public, State Of West Virginia
Jessica Duernberger
3691 Mill Creek Road
Charleston, WV 25311
My Commission Expires February 14, 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 deprivacyoffier@wv.go

09/29/2017

5008618

SURFACE OWNER WAIVER

Operator's Well
Number 49

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.
WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

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

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) 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.

Comments must be in writing. Your comments must 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.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.
I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON
CORPORATION,

_____ Date _____
Signature

FOR EXECUTION BY A

Name La Follette
By Krista M. Danner, VP
Its Land Manager Date 5/31/17

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Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

09/29/2017

500861P

WW-4B

API No. 47-005-00861
Farm Name LaFollette
Well No. 49

INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator _____/ owner ___X___/ lessee _____/ of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 5/31/2017

La Follette
By: Dusty M Danner VP
Its Land Manager

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Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

09/29/2017

WW-4B

API No. 47-005-00861 P

Farm Name LaFollette

Well No. 49

INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

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NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator ___X___/ owner _____/ lessee ___X___/ of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 9/06/17

Panther Creek Mining, LLC

By: Nicholas Heyeck

Its Engineer

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Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

09/29/2017

500861 P

WW-9
(5/16)

API Number 47 - 005 - 00861
Operator's Well No. 49

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

Operator Name Panther Creek Mining, LLC OP Code

Watershed (HUC 10) Joes Creek Quadrangle Sylvester

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: Cement and cuttings

Will a synthetic liner be used in the pit? Yes ☑ No ☐ If so, what ml.? 20

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)
- ☐ Other (Explain)

Will closed loop systembe used? If so, describe: No

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Fresh water

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

Additives to be used in drilling medium? None

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

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

-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 Gary E. Acord

Company Official (Typed Name) Gary E. Acord

Company Official Title Agent/Engineer

RECEIVED
Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

Subscribed and sworn before me this 6 day of September, 2017

Jessica Duernberger Notary Public

My commission expires 2/14/2022

OFFICIAL SEAL
Notary Public, State Of West Virginia
Jessica Duernberger
3691 Mill Creek Road
Charleston, WV 25311
My Commission Expires February 14, 2022

09/29/2017

5008616P

Form WW-9

Operator's Well No. 49

Proposed Revegetation Treatment: Acres Disturbed _____ Prevegetation pH _____

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type (10-20-20) or equivalent

Fertilizer amount 500 lbs/acre

Mulch 2 tons or 1000-1500 lbs hydroseed mulch Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
		Fescue	40
		Clover	5
		Ryegrass	5

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: Greg Kennedy

Comments: _____

Title: Inspector Date: 9/7/17

Field Reviewed? (X) Yes ( ) No

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Office of Oil and Gas
SEP - 8 2017
WV Department of
Environmental Protection

09/29/2017

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WW-9- GPP
Rev. 5/16

Page _____ of 2
API Number 47 - 005 - 00861
Operator's Well No. 49

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

Operator Name: Panther Creek Mining, LLC

Watershed (HUC 10): Joes Creek Quad: Sylvester

Farm Name: LaFollette

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

Re-drilling of plugged liquid injection well (in order to re-plug to 101c standards to mine through the well). Water used during re-drilling is pumped through a pipe and discharged into a lined pit. The pit is designed to hold approximately 150% of the anticipated drilling water. The pit contents (drilling water and cuttings) in the pit will be allowed to solidify and any remaining water will be sampled by a certified lab before the pit is reclaimed. The only water anticipated to be discharged to the pit is the drilling water. Brine water is not expected to be encountered while re-drilling and plugging the well. Water discharged into the pit may be used to mix the cement for re-plugging the well.

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

Water used during re-drilling is pumped through a pipe and discharged into a lined pit. The pit is designed to hold approximately 150% of the anticipated drilling water. The pit contents (drilling water and cuttings) in the pit will be allowed to solidify and any remaining water will be sampled by a certified lab before the pit is reclaimed. Straw bales, oil absorption pads, and silt fencing will be available on the mine property in case of spills or contaminations.

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

The closest body of water are old sediment ponds located approximately 480 ft. away from the well site and anticipated pit. The sediment ponds discharge to Joes Creek which is approximately 1,100 ft. away from the well site and anticipated pit.

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

Mining operations - storage tanks regulated under two GPP plans.

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

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API Number 47 - 005 - 00861
Operator's Well No. 49

None for Joes Creek watershed. Adjacent watersheds are sampled bimonthly for the mining operations. The results of the bimonthly samplings are submitted to the WV DEP.

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 for 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.

Each employee and contractor involved in re-plugging the well will be trained on the proper environmental procedures of the job. The pit and area around the pit will be visually examined daily for leaks and tears. If a leak or tear is observed, discharge to the pit will cease until proper repairs can be made to the pit or liner. Drilling equipment will be inspected each day before work begins to ensure there are no fluid leaks. Straw bales, oil absorption pads, and silt fencing will be available on the mine property in case of spills. Any contaminated materials will be properly disposed of in specially marked containers. If there is any remaining water in the pit once plugging is complete, it will be analyzed by a lab before the pit is reclaimed.

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

The pit and area around the pit will be visually examined daily for leaks and tears. If a leak or tear is observed, discharge to the pit will cease until proper repairs can be made to the pit or liner. Drilling equipment will be inspected each day before work begins to ensure there are no fluid leaks. Straw bales, oil absorption pads, and silt fencing will be available on the mine property in case of spills. If there is any remaining water in the pit once plugging is complete, it will be analyzed by a lab before the pit is reclaimed.

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Signature: Harry E Cook

Date: 9-06-17

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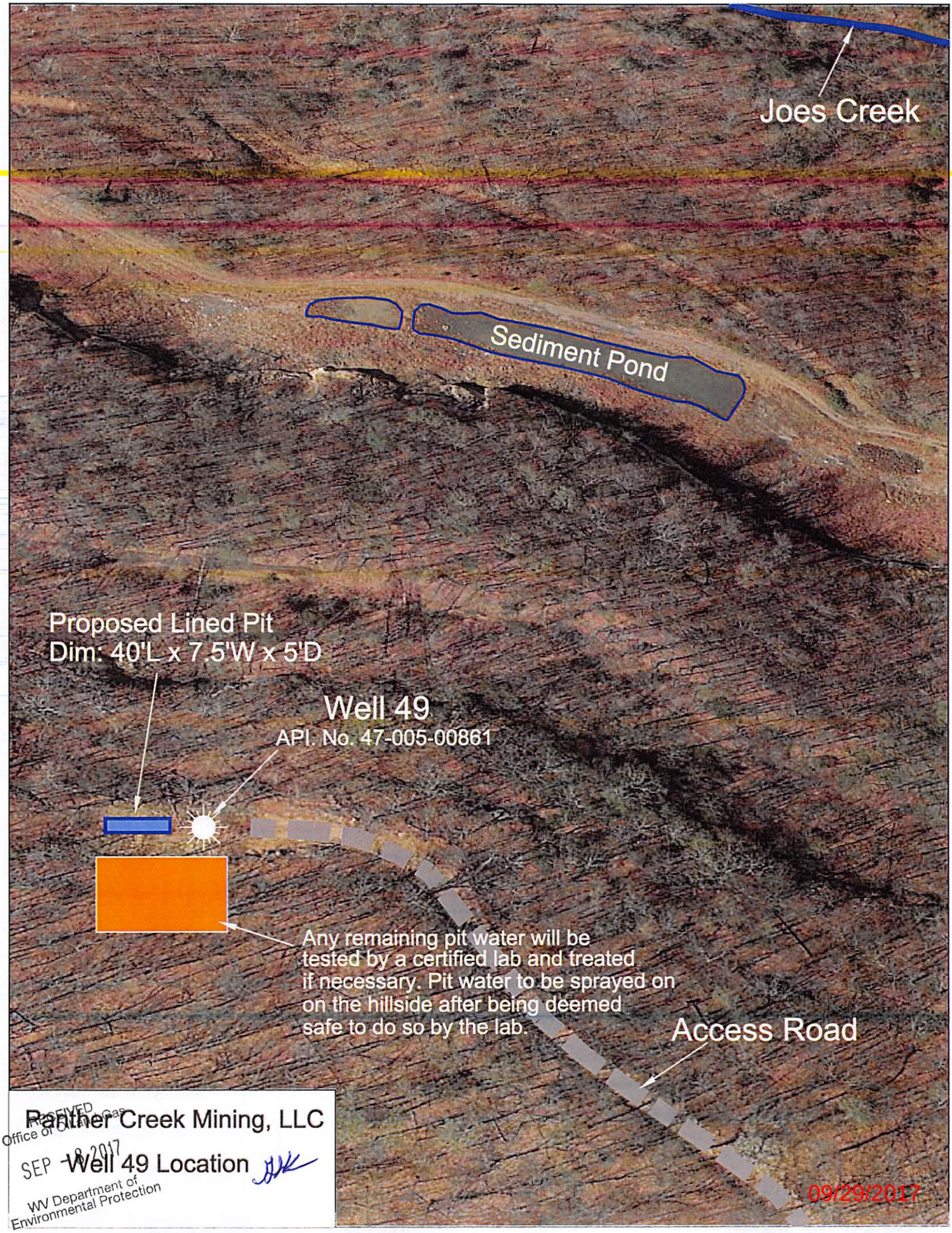

Panther Creek Mining, LLC

Well 49 Location

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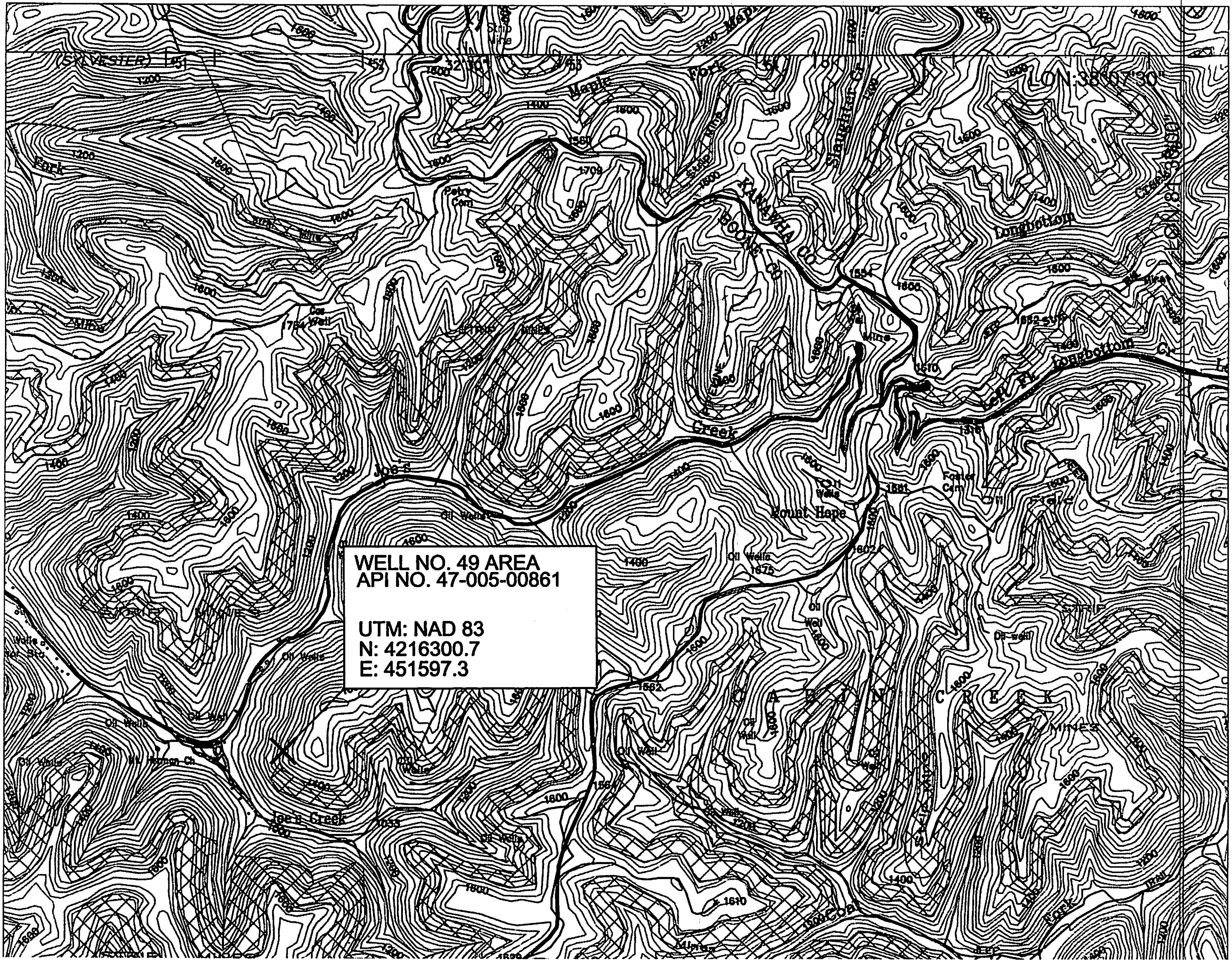
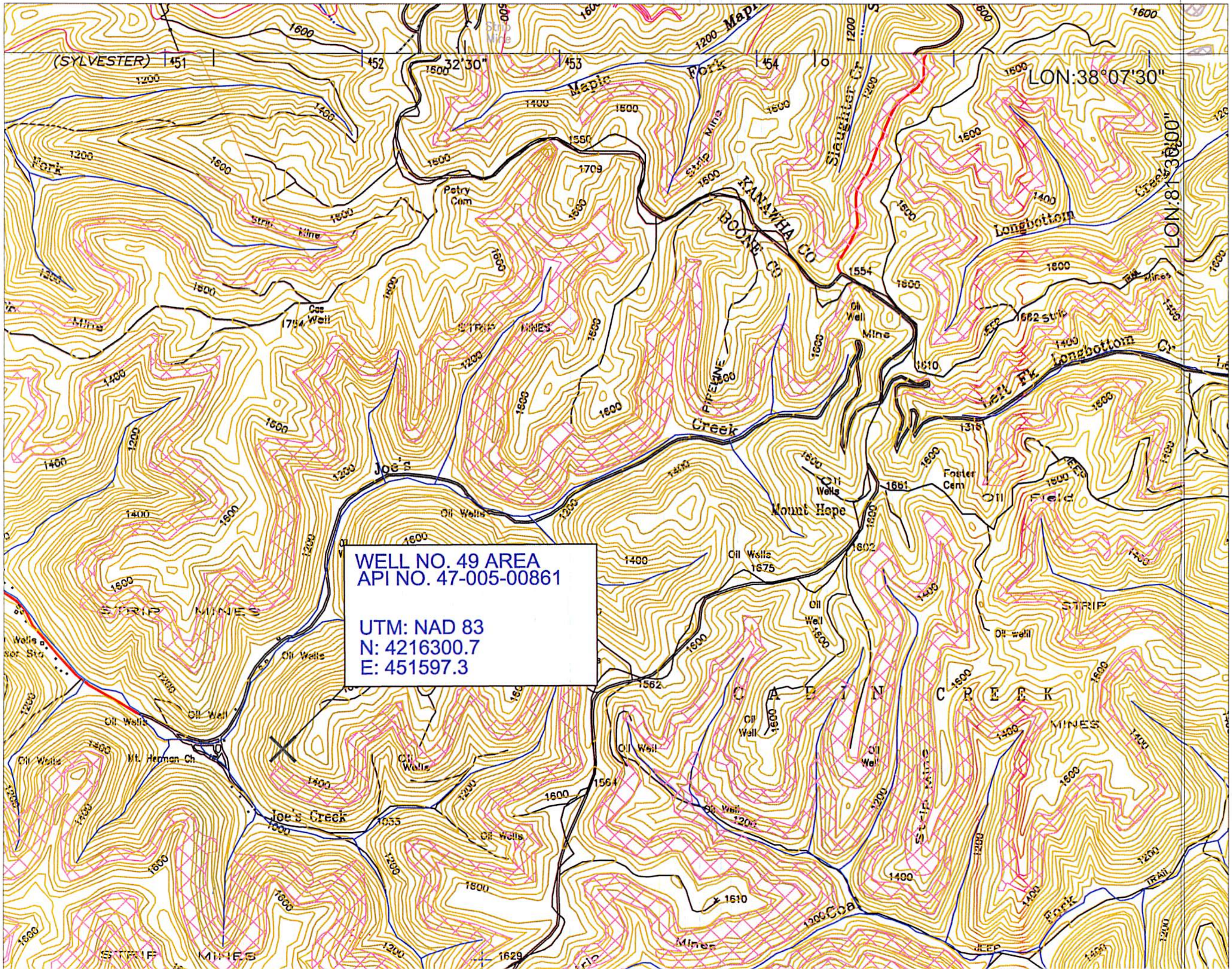
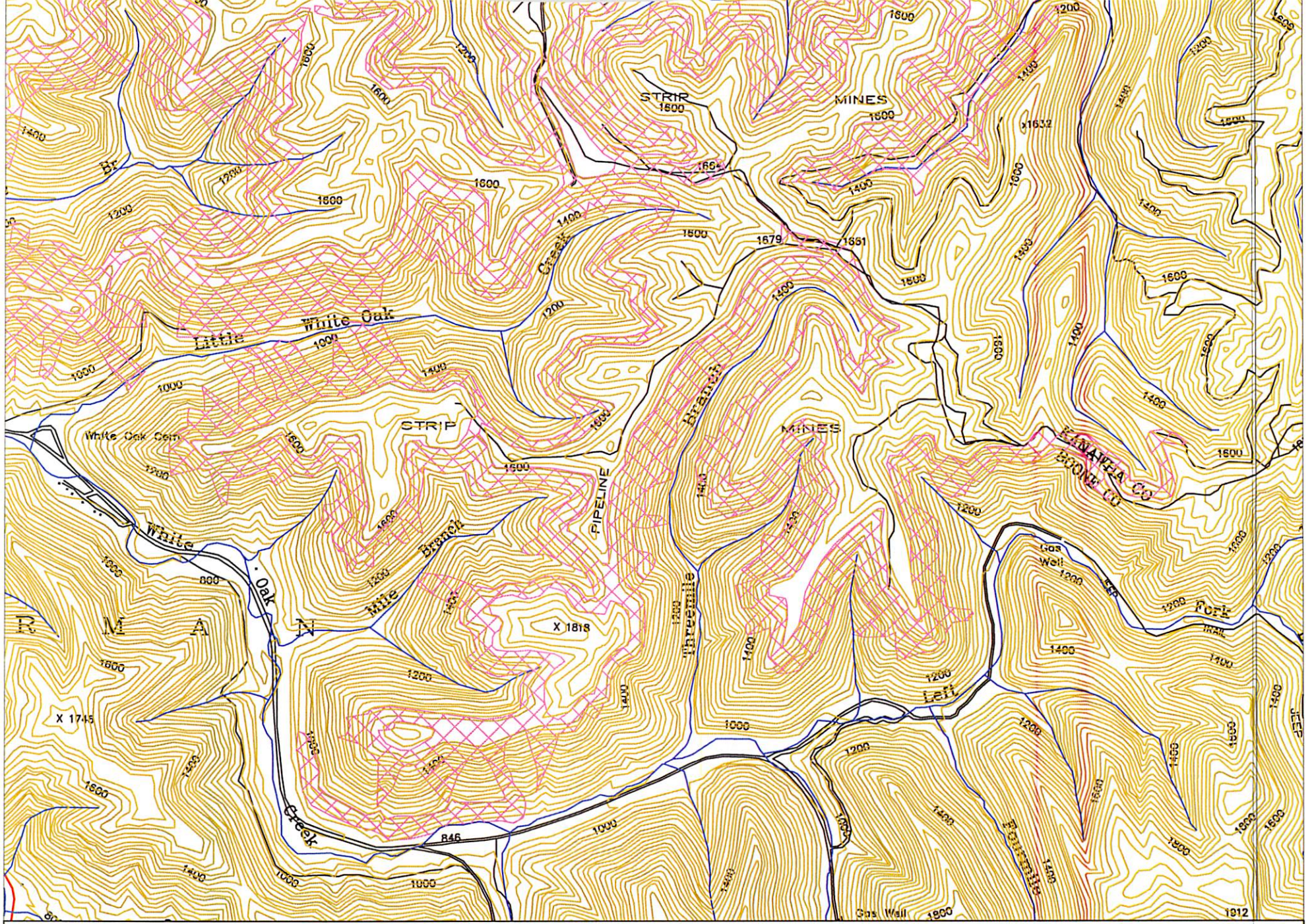

WELL NO. 49 AREA
API NO. 47-005-00861
UTM: NAD 83
N: 4216300.7
E: 451597.3
(SYLVESTER)
Maple Fork
Slaughter Cr
KANAWHA CO
BOONE CO
Longbottom
Longbottom Cr
Joe's Creek
Joe's Creek
Mount Hope
Petry Cem
Foster Cem
CABIN CREEK
MINES
Oil Wells
Gas Well
Strip Mine
Fork

500861P



WELL NO. 49 AREA
API NO. 47-005-00861
UTM: NAD 83
N: 4216300.7
E: 451597.3
LON:38°07'30"
LON:81°30'00"
(SYLVESTER)
Maple Fork
Slaughter Cr
KANAWHA CO
BOONE CO
Longbottom
Left Fk Longbottom Cr
Joe's Creek
Mount Hope
CABIN CREEK
STRIP MINES
Petry Cem
Foster Cem
Mt. Hermon Ch
Oil Wells
Gas Well



PANTHER CREEK MINING, LLC.
AMERICAN EAGLE MINE
Well No. 49
API No. 47-005-00861
Scale: 1"=2000'

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SLYVESTER QUADRANGLE
WEST VIRGINIA - BOONE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

5008611P

WW-7
8-30-06

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

API: 47-005-00861 WELL NO.: 49
FARM NAME: LaFollette
RESPONSIBLE PARTY NAME: Gary E. Acord
COUNTY: Boone DISTRICT: Sherman
QUADRANGLE: Sylvester
SURFACE OWNER: LaFollette
ROYALTY OWNER: LaFollette
UTM GPS NORTHING: 4216300.7 meters (NAD-83) 1555'
UTM GPS EASTING: 451597.3 meters (NAD-83) GPS ELEVATION: 474 m.

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 __X__: 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.

Gary E Acord — Signature
ENGINEER — Title
9-06-17 — Date

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