



west virginia department of environmental protection

Office of Oil and Gas
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Austin Caperton, Cabinet Secretary
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Thursday, February 13, 2020
WELL WORK PLUGGING PERMIT
Vertical Plugging

CONSOLIDATION COAL COMPANY
1 BRIDGE STREET

MONONGAH, WV 265540000

Re: Permit approval for JOHN BURLEY 1 (M-1738)
47-051-00539-00-00

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

A blue ink signature of James A. Martin, written in a cursive style, is placed over the name and title of the Chief.

Operator's Well Number: JOHN BURLEY 1 (M-1738)
Farm Name: FIRST NATIONAL BANK
U.S. WELL NUMBER: 47-051-00539-00-00
Vertical Plugging
Date Issued: 2/13/2020

I

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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

EXHIBIT NO.1

From the experience and technology developed since 1970 in plugging oil and gas wells for mining through, Consolidation Coal's Northern West Virginia Operations will utilize the following method to plug all future wells.

SOLID PLUG METHOD

- (a) ~~If active well:~~ clean out to total depth and plug back according to state regulations to a minimum of 200 feet below lowest minable coal seam.
- ★ (b) If abandoned well: clean out to first plug ~~200~~ ⁴⁰⁰ feet below lowest minable coal seam.
- (c) Circulate through tubing or drill steel an expanding Class A cement plug from a minimum of ~~200~~ ⁴⁰⁰ feet below minable coal seam to a point 100 feet above minable coal.

Circulate through tubing or drill steel an expanding Class A cement plug from 100 feet above coal seam to surface.

A monument will be installed with API No. and stating "solid plug".

RECEIVED
Office of Oil and Gas
FEB 03 2020
WV Department of
Environmental Protection

In the matter of:
 The Marshall County Coal Company
 Marshall County Mine
 I.D. No. 46-01437

Petition for modification

Docket No. M-2016-016-C

MSHA 101 C
 EXEMPTION

PROPOSED AMENDED DECISION AND ORDER

On May 31, 2016, a Petition was filed seeking a modification of the application of 30 C.F.R. § 75.1700 to The Marshall County Coal Company's Marshall County Mine located in Marshall 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 requests to amend their current PDO granted on May 15, 1989, under Docket M-1988-199-C formerly known as McElroy Coal Company, McElroy Mine to the alternate method stipulated in the April 29, 2013 PDO granted to ACI Tygart Valley, Leer Mine.

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.

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 July 27, 2016, MSHA personnel conducted an investigation of the Petition and filed a report of their findings with the Administrator for Coal Mine Safety and Health. The modification granted under Docket No. M-1988-199-C will be superseded and replaced by this amended modification granted under Docket No. M-2016-016-C after this Proposed Amended Decision and Order becomes final.

The mine is represented by United Mine Workers of America (UMWA), AFL-CIO, CLC-1638 with miners' representatives and did not file any questions or comments on behalf of the miners.

After review of the parties' submissions and Joint Motion for Settlement, the following Decision and Order is issued.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The Marshall County Mine employs approximately 712 miners and produces approximately 50,000 tons of bituminous coal per day from the Pittsburgh #8 coal seam with an average mine height of 66 inches. At this time, there are no coal seams being mined below (i.e., stratigraphically down section from) the Pittsburgh seam. The mine is accessed through 2 slope and 12 air shafts. The mine operates 3 production shifts per day, 5 days per week, on five working sections, two longwall and three advancing gate sections utilizing continuous mining machines. The mine liberates 11,659,131 cubic feet of methane on a daily basis.

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 #8 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 Decision and Order reflects the settlement between the Petitioner's proposal and the amended terms and conditions first set forth by MSHA, under the terms set forth below. The major points of compromise include the following:

1. *Making a diligent effort to remove the casing to the original total depth.* If all of the casing can be removed, or if the well contains no casing, the operator shall

prepare the well for plugging, and use seals described below, for wells less than 4,000' depth to seal to 200 feet below the coal seam to be mined, or the lowest mineable seam, whichever is lower, or for wells 4,000' deep or greater, seal 400 feet below the coal seam to be mined, or lowest mineable seam, whichever is lower. MSHA retains the right to review and direct the operator's sealing protocol, in the event geologic or well conditions require further measures. As used in this Proposed Amended Decision and Order, in order to make a diligent effort to remove the casing, the operator shall pull a minimum of 150% of casing string weight and/or have made at least three attempts to spear or overshot to grip the casing for the required minimum pull effort. Where casing string length is unknown, a 3,000' casing string will be assumed. The operator shall keep a record of these efforts, including casing length and weights, and make available for MSHA review. The District Manager reserves the right to require additional measures in efforts to remove casing, as appropriate.

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. MSHA and the operator will work cooperatively to establish a communications protocol, so that the operator may contact the District Manager while working outside normal working hours.
3. *Cement.* Cement is specified to be used as a plugging material, instead of an unnamed "approved equivalent," as requested by Petitioner.
4. *Wells vary in depth.* The terms and conditions required by MSHA will require operator to prepare these wells for safe intersection by making a diligent effort to remove casing to the total depth if possible, then: cleaning to and setting a plug at least 200' below the coal seam to be mined or lowest mineable seam, whichever is lower; or for wells 4,000' or greater, to at least 400 feet below the coal seam to be mined, or lowest mineable seam, whichever is lower. The operator will then plug from either the attainable bottom or the newly installed plug, as applicable, by pumping expanding cement slurry and pressurizing to at least 200 psi. If the total depth is not reached and casing cannot be removed, these alternative methods included in this proposed decision and order have proven to be safe and effective when properly implemented.
5. *Notification* - Where the operator is required to notify the District Manager pursuant to the terms of this Proposed Decision and Order, the method of notification will be set forth in the cut-through procedures for each well. The

District Manager agrees to provide a number wherein he or his designee is available at all times.

Therefore, the terms and conditions as amended will at all times guarantee no less than the same measure of protection afforded the miners under 30 C.F.R. § 75.1700 for all wells regardless of depth. On the basis of the Petition, comments received, the findings of MSHA's investigation, and the parties' Joint Motion for Settlement, the Marshall County Coal Company is granted a modification of the application of 30 C.F.R. § 75.1700 to its Marshall County Mine.

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 The Marshall County Coal Company's Marshall County 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, the person at the mine who is in charge of health and safety at the mine, 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, electronic or otherwise, 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 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 the well is actively producing gas.

- (1) A diligent effort shall be made to remove all the casing in the well and clean the well to 200' below the coal seam to be mined, or the lowest mineable coal seam, whichever is lower, or for wells 4,000' or greater, clean the well to 400' below the coal seam to be mined, or the lowest mineable coal seam, whichever is lower.

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 coal seam to be mined, 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 coal seam to be mined. Wells of this greater depth are under greater pressure, so the 400 feet requirement provides greater protection for miners. The operator shall make a diligent effort to 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.

Where active wells which are no longer producing are being cleaned and prepared subject to this order, the operator must: 1) attempt to remove all of the casing using a diligent effort, and comply with all other applicable provisions in this order, or 2) if the casing cannot be removed from the total depth, must be filled with cement from the lowest possible depth to 200 feet below the seam to be mined or lowest mineable coal seam, whichever is lower for wells less than 4,000', or 400 feet below the seam to be mined or lowest mineable coal seam, whichever is lower, for wells 4,000' or greater, and the other applicable provisions in this order still apply, or 3) if the casing cannot be removed it shall be perforated from 200 feet below the coal seam to be mined, or lowest mineable seam, whichever is lower, or 400 feet below the seam to be mined or lowest mineable coal seam, whichever is lower, for wells 4,000' or greater, and the annuli shall be cemented or otherwise filled, and the other applicable provisions in this order still apply.

- (2) The operator shall prepare down-hole logs for each well. Logs shall consist of a caliper survey, a bond log if appropriate, a deviation survey, and a gamma survey for determining the top, bottom, and thickness of all coal seams down to the coal seam to be mined, or the lowest mineable coal seam, whichever is lower, 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. Thereafter, the well should be plugged to the attainable bottom, at least 200 feet below the coal seam to be mined or lowest mineable seam, whichever is lower, 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 sufficient intervals 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 the coal seam to be mined 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. For perforations in the Pittsburgh 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.

Jet/sand cutting is one method for ripping or perforating casing with three or more strings of casing in the Pittsburgh coal seam in preparation for mining. This method uses compressed nitrogen gas and sand to cut the well casings as outlined in Appendix A. On active wells cuts start at 200' above the bottom of the casing at 200' intervals, to 200' below the bottom of the Pittsburgh coal seam where Appendix A outlines cut interval minimums.

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 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 lowest mineable 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 coal seam to be mined, or lowest mineable seam, whichever is lower, 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:

- (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 coal seam to be mined, or lowest mineable seam, whichever is lower, (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 lowest mineable 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.

- (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.

- (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 lowest mineable 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.**
- (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. 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 lowest mineable 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.

- (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 coal seam to be mined, or lowest mineable 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.
- (5) The operator shall prepare down-hole logs for each well. Logs shall consist of a caliper survey, a bond log if applicable, a deviation survey, and a gamma log for determining the top, bottom, and thickness of all coal seams down to the coal seam to be mined, **or lowest mineable 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.
- (6) 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.
- (7) 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 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.

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.
- 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.
- m. Non-sparking (brass) tools will be available 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 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 work with 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 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 its 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.

SUBJECT TO THE ABOVE TERMS AND CONDITIONS, and 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 The Marshall County Coal Company's Marshall County Mine is hereby **GRANTED**.

DISTRIBUTION

*Winfield Wilson
Office of the Solicitor, U.S. Dept. of Labor
201 12th St S, Suite 401
Arlington, VA 22202*

*Christopher D. Pence
Hardy Pence PLLC
500 Lee Street East, Suite 701
Charleston, WV 25301*

*Stephen Gigliotti
Coal Mine Safety & Health, Safety Division
Mine Safety and Health Administration, U.S. Dept. of Labor
201 12th St S, Suite 401
Arlington, VA 22202*

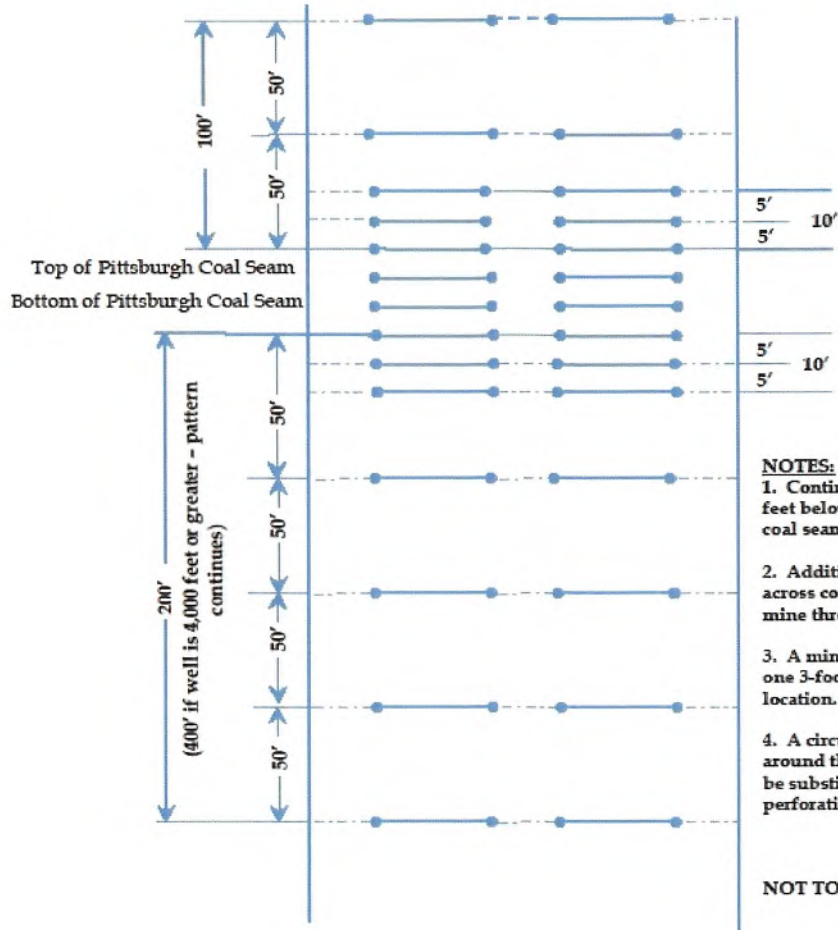
*Sheila McConnell
Office of Standards Regulations and Variances
Mine Safety and Health Administration, U.S. Dept. of Labor
201 12th St S, Suite 401
Arlington, VA 22202*

*Jay Hores
Marshall County Coal Company
1 Bridge Street
Monongah, WV 26554*

*Greg J. Norman, Director
West Virginia Office of Miners' Health Safety & Training
#7 Players Club Dr. Suite 2
Charleston WV 25311*

*Jerry M. Blake
UMWA Representative, Marshall County Coal Mine
902 Wheeling Avenue
Glen Dale, West Virginia 26038*

Appendix A



47-051-00539P

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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

OIL & GAS
DEPT.

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPPLICATE, ONE COPY MAILED TO THE DEPARTMENT, 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.

<u>No Coal Operations</u> COAL OPERATOR OR OWNER	<u>Occidental Petroleum Corporation</u> NAME OF WELL OPERATOR
<u>No Coal Operations</u> COAL OPERATOR OR OWNER	<u>5000 Stockdale Highway</u> ADDRESS
<u>No Coal Operations</u> COAL OPERATOR OR OWNER	<u>Bakersfield, California 93309</u> CITY AND STATE
<u>John Burley, et al</u> LEASE TO PRODUCE OIL AND GAS	<u>January 25, 1971</u> DATE
<u>RFD #5, Cameron, W. Va.</u> ADDRESS	<u>Liberty</u> District
	<u>Marshall</u> County
	Well No. <u>1</u>
	<u>John Burley</u> Farm
	STATE INSPECTOR SUPERVISING PLUGGING <u>Arthur Null, Hendron, W. Va.</u>

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Marshall)
I, Robert N. Crozier and Carter H. Hughes
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 Occidental Petroleum Corporation well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 18th day of January, 1971, and that the well was plugged and filled in the following manner:

BAND OR ZONE RECORD FORMATION	FILLING MATERIAL	PLUGS USED SIZE AND	CASING	
			OD INCHES	WT LBS PER FT
Hole filled with drilling mud 16,512 - 10,437'				11-3/4 at 3901
Perm. Bridge Plug set at 10,437'		Perm. Alum.		
Cement Plug 10,437 - 10,401		36' cement		8-5/8 at 10,511
Cement Plug 10,401 - 10,200		201' cement		
Hole filled with drilling mud 10,200 to 50'				
Cement plug from 50' to surface 50' cement with monument 4 feet above ground level				
All casing left intact in well				
COAL BEARS	DESCRIPTION OF MONUMENT			
(NAME)	Steel-4 feet high x 7" Dia., inscribed			
(NAME)	"Occidental Petroleum Corp. #1 John			
(NAME)	Burley Mars-539 D.D."			
(NAME)				

and that the work of plugging and filling said well was completed on the 18th day of January, 1971

And further deponents saith not.

Sworn to and subscribed before me this 4th day of February, 1971

My commission expires
Mar 23 1971

Robert N. Crozier
Carter H. Hughes
M. Juanita Nelson
Notary Public

Permit No. Mars 539 DD



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PROPOSED MANNER OF PLUGGING AND FILLING WELL

(REQUIRED BY RULES AND REGULATIONS)

**WEST VIRGINIA DEPARTMENT OF MINES
OIL AND GAS DIVISION**

WORK ORDER

Well to be plugged and filled as follows:

7-3/4" hole filled with 8.7 Lb./Gal. Drilling Mud.
Permanent aluminum bridge plug set at 10,437' in 8-5/8" casing.
36' cement plug set between 10,437' and 10,401'.

Cement plug set 10,401' - 10,300' across perforations in casing
between 10,359' and 10,306'.

8-5/8" casing filled with 8.7 Lb./Gallon drilling mud to 50'.
Cement plug set from 50' to surface.

Left intact in hole:

11-3/4" casing set at 3901' and cemented to surface with
1000 cu. ft. cement.

8-5/8" casing set at 10,511' and cemented back to 8900'.

To the Department of Mines
Coal Owner or Operator,
Lease or Property Owner,
**IF PARTIAL PLUGGING
PLEASE SUBMIT REVISED WELL RECORD
WHEN WORK IS COMPLETED.**

Gentlemen:

This "work order" is submitted for your approval and concurrence and unless notified of your disapproval or non-concurrence, the undersigned will proceed with the plugging and filling of said well in the above described manner on the date Inspector is notified after permit is issued.

Very truly yours,
OCCIDENTAL PETROLEUM CORPORATION

Art Yonast, Agent
Well Operator

No objections have been filed by the coal owner or coal operator, or any available adjacent lease or property owners or interposed by the Department of Mines to the manner herein described for the plugging and filling of the well above mentioned. Therefore, the same is hereby approved, this

19th day of January, 1971

**DEPARTMENT OF MINES
Oil and Gas Division**

By: *Robert L. ...*

NOTE: This "work order" shall be filed in triplicate, one copy for the files of the Department of Mines; one to be approved or corrected and returned to the well operator as his authority for plugging said well; and one for the well inspector.

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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

Rotary
Spudder
Cable Tools
Storage G. HOLL

Quadrangle Cameron
Permit No. MARS-539 DD

WELL RECORD

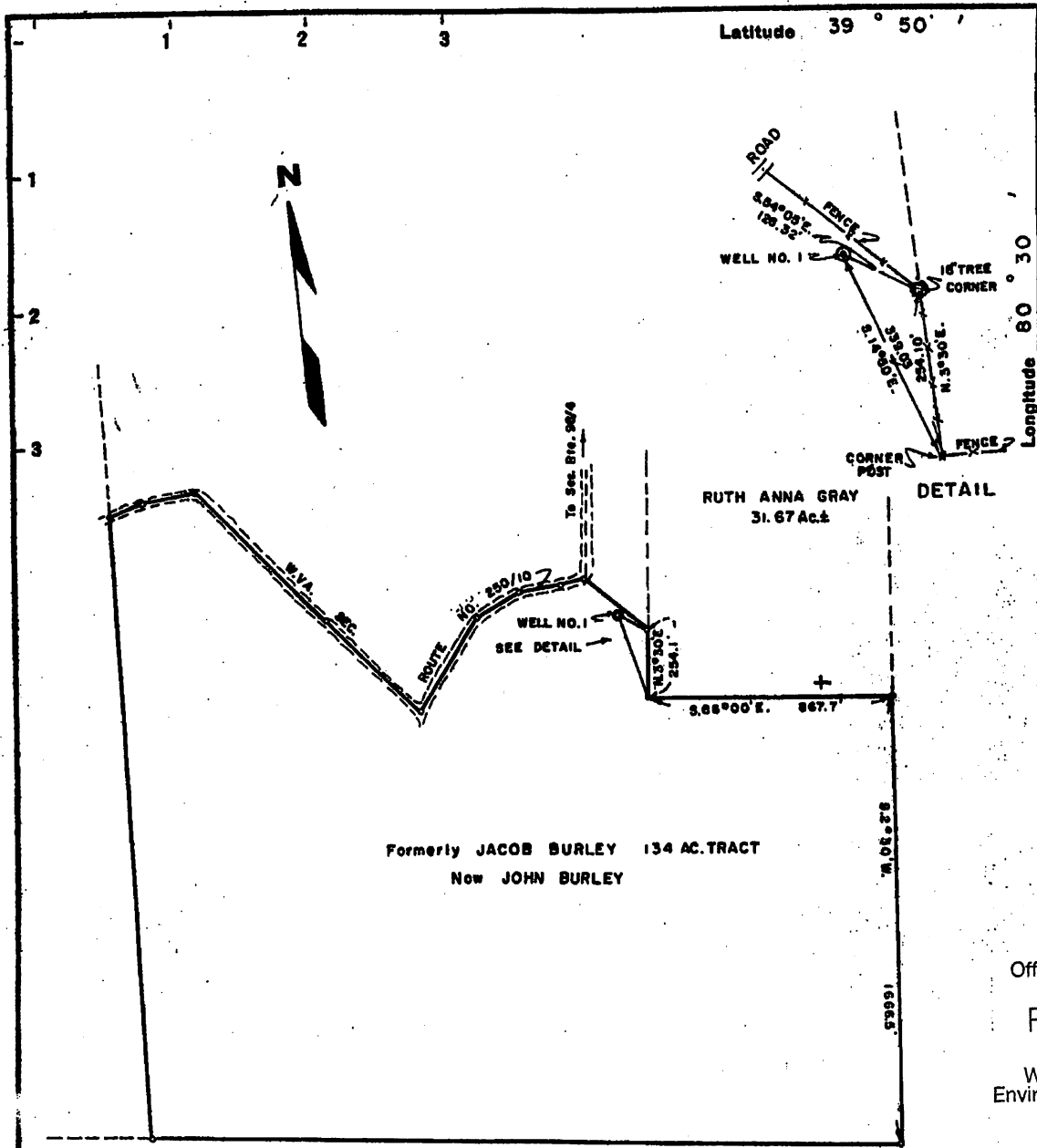
Oil or Gas Well Dry
(KIND)

Company Occidental Petroleum Corporation
 Address 5000 Stockdale Highway
Bakersfield, Calif. 93309
 Farm John Burley, et al Acres 134
 Location (waters) Harts Run
 Well No. One Elev. 1439KB
 District Liberty County Marshall
 The surface of tract is owned in fee by John Burley
RFD #5 Address Cameron, W. Va.
 Mineral rights are owned by John Burley, et al
RFD #5 Address Cameron, W. Va.
 Drilling commenced Deepening 12/4/1970
 Drilling completed Deepening 1/18/1971
 Date Shot Not From - To -
 With -
 Open Flow NO /10ths Water in - Inch -
 /10ths Merc. in - Inch -
 Volume - Cu. Ft. -
 Rock Pressure - lbs. - hrs. -
 Oil - bbls., 1st 24 hrs. -
 WELL ACIDIZED (DETAILS) NO
 WELL FRACTURED (DETAILS) Fractured 10,306 - 10,359 - No Result
 RESULT AFTER TREATMENT (Initial open Flow or bbls.) NIL
 ROCK PRESSURE AFTER TREATMENT - HOURS -
 Fresh Water - Feet - Salt Water - Feet -
 Producing Sand - Depth -

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Original total depth				14,496			
Beekmantown Dolomite			14,040	16,095			
Rose Run Sand			16,095	16,275			
Trempealeau - Copper Ridge Dolomite			16,275	16,512			
Total Depth				16,512	16,275 1439 <u>14814</u>		

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Environmental Protection

16512
14496
2016 DD Soilage



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Environmental Protection

Fracture Before 6/5/27
 Drill Deeper
 Redrill
 Abandonment

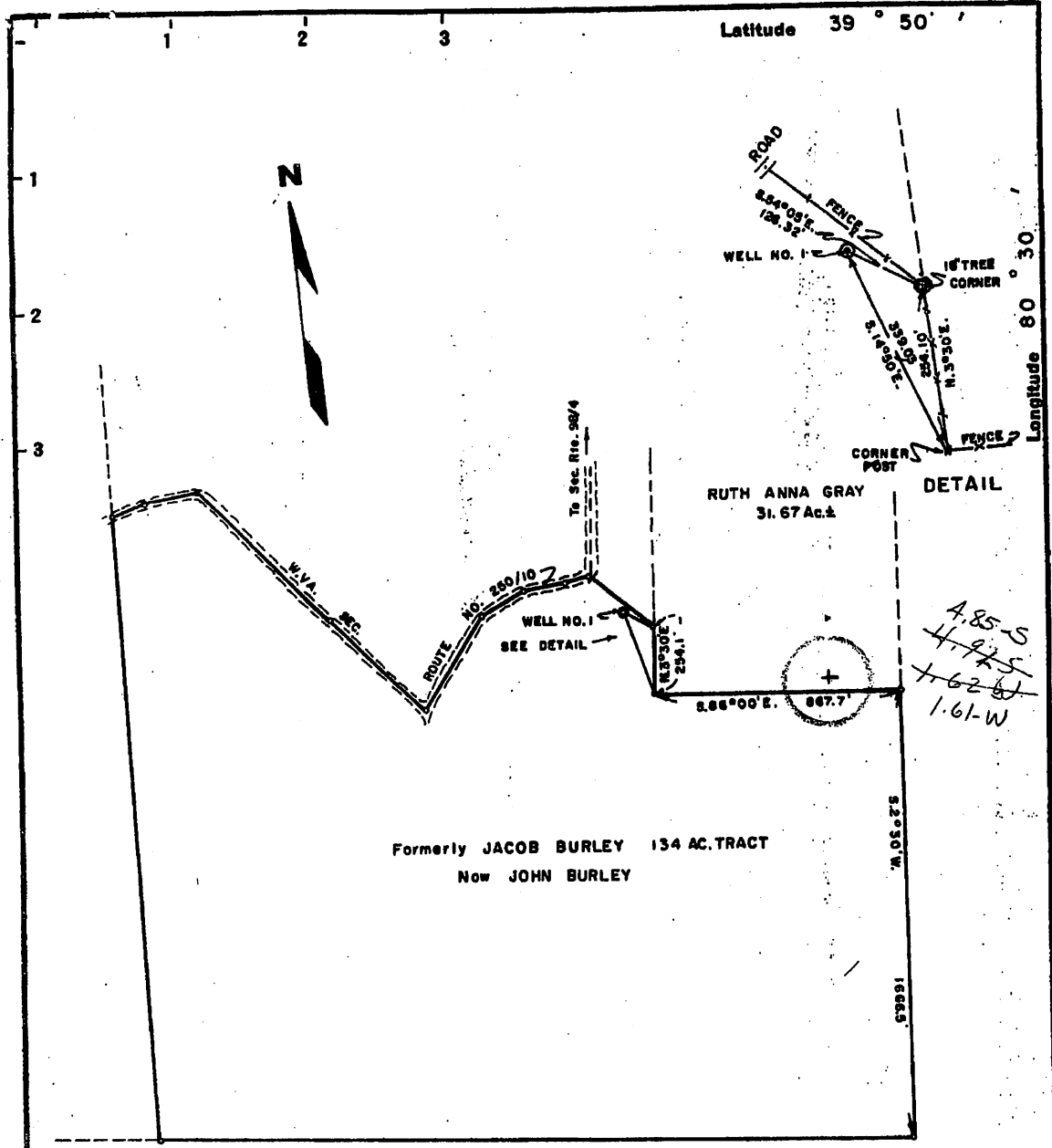
I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by Paragraph 5 of the Rules and Regulations of the Oil and Gas Section of the Mining Laws of West Virginia.
 The accuracy of this survey is within the limits and as prescribed in paragraph 5 by the Oil and Gas Division of the Department of Mines Regulations.
 PROVEN ELEVATION WELL NO. 1 1423.

Company **OCCIDENTAL PETROLEUM CORP.**
 Address **5000 Stockdale Hwy. Bakersfield Calif 93309**
 Farm **JOHN BURLEY**
 Tract _____ Acres **134** Lease No. _____
 Well (Farm) No. _____ Serial No. _____
 Elevation (Spirit Level) **1423**
 Quadrangle **CAMERON SE**
 County **MARSHALL** District **LIBERTY**
 Engineer **J. James Schullhaas**
 Engineer's Registration No. **1873**
 File No. _____ Drawing No. _____
 Date **4/17/69** Scale **1" = 500'**

SOURCE: USGS BENCH MARK AT 2 ROAD INTERSECTIONS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
 FILE NO. **Mars-539-00**
 + Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

"IMPERIAL" TRACING CLOTH
K & E CO., N.Y.

DEC 21 1970



Fracture Before 6/5/27
 Drill Deeper
 Redrill
 Abandonment
 Cased 1-19-71

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by Paragraph 5 of the Rules and Regulations of the Oil and Gas Section of the Mining Laws of West Virginia.
 The accuracy of this survey is within the limits and as prescribed in paragraph 5 by the Oil and Gas Division of the Department of Mines Regulations. **PROVEN ELEVATION** WELL NO. 1 1423.

OCCIDENTAL PETROLEUM CORP.
 SANFORD E. MCCORMICK
 Company 5000 Stockdale Hwy. Bakersfield Calif 93309
 Address
 Farm JOHN BURLEY
 Tract Acres 134 Lease No.
 Well (Farm) No. 1 Serial No.
 Elevation (Spirit Level) 1423
 Quadrangle CAMERON SE
 County MARSHALL District LIBERTY
 Engineer J. James Schellhorn
 Engineer's Registration No. 1673
 File No. Drawing No.
 Date 4/17/65 Scale 1" = 500'

SOURCE: USGS BENCH MARK AT 2 ROAD INTERSECTIONS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. Mars-539-00-P

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

Form 60-10



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION 9

Rotary
Spudder
Cable Tools
Storage IS BOB?

Quadrangle Cameron

WELL RECORD

Permit No. HARG-539

Oil or Gas Well dry (KIND)

Company <u>Sanford E. McCormick</u>	Casing and Tubing	Used in Drilling	Left in Well	Packers
Address <u>530 Commerce Square, Chas., W. Va.</u>	Size			
Farm <u>John Burley</u> Acres <u>1.34</u>	16	100'	100'	Kind of Packer.....
Location (waters) <u>Harts Run of Fish Creek</u>	13	3,901'	3,901'	Size of.....
Well No. <u>One</u> Elev <u>1423 Gt.</u>	11 3/4	10,500'	10,500'	Depth set.....
District <u>Liberty</u> County <u>Marshall</u> 1435 K	8 1/4			Perf. top.....
The surface of tract is owned in fee by <u>John Burley, et al</u>	6 5/8			Perf. bottom.....
Address <u>Cameron, W. Va.</u>	5 3/16			Perf. top.....
Mineral rights are owned by <u>John Burley, et al</u>	4 1/2			Perf. bottom.....
Address <u>Cameron, W. Va.</u>	1			
Drilling commenced <u>June 2, 1969</u>	2			
Drilling completed <u>November 5, 1969</u>	Liners Used			
Date Shot <u>Not</u> From <u> </u> To <u> </u>				
With <u> </u>				

Attach copy of cementing record.

Open Flow /10ths Water in Inch

 /10ths Merc. in Inch

Volume Cu. Ft.

Rock Pressure lbs. hrs.

Oil bbls., 1st 24 hrs.

WELL ACIDIZED (DETAILS) FEET INCHES FEET INCHES

WELL FRACTURED (DETAILS) FEET INCHES FEET INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) No Treatment

ROCK PRESSURE AFTER TREATMENT HOURS

Fresh Water Feet

Producing Sand Depth

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Sandstone			Surf.	280			2780
Shale			280	450			1423
Sandstone			480	560			357
Sand & Shale			560	650			
Sandstone			650	730			
L.S. & Sandstone			730	780			
Shale			780	940			
Limestone			940	1120			
Shale w/sd stringers			1120	2280	✓ Show of coal		1170-75
					Show of Coal		1230
					Show of Coal		1958
Greenbrier L. S.			2280	2370			
Injun Sand			2370	2620	Show of Coal		2505
Shale w/sd stringers			2620	2973			
Berea Sand			2973	2993			
Shale			2993	3170			
Sandstone			3170	3205	7575	7802	7890
Shale			3205	3240	1435	1435	1435
Sandstone			3240	3285			
Shale			3285	3310			
Sandstone			3310	3350	6140	6367	6455
Shale			3350	3520			
Sandstone			3520	3540	7575		
Shale			3540	7575			
Onondaga L.S.			7575	7802			
Oriskany Sand			7802	7890	Small amount of water		

(over)

Formation	Color	Hard or Soft	Top <i>f</i>	Bottom	Oil, Gas or Water	Depth Found	Remarks
Limestone & Dolomite			7890	9780			
Shale			9780	10050			
Dolomite			10050	10070			
Shale			10070	10150			
Dolomite			10150	10190			
Tuscarora Sand			10190	10470			
Queenston Shale			10470	12400			
Shale & Limestone			12400	13800			
Limestone & Dolomite			13800	14496			
TOTAL DEPTH				14496			

Beekmantown

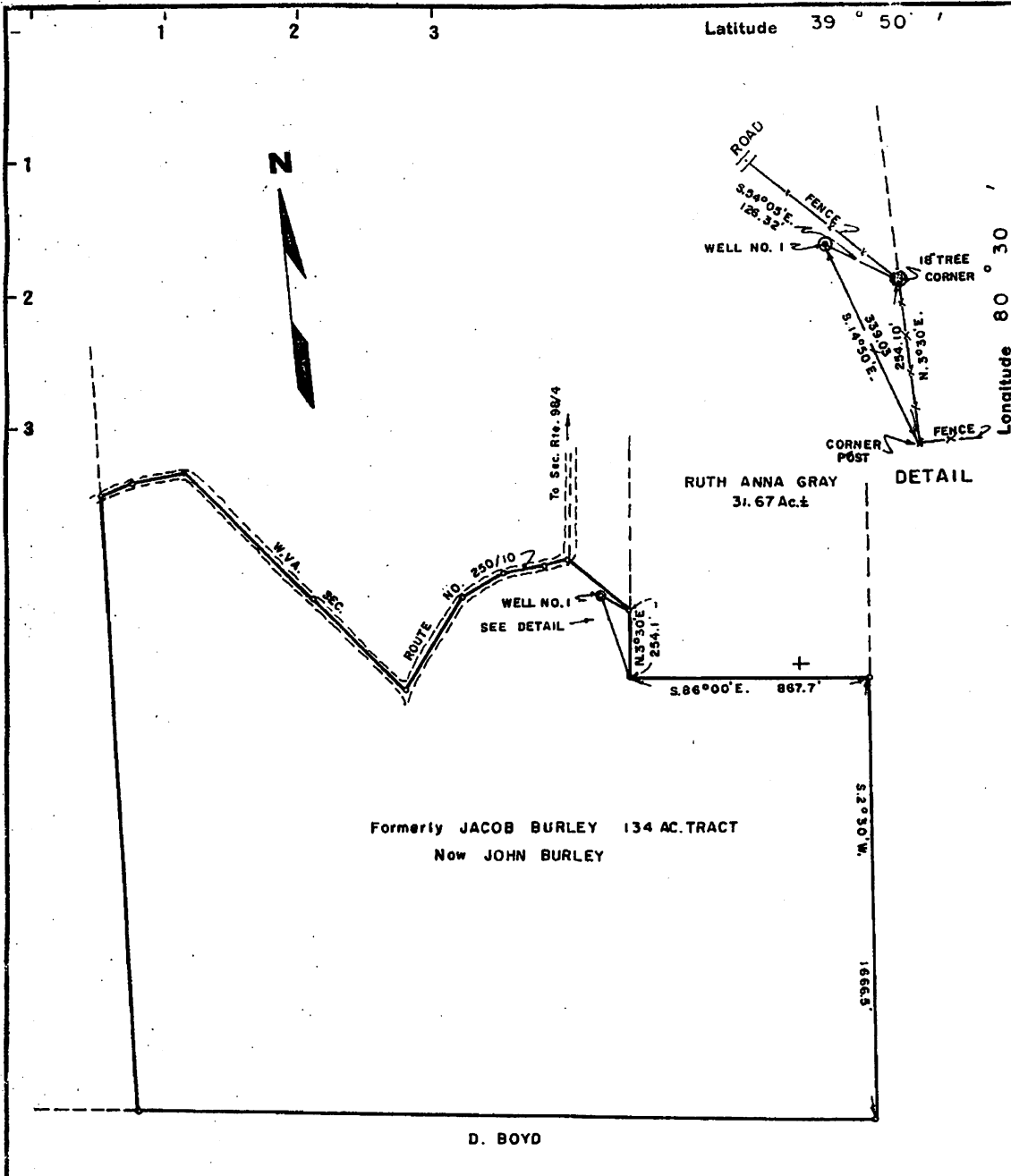
** This well has been sold to Occidental Petroleum Corporation for deepening purposes.

10130

Date *October 26* 1970

APPROVED *James P. McCormick*, Owner

By *[Signature]* (Title)



Fracture Before 6/5/27.....
 New Location.....
 Drill Deeper.....
 Redrill.....
 Abandonment.....

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by Paragraph 5 of the Rules and Regulations of the Oil and Gas Section of the Mining Laws of West Virginia.
 The accuracy of this survey is within the limits and as prescribed in paragraph 5 by the Oil and Gas Division of the Department of Mines Regulations.
 PROVEN ELEVATION WELL NO. 1 1423.

Company SANFORD E. McCORMICK
 Address CHARLESTON, W.VA.
 Farm JOHN BURLEY
 Tract Acres 134 Lease No.
 Well (Farm) No. Serial No.
 Elevation (Spirit Level) 1423
 Quadrangle CAMERON SE
 County MARSHALL District LIBERTY
 Engineer J. James Schellhauer
 Engineer's Registration No. 1673
 File No. Drawing No.
 Date 4/17/69 Scale 1" = 500'

SOURCE: USGS BENCH MARK AT 2 ROAD INTERSECTIONS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. Mars-539

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.
 — Denotes one inch spaces on border line of original tracing.

IMPERIAL TRADING CLOTH
 2 & 8 Co., N.Y.

39°47'30"

Latitude

80°30'00"

Longitude

2.065
1.60w

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Topo Location

7.5' Loc. _____ 15' Loc. _____
(calc.) _____

Company _____

Farm John Bunley #1

15' Quad _____
(sec.)

7.5' Quad Cameron

District Liberty

WELL LOCATION PLAT

County OSI Permit 539



West Virginia Geological & Economic Survey

About [Interactive Mapping](#) [Oil&Gas Well Header Data Search](#) ["Pipeline"](#) [File Repositories](#) [Scanned Records Search](#) [Slabbed Core Photos](#)

Oil & Gas Well Header Data Search

[Help Page](#)

API #: 4705100539

Well Type:

County:

Total Vertical Depth TVD(ft) >=

7.5 Minute Quad:

Completion Year =

Type of Log:

Operator at Completion (contains):

Log Bottom (ft) >=

Last Producing Operator (contains):

has Scanned Log(s):

Surface Owner (contains):

has Digitized Log(s):

Field Name (contains):

has Sample Desc Scan:

Company Number (contains):

has Slabbed Core Photo(s):

Mineral Owner (contains):

Results/Page: 100

Horizontal/Deviated Well:

Order By: API

Please enter or select criteria to perform database search. The application uses an "and" operator between search fields. Searches will not be performed if the required field criteria is not met. Error messages are indicated in RED. [More Help](#)

Search

Reset

2 Records Found, showing page 1 of 1 at 100 records per page

API #	Well Name	County	7.5 Quad	Depth	DTL	Log	Log Type	Log Date	Log Type	Log Date	Log Type	Log Date	Log Type	Log Date	Log Type	Log Date	Log Type	Log Date	Log Type	Log Date					
4705100539	All Data View/Elog Dlog Scans	Marshall	Cameron	Liberty	39.761877	-80.423961	G.D.N.S.I.C.*	16535	Dilled Deeper	Completed	1974	Dry	Occidental Petroleum	Consolidation Coal Co.	John Burley et al	John Burley et al	John Burley et al	John Burley et al	John Burley et al	John Burley et al	1	16512	Copper Ridge Dolomite	Cameron	142:
4705100539	All Data View/Elog Dlog Scans	Marshall	Cameron	Liberty	39.761877	-80.423961	G.D.N.S.I.C.*	16535	Original Location	Completed	1989	Dry	McCormick, Sanford E.	Consolidation Coal Co.	John Burley et al	John Burley et al	John Burley et al	John Burley et al	John Burley et al	John Burley et al	1	14496	Beekmantown Group	Cameron	142:

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Select County: (051) Marshall

Enter Permit #: 539

Get Data

Select dataTypes: (Check All)

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

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

WV Geological & Economic Survey

Well: County = 051 Permit = 539

Report Time: Monday, December 09, 2019 1:50:24 PM

Location Information: [View Map](#)

API	4705100539	COUNTY	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LONG_DD	UTME	UTMN
		Marshall	539	Liberty	Cameron	39.761877	-80.529861	540270.1	4401434.1

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE_NUM	LEASE_NUM	MINERAL_OWN_OPERATOR	AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TM_EST_PR
4705100539	11/6/1969	Original Loc	Completed	John Burey et al	1	1			John Burey et al	McCormick, Sanford E.			
4705100539	1/18/1971	Drilled Deeper	Completed	John Burey et al					John Burey et al	Occidental Petroleum			

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_BEF	G_AFT	O_BEF	O_AFT	NGL_BEF	NGL_AFT	P_BEF	TI_BEF	TI_AFT	BI
4705100539	11/6/1969	6/8/1969	1423	Ground Level	Cameron	Beekmantown Group	Deeper-pool Test	Unsuccessful	Dry	Rotary	Na/Open H	14496	14496		14496	0	0	0	0	0	0	0	0	0	0
4705100539	1/18/1971	12/4/1970	1423	Ground Level	Cameron	Copper Ridge Dol	Deeper-pool Test	Unsuccessful	Dry	Rotary	Fractured	16512	16512		2016	0	0	0	0	0	0	0	0	0	0

There is no Pay data for this well

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100539	Cobham Gas Industries, Inc.	1993	75	8	16	18	13	7	1	2	2	2	5	5	3
4705100539	Cobham Gas Industries, Inc.	1995	60	5	5	5	5	5	5	5	5	5	5	5	5
4705100539	Cobham Gas Industries, Inc.	1996	60	5	5	5	5	5	5	5	5	5	5	5	5
4705100539	Cobham Gas Industries, Inc.	1997	60	5	5	5	5	5	5	5	5	5	5	5	5
4705100539	Cobham Gas Industries, Inc.	1998	60	5	5	5	5	5	5	5	5	5	5	5	5
4705100539	Cobham Gas Industries, Inc.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2002	526	0	0	0	0	0	59	105	93	93	99	47	30
4705100539	Tr-County Oil & Gas, Inc.	2003	640	11	4	82	3	2	72	72	31	92	86	92	93
4705100539	Tr-County Oil & Gas, Inc.	2004	1,454	87	224	112	112	122	124	134	111	111	134	115	
4705100539	Tr-County Oil & Gas, Inc.	2005	1,411	74	139	130	101	122	109	135	124	113	129	133	102
4705100539	Tr-County Oil & Gas, Inc.	2006	1,139	118	111	87	143	141	124	107	103	67	50	55	33
4705100539	Leathewood, Inc.	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Consolidation Coal Co.	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100539	Cobham Gas Industries, Inc.	1993	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1995	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1996	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1997	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1998	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Cobham Gas Industries, Inc.	1999	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Tr-County Oil & Gas, Inc.	2006	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Leathewood, Inc.	2017	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Consolidation Coal Co.	2018	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

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100539	Leathewood, Inc.	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Consolidation Coal Co.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Consolidation Coal Co.	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4705100539	Consolidation Coal Co.	2016	0	0	0	0	0	0	0	0	0	0	0	0	0
4705100539	Consolidation Coal Co.	2018	0	0	0	0	0	0	0	0	0	0	0	0	0

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12/9/2019

WV/ES O&G Record Reporting System

4705100539 4/18/1971 0

Sample Information:

API	CUT1_TOP	CUT1_BOT	CUT2_TOP	CUT2_BOT	CORE1_TOP	CORE1_BOT	FM1_TOP	FM1_BOT	CORE2_TOP	CORE2_BOT	FM2_TOP	FM2_BOT	SAMPL	THN_SEC1	SCAN1	SLAB1	PERM1	THN_SEC2	SCAN2	SLAB2	PERM2
4705100539	3920	16510	14490	16510																	

MSC Comment: Not enough for future sampling in some. Dups lower

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WW-4A
Revised 6-07

1) Date: 12/30/19
2) Operator's Well Number
M-1738
3) API Well No.: 47 - 051 - 00539

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>State of WV Dept. of Commerce (DNR)</u>	Name <u>Consolidation Coal Co.</u>
Address <u>324 Fourth Ave.</u>	Address <u>1 Bridge Street</u>
<u>South Charleston, WV 25303</u>	<u>Monongah, WV 26554</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>James Nicholson</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 44</u>	Name _____
<u>Moundsville, WV 26041</u>	Address _____
Telephone <u>(304) 552-3874</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	<u>Consolidation Coal Company</u>	
By:	<u>Jay Hores</u>	<u>RECEIVED</u>
Its:	<u>Project Engineer</u>	<u>Office of Oil and Gas</u>
Address	<u>6126 Energy Road</u>	<u>FEB 03 2020</u>
	<u>Moundsville, WV 26041</u>	
Telephone	<u>(304) 843-3565</u>	<u>WV Department of Environmental Protection</u>

Subscribed and sworn before me this 14th day of January
Christian K Warfield Notary Public
My Commission Expires June 10, 2024

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.

WW-9
(5/16)

API Number 47 - 051 - 00539 P
Operator's Well No. M-1738

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

Operator Name Consolidation Coal Company OP Code 10950

Watershed (HUC 10) Pennsylvania Fork of Fish Creek Quadrangle Cameron, WV 7.5'

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (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 Tanks, See attached letter)

Will closed loop system be used? If so, describe: Yes, Gel circulated from tank thru well bore and returned to the tank

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Gel or cement

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

Additives to be used in drilling medium? Bentonite, Bicarbonate of Soda

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Shaker cuttings buried on site

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

-Landfill or offsite name/permit number? N/A

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 Jay Hores

Company Official (Typed Name) Jay Hores

Company Official Title Project Engineer

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WV Department of
Environmental Protection

Subscribed and sworn before me this 14th day of January, 2020

Christa K. Warfield

Notary Public

My commission expires June 10th, 2024



OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Christian K Warfield
Murray American Energy Inc
6126 Energy Road
Moundsville WV 26041
My Commission Expires June 10, 2024

**MURRAY AMERICAN ENERGY, INC.
& CONSOLIDATION COAL COMPANY**

**MURRAY AMERICAN ENERGY,
INC. & CONSOLIDATION COAL
COMPANY**

46226 National Road
St. Clairsville, OH 43950

phone: 304.843.3565

fax: 304.843.3546

e-mail: JayHores@coalsource.com

JAY HORES

Project Engineer

January 14, 2020

Department of Environmental Protection
Office of Oil and Gas
601-57th Street
Charleston, WV 25320

To Whom It May Concern,

As per the Division of Environmental Protection, Office of Oil and Gas request, Consolidation Coal Company submits the following procedures utilizing pit waste.

Upon submitting a well work application (without a general permit for Oil & Gas Pit Waste Discharge Application), Consolidation Coal Company will construct no pits, but instead will use mud tanks to contain all drilling muds.

Once the well is completed, that material (minus the cave material) will be trucked to the next well to be plugged or to DEP facilities number U-0033-83, O-1001-00, U-1035-91U-46-84, U-78-83, O-1044-9, or U-100-83.

Sincerely,



Jay Hores
Project Engineer

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Form WW-9

Operator's Well No. M-1738

Proposed Revegetation Treatment: Acres Disturbed 1 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.0

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

Seed Mix in accordance with WVDEP Oil
and Gas, Erosion and Sediment Control
Field Manual

Seed Mix in accordance with WVDEP Oil
and Gas, Erosion and Sediment Control
Field Manual

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: *Jim Wickham*

Comments: _____

Title: Oil & Gas Inspector

Date: 1/31/2020

Field Reviewed? Yes No

N/A

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

Operator Name: CONSOLIDATION COAL COMPANY

Watershed (HUC 10): PENNSYLVANIA FORK OF FISH CREEK Quad: CAMERON WV,PA

Farm Name: _____

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

[Empty response box for question 1]

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

[Empty response box for question 2]

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

[Empty response box for question 3]

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

[Empty response box for question 4]

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

N/A

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

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.

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

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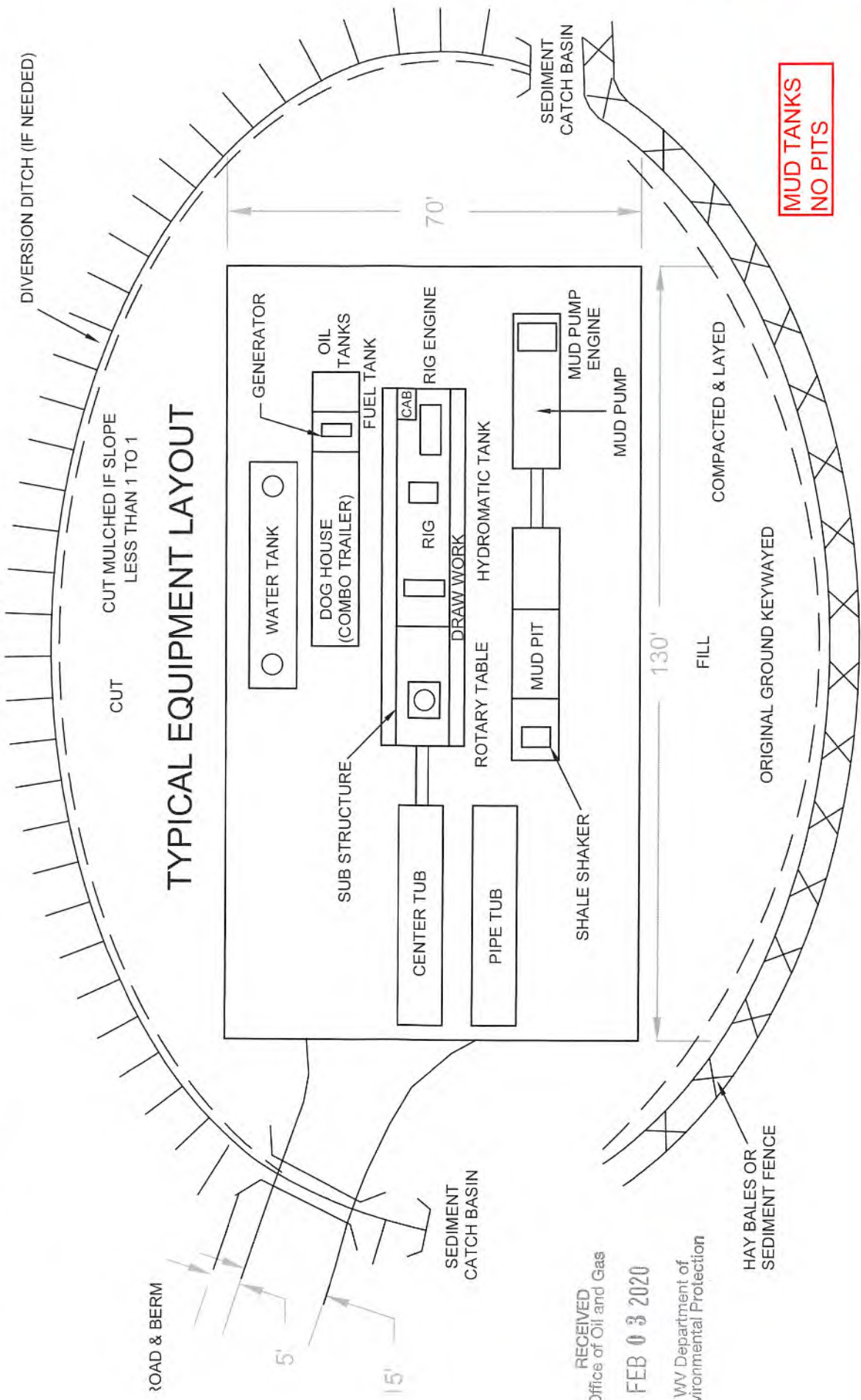
WV Department of
Environmental Protection

Signature: _____

Date: _____

CONSOLIDATION COAL COMPANY
NORTHERN WEST VIRGINIA
OPERATIONS

TYPICAL DRAWING OF
WELL PLUGGING
SITE PLAN



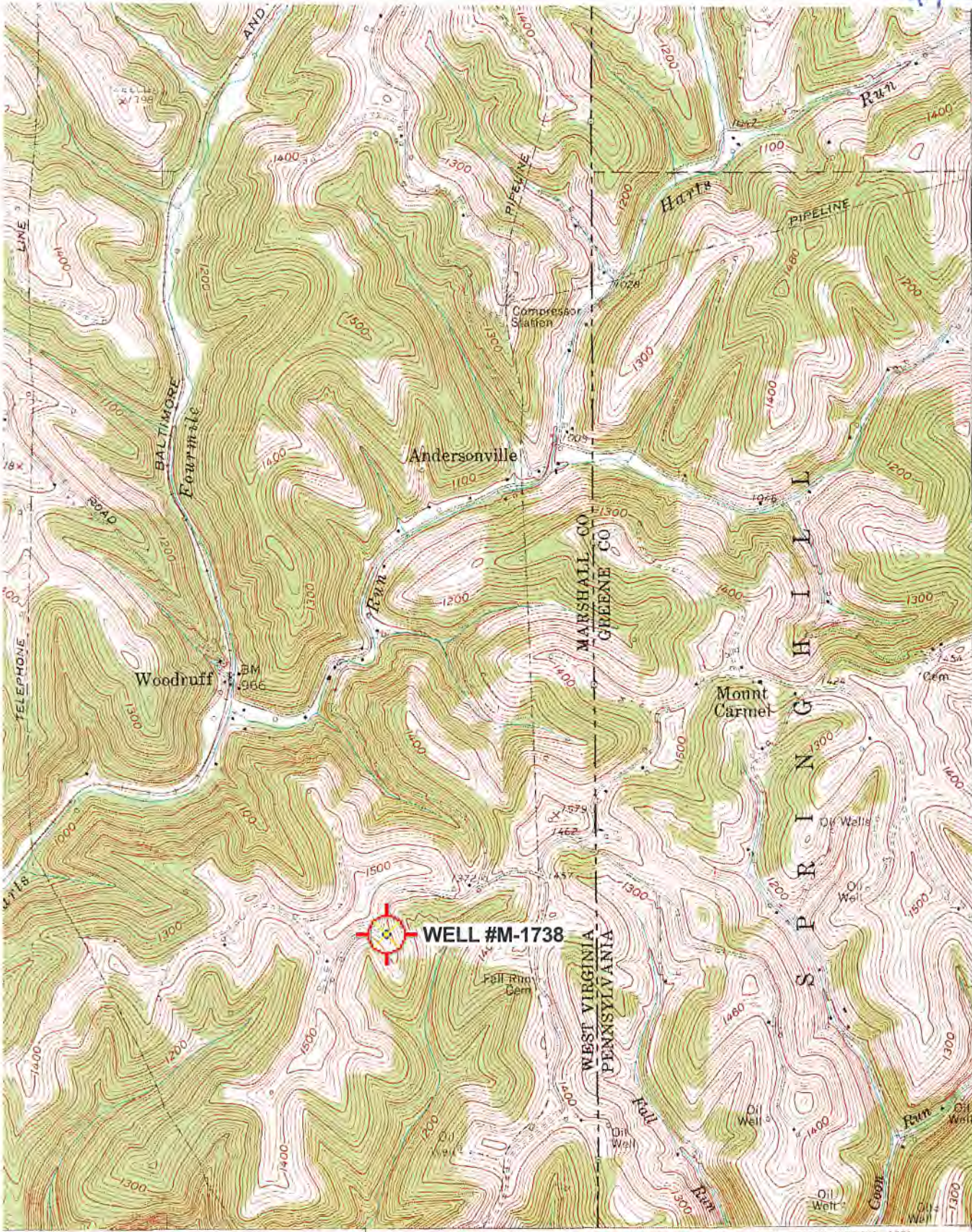
TYPICAL EQUIPMENT LAYOUT

MUD TANKS
NO PITS

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47-051-00539A



4105
47'30"
4404
4403
4402
170 000 FEET (PA.)
4401000m N.
39°45'

539 32'30" 540 1 220 000 FEET (PA.) 542000m E. 80°30'



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ROAD CLASSIFICATION

- Heavy duty ————
- Medium-duty ————
- Light-duty ————
- Unimproved dirt ————

U. S. Route State Route

(HUNDRED)
1963 III NW

CAMERON, W. VA. — PA.

SE/4 CAMERON 15' QUADRANGLE
300000 05 1074

'Cameron; WV,PA' Scale: 1" = 0.379Mi 610Mt 2,000Ft, 1 Mi = 2.640" , 1 cm = 240Mt

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-051-00539 WELL NO.: M-1738

FARM NAME: JOHN BURLEY

RESPONSIBLE PARTY NAME: CONSOLIDATION COAL COMPANY

COUNTY: MARSHALL DISTRICT: LIBERTY

QUADRANGLE: CAMERON WV, PA

SURFACE OWNER: STATE OF WV DEPT. OF COMMERCE (DNR)

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,401,411 m (1423')

UTM GPS EASTING: 540,259 m GPS ELEVATION: 434 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 X

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

Professional Surveyor

Title

DECEMBER 30, 2019

Date

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