west virginia department of environmental protection

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

Thursday, November 1, 2018

WELL WORK PLUGGING PERMIT
Coal Bed Methane Well Plugging

CONSOLIDATION COAL COMPANY
1 BRIDGE STREET

MONONGAH, WV 265540000

Re: Permit approval for L-1
47-061-01404-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: L-1
Farm Name: CONSOLIDATION COAL COM
U.S. WELL NUMBER: 47-061-01404-00-00
Coal Bed Methane Well Plugging
Date Issued: 11/1/2018

47-061-01404P

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.

47-061-01404P

WW-4B
Rev. 2/01

1) Date JUNE 15, 20 18
2) Operator's Well No. L-1
3) API Well No. 47- 061 - 01404

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

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

5) Location: Elevation 1114.86' Watershed South Fork of West Virginia Fork of Dunkard Creek
District Battelle County Monongalia Quadrangle WADESTOWN, WV,PA 7.5'

6) Well Operator CONSOLIDATION COAL COMPANY
Address 1 BRIDGE STREET
MONONGAH, WV 26554

7) Designated Agent DAVID RODDY
Address 1 BRIDGE STREET
MONONGAH, WV 26554

8) Oil and Gas Inspector to be notified
Name Gayne J. Knitowski
Address P.O. Box 108
Gormania, WV 26720

9) Plugging Contractor
Name ____
Address ____

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

SEE EXHIBIT No. 1

&

MSHA 101C EXEMPTION

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

Work order approved by inspector Gayne J Knitowski Date 9/27/2018

EXHIBIT No. 1

47-061-01404CP

WW-4B

10) Work Order:

1. Move in rig up. Set fluid return tank.
2. Check well pressure and fill with gel to run bond log.
3. If well is cemented to surface, then clean hole to Pittsburgh Coal, where the wellbore may have
★ "fish" in the hole. There may be 2 7/8" AOH drillpipe left in the horizontal well that intersects this vertical well. It will need to be milled to clear the wellbore to continue cleaning out the wellbore and drilling out the bridge plug.
4. Drill out bridge plug and clean out to TD (2155'), taking care to prepare for a pressure surge when drilling out bridge plug. Have kill fluid and pump ready.
5. Set bottom hole plug with Class A Cement from TD to 1155'(~ 200' below Pittsburgh Coal)
6. WOC. Tag plug and set an Expanding Cement Plug from 1155 feet to 1000 feet.
7. WOC. Spot gel and set Cast Iron Bridge Plug just below the Pittsburgh Coal (~ 980').
8. Infuse Pittsburg Coal Seam laterals with fresh water. (~ 500 bbls).
9. Set bridge plug just above the Pittsburgh Coal Seam and Cement to surface with expanding cement taking care to cover perforations from 926' to 924' and 862' to 858'.
10. Remove any remaining " fish" that may still be in the Access Well from below (inside mine).
11. Set monument per WV State Code.

- Any portion of the well bore not filled with cement must be filled with gel.
- Gel is fresh water with a minimum of 6% Bentonite (by weight).

★ SEE ATTACHED ITEMS LEFT IN HOLE SHEET.

47-061-01404 P

Items Left In Hole @ L1

Item	O.D	I.D.	Length	Total Length
Bit XR 15PS Open	4 3/4		0.5	0.5
3Deg. Adj Mtr.@2 1/8	3 3/4		15.95	16.45
Float Sub	3 11/16	1 1/4	1.1	17.55
EM Orienting Sub	3 3/4	2 3/16	2.86	20.41
EM Monel Collar	4	2 5/16	16.23	36.64
EM Gap Sub	3 3/4	2 3/8	3.84	40.48
EM Battery Sub	3 3/4	2 3/8	4.89	45.37
Crossover	3 3/4	2 3/16	0.79	46.16
Flex Monel	3 1/2	2 1/4	30.94	77.1
Crossover	3 13/16	2 1/16	1.02	78.12
2 7/8 AOH Drill Pipe	3.875	2.166	AVG. 32'	
	Backed Off @	Amount Left in Hole		
	558'	876.88'	2 7/8 Drill Pipe	
		78.12'	BHA Assembly	
		955'	Total of Tools in Hole	
Side Track East Leg @	1370'			
Total Amount Drilled Leg	143'			

47-061-01404P

U.S. Department of Labor

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

MSHA 101C EXEMPTION FOR CBM WELL

FEB - 9 2013

In the matter of:
The Marion County Coal Company
Marion County Mine
I.D. No. 46-01433

Petition for Modification

Docket No. M-2017-012-C

Proposed Decision and Order

On May 15, 2017, a petition was filed seeking a modification of the application of 30 C.F.R. § 75.1700 to Petitioner's Marion County Mine located in Marion County, West Virginia. The petitioner alleges that the alternative method outlined in the petition will at all times guarantee no less than the same measure of protection afforded by the standard.

Section 30 C.F.R. § 75.1700 provides:

> 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 extraction of methane from coal seams and surrounding strata is a rapidly growing component of the domestic natural gas supply. Recent innovations in drilling techniques have resulted in development of several types of wells and production methods to extract coalbed methane (CBM) resources. Drill holes are deviated in both the horizontal and vertical planes using these techniques. These techniques differ from vertical gas wells and require different techniques in order to plug the wells. Procedures to address the potential hazards presented by CBM wells must be implemented to protect the coal miners who will be exposed to these wells.

When coal mines intersect inadequately plugged CBM wells, methane inundations, ignitions and explosions are possible.

The alternative method proposed by Petitioner would include well plugging procedures, water infusion and ventilation methods, and procedures for mining through each CBM well and/or its branches.

Finding of Fact and Conclusion of Law

The Marion County Mine is an underground coal mine that operates in the Pittsburgh 8 coal seam. The mine employs 512 people, and operates three production shifts per day, five days per week. The mine currently operates three MMUs and a longwall. The coal bed is approximately 84 inches in height and the mine currently has nine air shafts utilizing exhaust ventilation fans. The mine has one slope located in Fairview, West Virginia, where the coal is belted out of the mine, sized, cleaned and then loaded into train railcars at the preparation plant. The mine liberates approximately 6,346,986 cubic feet of methane in 24 hours.

The miners are represented by a labor union with miners' representative.

Consol Energy extracts CBM from the coal seam prior to mining in order to reduce methane emissions and, thus, the incidence of face ignitions. The wells are drilled from the surface using directional drilling technology to develop horizontal branches within the coal seam being mined. Drill holes may be deviated in both the horizontal and vertical planes using these techniques. Multiple horizontal branches may be developed from a single well and multiple seams may be developed from a single well. The drilling industry has trademarked several different proprietary names for these drilling processes. For purposes of this Order, these proprietary drilling processes will be referred to as generic "surface directional drilled" (SDD) wells.

On July 6, 2017, MSHA conducted an investigation of Marion County Mine petition and filed a report of its findings and recommendations with the Administrator for Coal Mine Safety and Health. Based on information gathered during the investigation, MSHA evaluated the Petitioner's proposed alternative method and, as amended by the terms and conditions of MSHA, concluded that it would provide the same measure of protection afforded by 30 C.F.R. § 75.1700. The alternative method has been successfully used to prepare CBM wells for safe intersection by using one or more of the following methods: (1) Cement Plug, (2) Polymer Gel, (3) Bentonite Gel, (4) Active Pressure Management and Water Infusion, and (5) Remedial Work. The alternate method will prevent the CBM well methane from entering the underground mine.

Petitioner's proposed alternative method includes provisions from previously approved petition requests that permit a smaller barrier and/or permit mining through properly plugged oil and gas wells.

These alternative methods have proven safe and effective when properly implemented. In addition, Marion County Mine's petition request also includes additional provisions that are specific to SDD wells.

Accordingly, after a review of the entire record, including the petition and MSHA's investigative report, The Marion County Coal Company is granted a modification of the application of 30 C.F.R. § 75.1700 to its Marion County Mine, and this Proposed Decision and Order (PDO) is issued.

ORDER

Wherefore, pursuant to the authority delegated by the Secretary of Labor to the Administrator for Coal Mine Safety and Health, and pursuant to Section 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 Marion County Mine is hereby:

GRANTED, to allow mining within or through the 300 foot barrier around SDD oil and gas wells, conditioned upon compliance with the following terms and conditions:

1. DISTRICT MANAGER APPROVAL REQUIRED

A minimum working barrier of 300 feet in diameter shall be maintained around all SDD wells until approval to proceed with mining has been obtained from the District Manager. This barrier extends around all vertical and horizontal branches drilled in the coal seam. This barrier also extends around all vertical and horizontal branches within overlying coal seams subject to caving or subsidence from the coal seam being mined when methane leakage through the subsidence zone is possible. The District Manager may choose to approve each branch intersection, each well, or a group of wells as applicable to the conditions. The District Manager may require a certified review of the proposed methods to prepare the SDD wells for intersection by a professional engineer in order to assess the applicability of the proposed system(s) to the mine-specific conditions.

47-061-01404P

2. MANDATORY PROCEDURES FOR PREPARING, PLUGGING, AND REPLUGGING SDD WELLS

a. MANDATORY COMPUTATIONS AND ADMINISTRATIVE PROCEDURES PRIOR TO PLUGGING OR REPLUGGING

1. Probable Error of Location - Directional drilling systems rely on sophisticated angular measurement systems and computer models to calculate the estimated location of the well bore. This estimated hole location is subject to cumulative measurement errors so that the distance between actual and estimated location of the well bore increases with the depth of the hole. Modern directional drilling systems are typically accurate within one or two degrees depending on the specific equipment and techniques. The probable error of location is defined by a cone described by the average accuracy of angular measurement around the length of the hole. For example: a hole that is drilled 500 vertical feet and deviated into a coal seam at a depth of 700 feet would have a probable error of location at a point that is 4,000 feet from the hole collar (about 2,986 ft. horizontally from the well collar) of 69.8 ft. (4,000 ft. x sine (1.0 degree)) if the average accuracy of angular measurement was one degree and 139.6 ft if the average accuracy of angular measurement was two degrees. In addition to the probable error of location, the true hole location is also affected by underground survey errors, surface survey errors, and random survey errors.

2. Minimum Working Barrier Around Well - For purposes of this Order, the minimum working barrier around any coalbed methane well or branches of a coalbed methane well in the coal seam is 50 feet plus the probable error of location. For example: for a hole that is drilled 500 vertical feet and deviated into a coal seam at a depth of 700 feet using drilling equipment that has an average accuracy of angular measurement of one degree, the probable error of location at a point that is 4,000 feet from the hole collar is 69.8 ft. Therefore, the minimum working barrier around this point of the well bore is 120 ft. (69.8 ft. plus 50 ft., rounded up to the nearest foot). The 50 additional feet is a reasonable separation between the probable location of the well and mining operations. When mining is within the minimum working barrier distance from a coalbed methane well or branch, the mine operator must comply with the provisions of this Order.

Coalbed methane wells must be prepared in advance for safe intersection and specific procedures must be followed on the mining section in order to protect the miners when mining within this minimum working barrier around the well.

The District Manager may require a greater minimum working barrier around coalbed methane wells where geologic conditions, historical location errors, or other factors warrant a greater barrier.

3. Ventilation Plan Requirements - The ventilation plan shall contain a description of all SDD coalbed methane wells drilled in the area to be mined. This description should include the well numbers, the date drilled, the diameter, the casing information, the coal seams developed, maximum depth of the wells, abandonment pressures, and any other information required by the District Manager. All or part of this information may be listed on the 30 C.F.R. § 75.372 map. The ventilation plan shall include the techniques that the mine operator plans to use to prepare the SDD wells for safe intersection, the specifications and steps necessary to implement these techniques, and the required operational precautions that are required when mining within the minimum working barrier. In addition, the ventilation plan will contain any additional information or provisions related to the SDD wells required by the District Manager.

4. Ventilation Map - The ventilation map specified in 30 C.F.R. § 75.372 shall contain the following information:

   i. The surface location of all coalbed methane wells in the active mining area and any projected mining area as specified in 30 C.F.R. § 75.372(b)(14);
   ii. Identifying information of coalbed methane wells (i.e. API hole number or equivalent);
   iii. The date that gas production began from the well;
   iv. The coal seam intersection of all coalbed methane wells;
   v. The horizontal extents in the coal seam of all coalbed methane wells and branches;
   vi. The outline of the probable error of location of all coalbed methane wells; and
   vii. The date of mine intersection and the distance between estimated and actual locations for all intersections of the coalbed methane well and branches.

b. MANDATORY PROCEDURES FOR PLUGGING OR REPLUGGING SDD WELLS

The mine operator shall include one of more of the following methods to prepare SDD wells for safe intersection in the mine ventilation plan. The methods approved in the ventilation plan must be completed on each SDD well before mining encroaches on the minimum working barrier around the well or branch of the well in the coal seam being mined. If methane leakage through subsidence cracks is a problem when retreat mining, the minimum working barrier must be maintained around wells and branches in overlying coal seams or the wells and branches must be prepared for safe intersection as specified in the mine ventilation plan.

1. Cement Plug - Cement may be used to fill the entire SDD hole system. Squeeze cementing techniques are necessary for SDD plugging due to the lack of tubing in the hole. Cement should fill void spaces and eliminate methane leakage along the hole. Once the cement has cured, the SDD system may be intersected multiple times without further hole preparation. Gas cutting occurs if the placement pressure of the cement is less than the methane pressure in the coal seam. Under these conditions, gas will bubble out of the coal seam and into the unset cement creating a pressurized void or series of interconnected pressurized voids. Water cutting occurs when formation water and standing water in the hole invades or displaces the unset cement. Standing water has to be bailed out of the hole or driven into the formation with compressed gas to minimize water cutting. The cement pressure must be maintained higher than the formation pressure until the cement sets to minimize both gas and water cutting. The cementing program in the ventilation plan must address both gas and water cutting.

   Due to the large volume to be cemented and potential problems with cement setting prior to filling the entire SDD system, adequately sized pumping units with back-up capacity must be used. Various additives such as retarders, lightweight extenders, viscosity modifiers, thixotropic modifiers, and fly ash may be used in the cement mix. The volume of cement pumped should exceed the estimated hole volume to ensure the complete filling of all voids. The complete cementing program, including hole dewatering, cement, additives, pressures, pumping times and equipment must be specified in the ventilation plan.

The material safety data sheets (MSDS) for all cements, additives and components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the cement and cement components should be included in the ventilation plan. Records of cement mixes, cement quantities, pump pressures, and flow rates and times should be retained for each hole plugged.

SDD holes may be plugged with cement years in advance of mining. However, the District Manager shall require suitable documentation of the cement plugging in order to approve mining within the minimum working barrier around coalbed methane wells.

2. Polymer Gel - Polymer gels start out as low viscosity, water-based mixtures of organic polymers that are crosslinked using time-delayed activators to form a water-insoluble, high-viscosity gel after being pumped into the SDD system. Although polymer gel systems never solidify, the activated gel should develop sufficient strength to resist gas flow. A gel that is suitable for treating SDD wells for mine intersection will reliably fill the SDD system and prevent gas-filled voids. Any gel chemistry used for plugging SDD wells should be resistant to bacterial and chemical degradation and remain stabile for the duration of mining through a SDD system.

Water may dilute the gel mixture to the point where it will not set to the required strength. Water in the holes should be removed before injecting the gel mixture. Water removal can be accomplished by conventional bailing and then injecting compressed gas to squeeze the water that accumulates in low spots back into the formation. Gas pressurization should be continued until the hole is dry. Another potential problem with gels is that dissolved salts in the formation waters may interfere with the cross-linking reactions. Any proposed gel mixtures must be tested with actual formation waters.

Equipment to mix and pump gels should have adequate capacity to fill the hole before the gel sets. Back-up units should be available in case something breaks while pumping. The volume of gel pumped should exceed the estimated hole volume to ensure the complete filling of all voids and allow for gel to infiltrate the joints in the coal seam surrounding the hole. Gel injection and setting pressures should be specified in the ventilation plan.

To reduce the potential for an inundation of gel, the final level of gel should be close to the level of the coal seam and the remainder of the hole should remain open to the atmosphere until mining in the vicinity of the SDD system is completed. Packers may be used to isolate portions of the SDD system.

The complete polymer gel program, including advance testing of the gel with formation water, dewatering systems, gel specifications, gel quantities, gel placement, pressures, and pumping equipment must be specified in the ventilation plan. The MSDS for all gel components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the gel and gel components should be included in the ventilation plan. A record of the calculated hole volume, gel quantities, gel formulation, pump pressures, and flow rates and times should be retained for each hole that is treated with gel. Other gel chemistries other than organic polymers may be included in the ventilation plan with appropriate methods, parameters, and safety precautions.

3. Bentonite Gel – High-pressure injection of bentonite gel into the SDD system will infiltrate the cleat and butt joints of the coal seam near the well bore and effectively seal these conduits against the flow of methane. Bentonite gel is a thixotropic fluid that sets when it stops moving. Bentonite gel has a significantly lower setting viscosity than polymer gel. While the polymer gel fills and seals the borehole, the lower strength bentonite gel must penetrate the fractures and jointing in the coal seam in order to be effective in reducing formation permeability around the hole. The use of bentonite gel is restricted to depleted CBM applications that have low abandonment pressures and limited recharge potential. In general, these applications will be mature CBM fields with long production histories.

A slug of water should be injected prior to the bentonite gel in order to minimize moisture-loss bridging near the well bore. The volume of gel pumped should exceed the estimated hole volume to ensure that the gel infiltrates the joints in the coal seam for several feet surrounding the hole. Due to the large gel volume and potential problems with premature thixotropic setting, adequately sized pumping units with back-up capacity are required.

Additives to the gel may be required to modify viscosity, reduce filtrates, reduce surface tension, and promote sealing of the cracks and joints around the hole. To reduce the potential for an inundation of bentonite gel, the final level of gel should be approximately the elevation of the coal seam and the remainder of the hole should remain open to the atmosphere until mining in the vicinity of the SDD system is completed. If a water column is used to pressurize the gel, it must be bailed down to the coal seam elevation prior to intersection.

The complete bentonite gel program, including formation infiltration and permeability reduction data, hole pretreatment, gel specifications, additives, gel quantities flow rates, injection pressures and infiltration times, must be specified in the ventilation plan. The ventilation plan should list the equipment used to prepare and pump the gel. The MSDS for all gel components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the gel and additives should be included in the ventilation plan. A record of hole preparation, gel quantities, gel formulation, pump pressures, and flow rates and times should be retained for each hole that is treated with bentonite gel.

4. Active Pressure Management and Water Infusion - Reducing the pressure in the hole to less than atmospheric pressure by operating a vacuum blower connected to the wellhead may facilitate safe intersection of the hole by a coal mine. The negative pressure in the hole will limit the quantity of methane released into the higher pressure mine atmosphere. If the mine intersection is near the end of a horizontal branch of the SDD system, air will flow from the mine into the upstream side of the hole and be exhausted through the blower on the surface. On the downstream side of the intersection, if the open hole length is short, the methane emitted from this side of the hole may be diluted to safe levels with ventilation air. Conversely, safely intersecting this system near the bottom of the vertical hole may not be possible because the methane emissions from the multiple downstream branches may be too great to dilute with ventilation air. The methane emission rate is directly proportional to the length of the open hole. Successful application of vacuum systems may be limited by caving of the hole or water collected in dips in the SDD system.

Another important factor in the success of vacuum systems is the methane liberation rate of the coal formation around the well—older, more depleted wells that have lower methane emission rates are more amenable to this technique. The remaining methane content and the formation permeability should be addressed in the ventilation plan.

Packers may be used to reduce methane inflow into the coal mine after intersection. All packers on the downstream side of the hole must be equipped with a center pipe so that the inby methane pressure may be measured or so that water may be injected. Subsequent intersections should not take place if pressure in a packer-sealed hole is excessive. Alternatively, methane produced by the downstream hole may be piped to an in-mine degas system to safely transport the methane out of the mine or may be piped to the return air course for dilution. In-mine methane piping should be protected as stipulated in "Piping Methane in Underground Coal Mines," MSHA IR 1094, (1978). Protected methane diffusion zones may be established in return air courses if needed. Detailed sketches and safety precautions for methane collection, piping and diffusion systems must be included in the ventilation plan (30 C.F.R. § 75.371(ee)).

Water infusion prior to intersecting the well will temporarily limit methane flow. Water infusion may also help control coal dust levels during mining. High water infusion pressures may be obtained prior to the initial intersection by the hydraulic head resulting from the hole depth or by pumping. Water infusion pressures for subsequent intersections are limited by leakage around in-mine packers and limitations of the mine water distribution system. If water is infused prior to the initial intersection, the water level in the hole shall not be more than 100 feet before the intersection.

The complete pressure management strategy including negative pressure application, wellhead equipment, and use of packers, in-mine piping, methane dilution, and water infusion must be specified in the ventilation plan. Procedures for controlling methane in the downstream hole must be specified in the ventilation plan. The remaining methane content and formation permeability should be addressed in the ventilation plan. The potential for the coal seam to cave into the well should be addressed in the ventilation plan. Dewatering methods should be included in the ventilation plan.

A record of the negative pressures applied to the system, methane liberation, use of packers and any water infusion pressures and application time should be retained for each intersection.

5. Remedial work - If problems are encountered in preparing the holes for safe intersection, then remedial measures must be taken to protect the miners. For example: if only one-half of the calculated hole volume of cement could be placed into a SDD well due to hole blockage, holes should be drilled near each branch that will be intersected and squeeze cemented using pressures sufficient to fracture into the potentially empty SDD holes. The District Manager will approve remedial work in the ventilation plan on a case-by-case basis.

3. MANDATORY PROCEDURES AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT MANAGER TO MINE WITHIN THE MINIMUM WORKING BARRIER AROUND THE WELL OR BRANCH OF THE WELL

a. The mine operator, the District Manager, the miners' representative, or the State may request a conference prior to any intersection or after any intersection to discuss issues or concerns. Upon receipt of any such request, the District Manager shall schedule 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.

b. The mine operator must notify the District Manager, the State and the miners' representative at least 48 hours prior to the intended intersection of any coalbed methane well.

c. The initial intersection of a well or branch of a well typically has a higher risk than subsequent intersections. The initial intersection typically indicates if the well preparation is sufficient to prevent the inundation of methane. For the initial intersection of a well or branch, the following procedures are mandatory:

1. When mining advances within the minimum barrier distance of the well or branches of the well, the entries that will intersect the well or branches must be posted with a readily visible marking. For longwalls, both the head and tailgate entries must be so marked. Marks must be advanced to within 100 feet of the working face as mining progresses.

Marks will be removed after well or branches are intersected in each entry or after mining has exited the minimum barrier distance of the well.

2. Entries that will intersect vertical segments of a well shall be marked with drivage sights in the last open crosscut when mining is within 100 feet of the well. When a vertical segment of a well will be intersected by a longwall, drivage sights shall be installed on 10-foot centers starting 50 feet in advance of the anticipated intersection. Drivage sights shall be installed in both the headgate and tailgate entries of the longwall.

3. 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 mine-through (when either the conventional or the continuous mining method is used) is available and operable during all well mine-throughs. 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. All fire hoses shall be connected and ready for use, but do not have to be charged with water, during the cut-through.

4. The operator shall ensure that sufficient supplies of roof support and ventilation materials are available at the working section. In addition, emergency plugs, packers, and setting tools to seal both sides of the well or branch shall be available in the immediate area of the cut-through.

5. When mining advances within the minimum working barrier distance from the well or branch of the well, the operator shall service all equipment and check for permissibility at least once daily. Daily permissibility examinations must continue until the well or branch is intersected or until mining exits the minimum working barrier around the well or branch.

6. When mining advances within the minimum working barrier distance from the well or branch of the well, the operator shall calibrate the methane monitor(s) on the longwall, continuous mining machine, or cutting machine and loading machine at least once daily.

Daily methane monitor calibration must continue until the well or branch is intersected or until mining exits the minimum working barrier around the well or branch.

7. 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 the minimum working barrier around the well or branch. During the cutting process, no individual shall be allowed on the return side until the mine-through has been completed and the area has been examined and declared safe. The shearer must be idle when any miners are inby the tail drum.

8. 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 within 20 feet of the face when mining through the well or branch. On longwall sections, rock dust shall be applied on the roof, rib, and floor up to both the headgate and tailgate pillared area.

9. Immediately after the well or branch is intersected, the operator shall de-energize all equipment, and the certified person shall thoroughly examine and determine the working place safe before mining is resumed.

10. After a well or branch has been intersected and the working place determined safe, mining shall continue inby the well a sufficient distance to permit adequate ventilation around the area of the well or branch.

11. No open flame shall be permitted in the area until adequate ventilation has been established around the well bore or branch. Any casing, tubing or stuck tools will be removed using the methods approved in the ventilation plan.

12. No person shall be permitted in the area of the mine-through operation inby the last open crosscut during active mining except those actually engaged in the operation, including company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.

13. The operator shall warn all personnel in the mine to the planned intersection of the well or branch 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 or branch has been intersected.

14. The mine-through operation shall be under the direct supervision of a certified person. Instructions concerning the mine-through operation shall be issued only by the certified person in charge.

15. All miners shall be in known locations and in constant two-way communications with the responsible person under 30 C.F.R. § 75.1501 when active mining occurs within the minimum working barrier of the well or branch.

16. The responsible person required under 30 C.F.R. § 75.1501 is responsible for well intersection emergencies. The well intersection procedures must be reviewed by the responsible person prior to any planned intersection.

17. A copy of the order shall be maintained at the mine and be available to the miners.

18. The provisions of this order do not impair the authority of representatives of MSHA to interrupt or halt the mine-through operation 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 mine-through operation 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 of mine-through operations. 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.

d. For subsequent intersections of branches of a well, appropriate procedures to protect the miners shall be specified in the ventilation plan.

4. **MANDATORY PROCEDURES AFTER SDD INTERSECTIONS**

a. All intersections with SDD wells and branches that are in intake air courses shall be examined as part of the pre-shift examinations required under 30 C.F.R. § 75.360.

b. All other intersection with SDD wells and branches shall be examined as part of the weekly examinations required under 30 C.F.R. § 75.364.

5. **OTHER REQUIREMENTS**

a. 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 regarding compliance with the terms and conditions stated in the Order. The operator shall provide all miners involved in the mine-through of a well or branch with training regarding the requirements of this Order prior to mining within the minimum working barrier of the next well or branch intended to be mined through.

b. 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 by 30 C.F.R § 75.1502. The operator shall revise the program to include the hazards and evacuation procedures to be used for well intersections. All underground miners shall be trained in this revised program within 30 days of the approval of the revised mine emergency evacuation and firefighting program of instruction.

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

If a hearing is requested, the request shall contain a concise summary of position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the proposed decision. A party other than Petitioner who has requested a hearing may also comment upon all issues of fact or law presented in the petition, and any party to this action requesting a hearing may indicate a desired hearing site.

If no request for a hearing is filed within 30 days after service thereof, the Proposed Decision and Order will become final and must be posted by the operator on the mine bulletin board at the mine.

Timothy R. Watkins
Deputy Administrator for
Coal Mine Safety and Health

47-061-01404P

Certificate of Service

I hereby certify that a copy of this proposed decision was served personally or mailed, postage prepaid, or provided by other electronic means this 9th day of February, 2018, to:

Mr. Pete Simpson – General Manager
The Marion County Coal Company
151 Johnny Cake Road
Metz, WV 26585
petesimpson@coalsource.com

Mr. Ricky Rinehart
Miner Representative
67 Cellular Drive
Mannington, WV 26582

Tammi Carrington
Secretary

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

bcc: District 3
OSRV
D.Braenovich
Case File
DBraenovich: 9/26/2017 Standard terms and conditions from Docket No. M-2009-006-C

FILE COPY	
Surname	Date

47-061-01404P

61-1404C

FORM WW-5B (8/1998) Page 1 of 2

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
COALBED METHANE PERMIT APPLICATION

1) Well Operator: **Consol Energy, Inc. (North)** 2) Well Name **St. Leo CBM No. L-1**

3) Operator's Well Number **L-1** 4) Elevation **1118.528**

5) Well Type: (a) Oil ____/ or Gas **X** /
(b) If Gas: Production **X** / Underground Storage ____/ CBM **X** /
Deep ____/ Shallow **X** /

6) Proposed Target Formation(s): **Monongahela, Conemaugh, Allegheny and Pottsville**

7) Proposed Total Depth: **2123** feet

8) Approximate Fresh Water Strata Depths: **0 – ~~600~~ 570'**

9) Approximate Salt Water Depths: **Not known**

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Environmental Protection

10) Approximate Coal Seam Depths: **Sewickley – 844', Redstone – 909', Pittsburgh – 940', Bakerstown – 1308', Middle Freeport – 1577', Middle Kittanning – 1711', Lower Kittanning – 1753' and Quakertown – 1973'.** Waynesburg 699

11) Does Land Contain Coal Seams Tributary to Active Mines? Yes **X** / No ____/

12) (a) Proposed Well Work: **Drill a well that will target coal beds for coal bed methane gas**

(b) If Stimulation Proposed, Describe Means to be Used to Stimulate Well: **Run and cement casing through coals, perforate coals and treat with a sand water frac.**

13) (a) Does the proposed operation plan to convert an existing well (as defined in W. Va. Code § 22-6-1) or a vertical ventilation hole to a coalbed methane well? Yes __/ No **X** /

(b) If yes, please attach to this Application a list of all formations from which production is anticipated and a description of any plans to plug any portion of the well.

14) (a) Will the proposed coalbed methane well be completed in some but not all coal seams for production (except for a gob well or vent hole proposed to be converted to a well)?
Yes ____/ No **X** /

(b) If yes, please attach to this Application a plan and design for the well which will protect all workable coal seams which will be penetrated by the well.

15) (a) Does the proposed operation include horizontal drilling of a well commenced on the surface? Yes ____/ No **X** /

(b) If yes, please attach to this Application a description of such operations, including both the vertical and horizontal alignment and extent of the well from the surface to total depth.

CK# 1453898 $450

47-061-01404P

61-1404C

FORM WW-5(B)_(8/1998)

CBM WELL NO. L-1
CASING AND TUBING PROGRAM

OK RM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For Drilling	Left in Well	Fill-up (cu. ft.)
Conductor	11 3/4"	H-40	42#/Ft.	30'	30'	10'
Fresh Water	8 5/8"	K-55	20#/Ft.	600'	600'	160' CTS
Coal						
Intermediate						
Production	5 1/2"	K-55	15.5#/Ft.	2023'	2023'	407'
Tubing	2 3/8"	K-55	4.7 #/Ft.	1993'	1993'	None
Liners	None					

PACKERS:

For Office of Oil and Gas Use Only

☐ Fee(s) paid: ☐ Well Work Permit ☐ Reclamation Fund ☐ WPCP

☐ Plat ☐ WW-9 ☐ WW-5B ☐ Bond _____ ☐ Agent
(Type)

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Office of Oil and Gas
SEP 21 2018
WV Department of
Environmental Protection

47-061-01404P

WR-35

DATE: 6/5/02
API#: 47-061-01404

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: Consolidation Coal Company Operator Well No.: St. Leo CBM No. L-1

LOCATION: Elevation: 1114.37' Quadrangle: Wadestown

District: Battelle County: Monongalia
Latitude: 9566.77 Feet South of 39 Deg. 40 Min. 00 Sec.
Longitude: 11562.32 Feet West of 80 Deg. 20 Min. 00 Sec.

Company: CNX Gas Company, LLC (North)

	Casing & Tubing	Used In Drilling	Left In Well	Cement Fill Up Cu. Ft.
Address: 1800 Washington Road	11 3/4"	30'	30'	GRTD
Pittsburgh, PA 15241	8 5/8"	654'	654'	197 CTS
Agent: Edwin L. Merrifield	5 1/2"	2080.40'	2080.40'	438 CTS
Inspector: Randal Mick				
Date Permit Issued: 7/3/01				
Date Well Work Commenced: 8/4/01				
Date Well Work Completed: 9/27/01				
Verbal Plugging: N/A				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 2155'				
Fresh Water Depth (ft.): N/A				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 595, 862, 935, 953, 1950, 1994				

OPEN FLOW DATA **REFER TO ATTACHMENTS B & C**

Producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock pressure _____ psig (surface pressure) after _____ Hours

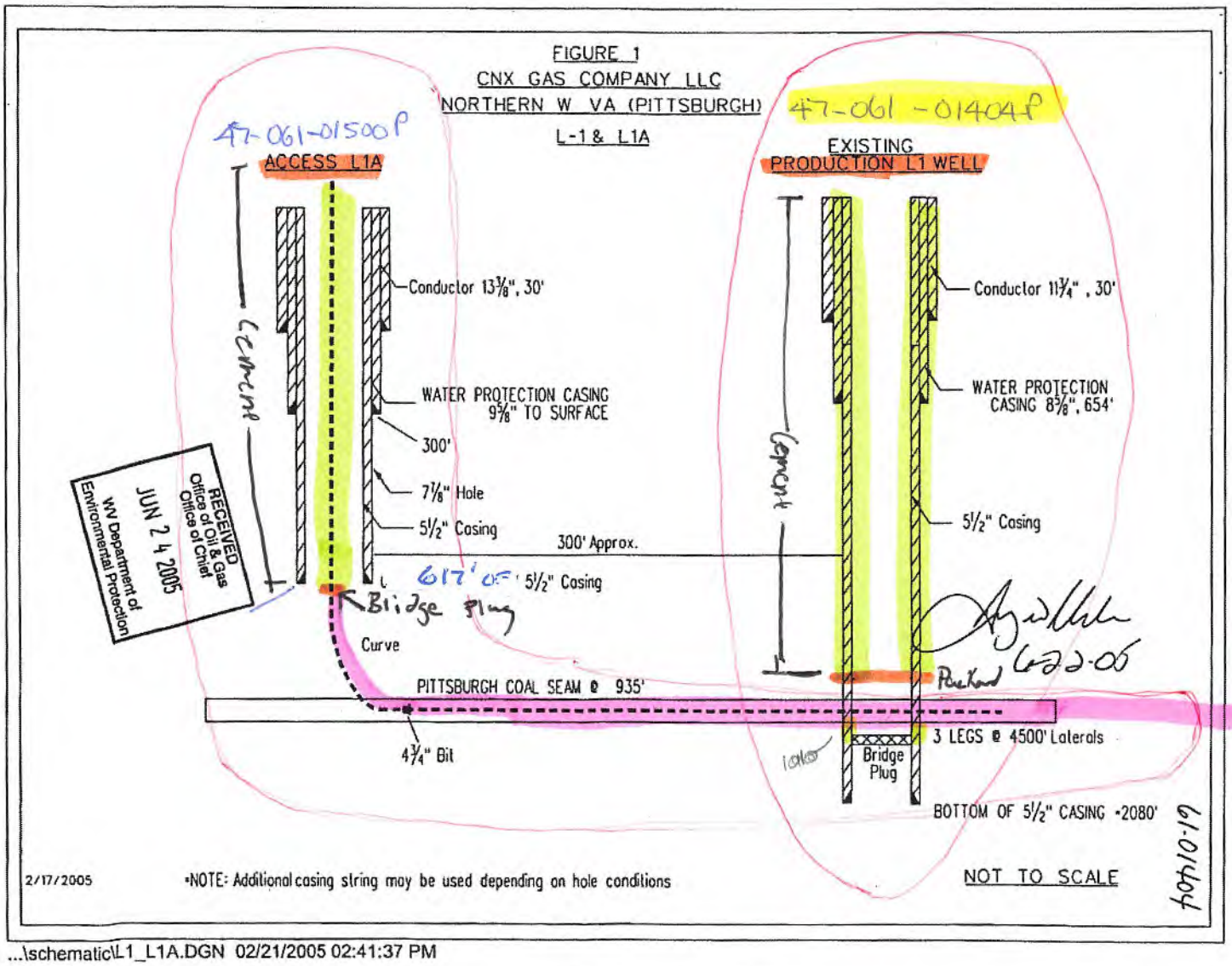
Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE. **REFER TO ATTACHMENTS A, B & C**

Signed: Geoffrey Fanning
By: Geoffrey Fanning Drill Foreman CNX Gas
Date: 6/5/02

47-061-01404P

WR-35 ATTACHMENT
(AS BUILT)



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ATTACHMENT A

St. Leo CBM No. L-1 Drill Log

Depth (In Feet)	Description
0-30	Shale/Gray
30-35	Shale
35-50	Red Rock
50-75	Shale/Gray
75-80	Red Rock
80-95	Shale/Gray
95-105	Red Rock
105-110	Shale/Gray
110-140	Sand/Gray
140-142	Shale/Gray
142-147	Red Rock
147-200	Shale/Gray
200-205	Sand/Gray
205-250	Red Rock
250-270	Shale/Gray
270-302	Sand/Gray
302-312	Red Rock
312-400	Shale
400-415	Red Rock
415-420	Shale
420-435	Sand/Gray
435-443	Shale/Gray
443-475	Shale
475-554	Shale
554-595	Shale
595-598	Coal
598-655	Shale

47-061-01404P

ATTACHMENT A
(continued)

St. Leo CBM No. L-1 Drill Log

Depth (In Feet)	Description
655-790	Sand
790-800	Red Rock
800-862	Shale
862-865	Coal
865-935	Shale
935-941	Coal
941-953	Shale
953-970	Coal
970-977	Coal
977-1030	Sand/White
1030-1090	Sand/Gray
1090-1260	Red Rock
1260-1380	Sand/Gray
1380-1410	Red Rock
1410-1450	Sand/Gray
1450-1520	Red Rock
1520-1950	Sand/Gray
1950-1956	Coal
1956-1980	Shale/Sand
1980-1994	Red Rock
1994-1995	Coal
1995-2110	Shale/Gray
2110-2155 (TD)	Red Rock

47-061-01404P

ATTACHMENT B

St. Leo CBM Well No. L-1 Completion

Permittee:	CNX Gas Company, LLC (North)
API Permit No.:	47-061-01404
Company Well No. :	St Leo CBM WELL No. L-1
Completion Date:	09/27/2001
Total Depth:	2155

Coals	Zone 1 Kittanning and Upper Freeport	Zone 2 Brush Creek and Bakerstown	Zone 3 Pittsburgh	Zone 4 Redstone and Sewickley
Treatment	[redacted]	[redacted]	[redacted]	[redacted]
Nitrogen (MSCF)	0	0	0	0
Water (BBLS)	407	243	191	424
Sand (SXS 20/40 and 12/20)	300	170	90	180
Top Perf	1590	1325	956	859
Bottom Perf.	1768	1431	962	926
# Perfs	28	12	24	18
Perf Size	0.45	0.45	0.45	0.45
Break. Press.	2525	3004	1770	2035
Avg. Rate	13.8	11.1	13.6	14.5
ISIP	2381	1525	N/A	N/A
Min	5	5	5	5
Min Press.	1853	1463	N/A	N/A
Avg. Press.	2863	3032	2676	3237
Stimulated	Yes	Yes	Yes	Yes
Stim. Date	09/19/2001	09/19/2001	09/19/2001	09/19/2001

47-061-01404P

ATTACHMENT C

St. Leo CBM Well No. L-1 Perforations

Permittee: CNX Gas Company, LLC (North)
API Permit No.: 47-061-01404
Company Well No.: St. Leo CBM Well No. L-1
Total Coal Thickness: 23.3 ft.

	Formation	Top of Coal	Bottom of Coal	Coal Thickness	Actual Perfs
STAGE 1	Kittanning	1766.8	1767.5	2.5	1766.5-1768.5
	Kittanning	1728.4	1729.0	3.0	1727-1729
	Lower Freeport	1644.8	1645.4	0.5	1644-1644.5
	Upper Freeport	1590.2	1592.5	2.5	1590-1592.5
			Total Coal	8.5	
STAGE 2	Brushcreek	1430.3	1431.0	0.7	1430-1431
	Bakerstown	1325.0	1326.9	1.9	1325-1327
			Total Coal	2.6	
STAGE 3	Pittsburgh	955.5	962 926.2	6.0	956-962
	Pittsburgh Rider	953.4	954.0	1.3	953-954
			Total Coal	7.3	
STAGE 4	Redstone	924.5	926.0	1.3	924.5-926
	Sewickley	858.6	862.0	3.6	859-862
			Total Coal	4.9	

** Perf with 4" guns, 4 Jet Shots per Foot, 120 degree Phasing
** Isolate stages with FasDrill Frac Plugs

MONO 1404

47-061-01404P

"Pipeline"

Select County: (061) Monongalia
Enter Permit #: 1404
Get Data Reset

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 Series
Usage Notes
Contact Information
Disclaimer
WVGES Main
"Pipeline-Plus" New

WV Geological & Economic Survey:

Well: County = 061 Permit = 1404

Report Time: Thursday, June 14, 2018 5:51:45 AM

Location Information: View Map

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4706101404	Monongalia	1404	Battelle	Wadestown	Mannington	39.640502	-80.374209	553696.6	4388044.8

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4706101404	9/27/2001	Original Loc	Completed	Coonsolidation Co Co		L-1			Consol Coal	CNX Gas Co. LLC (North)			
4706101404	-/-/-	Dvtd Wrkd Ovr	Cancelled	Consolidation Coal Co		L1			Samuel Judson Hall Hrs	CNX Gas Co. LLC (North)			

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
4706101404	9/27/2001	8/4/2001	1114	Ground Level	Maple-Wadestown	Allegheny Fm	Lo Kittanning coal	Development Well	Development Well	Methane (CBM)	Rotary	Fractured	2155		2155									
4706101404	-/-/-	-/-/-						unclassified	unclassified	not available	unknown	unknown												

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4706101404	9/27/2001	Methane Pay	Gas	Vertical	859	Sewickley coal	862	Sewickley coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	924	Sewickley coal	926	Sewickley coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	953	unidentified coal	954	unidentified coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	956	Pittsburgh coal	962	Pittsburgh coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1325	unidentified coal	1327	unidentified coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1430	Brush Creek coal	1431	Brush Creek coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1590	Up Freeport coal	1592	Up Freeport coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1644	Lo Freeport coal	1645	Lo Freeport coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1727	Up Kittanning coal	1729	Up Kittanning coal					
4706101404	9/27/2001	Methane Pay	Gas	Vertical	1766	Lo Kittanning coal	1768	Lo Kittanning coal					

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
4706101404	CNX Gas Co. LLC (North)	2001	16,000	0	0	0	0	0	0	0	0	0	4,000	10,000	2,000
4706101404	CNX Gas Co. LLC (North)	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2006	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2011	43,800	3,711	3,499	3,915	3,609	3,699	3,666	3,681	3,671	3,627	3,810	3,356	3,556
4706101404	CNX Gas Co. LLC (North)	2012	37,863	3,358	3,116	3,358	2,997	3,329	3,085	3,142	3,051	2,989	3,269	3,067	3,102
4706101404	CNX Gas Co. LLC (North)	2013	30,660	2,905	2,607	2,648	2,490	3,002	2,845	3,080	2,930	2,819	2,926	2,408	0
4706101404	CNX Gas Co. LLC (North)	2014	23,206	2,339	1,107	1,569	2,085	1,675	2,094	3,362	2,248	1,424	1,429	1,532	2,342
4706101404	CNX Gas Co. LLC (North)	2015	16,316	2,352	2,346	2,503	2,402	1,664	0	0	0	310	928	1,224	2,589
4706101404	CNX Gas Co. LLC (North)	2016	8,529	2,292	1,019	1,044	1,672	1,222	551	239	162	155	70	95	3

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
4706101404	CNX Gas Co. LLC (North)	2001	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2002	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2003	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2004	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2005	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2006	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2007	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2016	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
4706101404	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101404	CNX Gas Co. LLC (North)	2016	0												

Production Water Information: (Volumes in Gallons)

47-061-01404P

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101404	CNX Gas Co. LLC (North)	2016	0												

Stratigraphy Information:

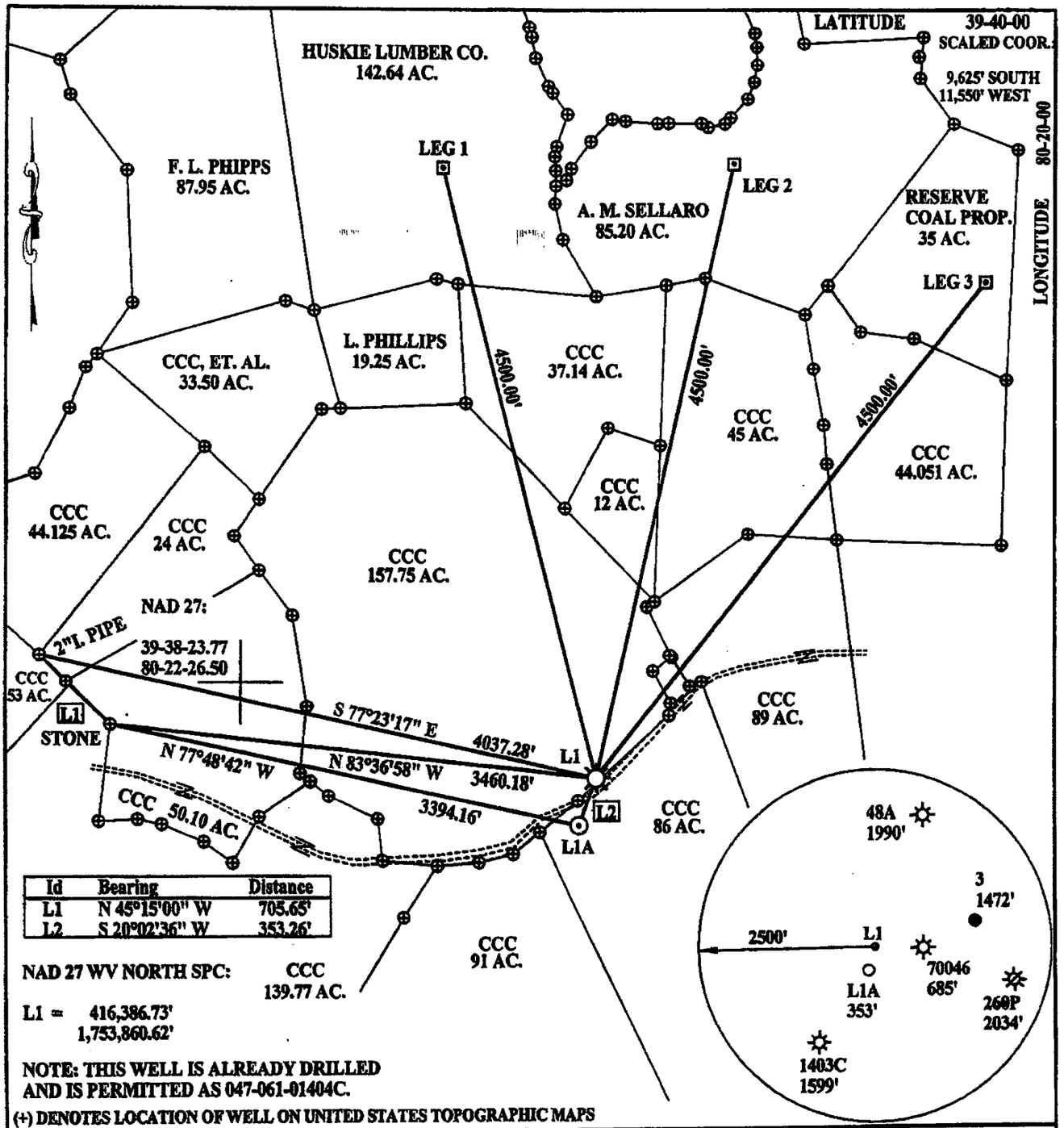
API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4706101404	Original Loc	Sewickley coal		858		4		1114	Ground Level
4706101404	Original Loc	Redstone coal		924		2		1114	Ground Level
4706101404	Original Loc	unidentified coal		953		1		1114	Ground Level
4706101404	Original Loc	Pittsburgh coal		955		7		1114	Ground Level
4706101404	Original Loc	unidentified coal		1325		2		1114	Ground Level
4706101404	Original Loc	Brush Creek coal		1430		1		1114	Ground Level
4706101404	Original Loc	Up Freeport coal		1590		2		1114	Ground Level
4706101404	Original Loc	Lo Freeport coal		1644		1		1114	Ground Level
4706101404	Original Loc	Up Kittanning coal		1728		1		1114	Ground Level
4706101404	Original Loc	Lo Kittanning coal		1766		1		1114	Ground Level

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

There is no Plugging data for this well

There is no Sample data for this well

47-061-01404P



Id	Bearing	Distance
L1	N 45°15'00" W	705.65'
L2	S 20°02'36" W	353.26'

NAD 27 WV NORTH SPC:
L1 = 416,386.73'
1,753,860.62'

NOTE: THIS WELL IS ALREADY DRILLED AND IS PERMITTED AS 047-061-01404C.

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

FILE NUMBER:
DRAWING NUMBER: CNXL1.PCS
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: SUBMETER GPS
PROVEN SOURCE OF ELEVATION: DGPS SURVEY
SUBMETER SYSTEM

I THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT 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 DEPARTMENT OF ENERGY.

(SIGNED)
STEPHEN D. LOSH, P.S. #674

PROFESSIONAL LAND SURVEYOR
STEPHEN D. LOSH
NO 674
STATE OF WEST VIRGINIA
PLACE SEAL HERE

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
#10 McJUNKIN ROAD
NITRO, WV 25143-2506
FORM WW-6

LAND SURVEYING SERVICES
21 CEDAR LANE, BRIDGEPORT, WV 26330
PHONE: 304-842-2018 OR 842-5762

DATE: APRIL 24, 2005
OPERATORS WELL NO.: L1
API WELL NO.
47 — 061 — 01404C-W
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS ___ CBM X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1106.88' WATERSHED SOUTH FORK OF WEST VIRGINIA FORK
DISTRICT BATTELLE COUNTY MONONGALIA
QUADRANGLE WADESTOWN LEASE NUMBER
SURFACE OWNER CONSOLIDATION COAL CO. ACREAGE 157.75
OIL & GAS ROYALTY OWNER SAMUEL JUDSON HALL HEIRS LEASE ACREAGE

PROPOSED WORK: DRILL ___ CONVERT X DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL LEGS FROM ACCESS WELL L1A
PLUG & ABANDON ___ CLEAN OUT & REPLUG ___

TARGET FORMATION PITTSBURGH SEAM ESTIMATED DEPTH 2155'
WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JOHN H. JOHNSTON
ADDRESS P. O. BOX 947 BLUEFIELD, VA 24605 ADDRESS BANK ONE CENTER, P.O. BOX 1588 CHARLESTON, WV 25326-1588

COUNTY NAME MONO PERMIT 1404C-W

JUL 22 2005

47 - 061 - 01404-P

WW-4A
Revised 6-07

1) Date: JUNE 15, 2018
2) Operator's Well Number
L-1

3) API Well No.: 47 - 061 - 01404

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: CONSOL MINING COMPANY LLC.
Address: 1000 CONSOL ENERGY DRIVE
CANONSBURG, PA 15317
(b) Name:
Address:
(c) Name:
Address:

5) (a) Coal Operator
Name: CONSOLIDATION COAL CO.
Address: 1 BRIDGE STREET
MONONGAH, WV 26554
(b) Coal Owner(s) with Declaration
Name:
Address:
Name:
Address:
(c) Coal Lessee with Declaration
Name:
Address:

6) Inspector: Gayne J. Knitowski
Address: P.O.Box 108
Gormania, WV 26720
Telephone: 304-546-8171

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: CONSOLIDATION COAL COMPANY
By: DAVID RODDY
Its: PROJECT ENGINEER
Address: 1 Bridge St.
Monongah, WV 26554
Telephone: (304) 534-4748

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Office of Oil and Gas
SEP 21 2018
WV Department of
Environmental Protection

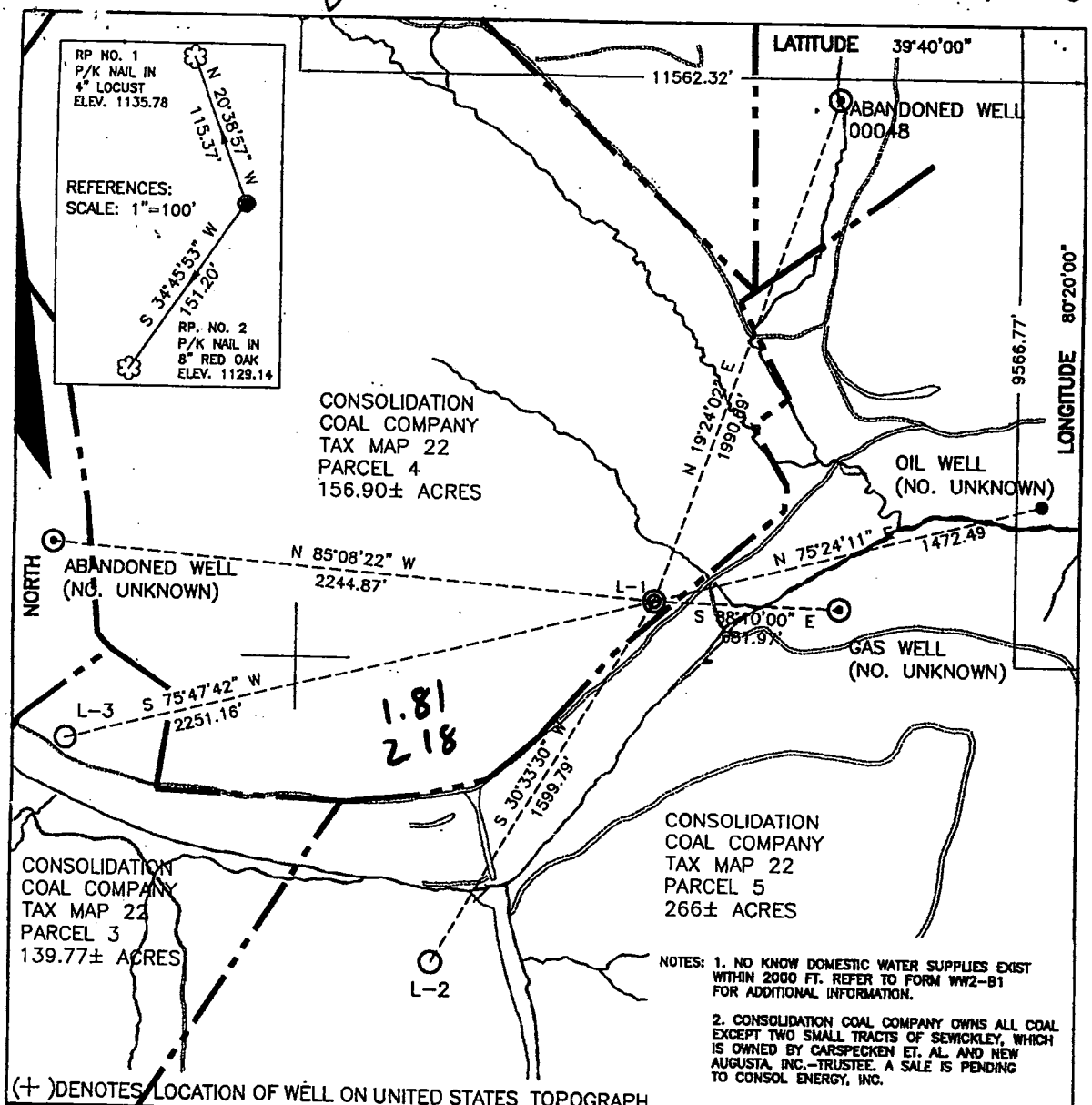
OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
RICHARD WALTON
520 PROSPECT AVE
FAIRMONT, WV 26554
MY COMM. EXP. JUNE 20, 2022

Subscribed and sworn before me this 12th day of September 2018
Notary Public
My Commission Expires June 20, 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.gov.

47-061-01404P



NOTES: 1. NO KNOW DOMESTIC WATER SUPPLIES EXIST WITHIN 2000 FT. REFER TO FORM WW2-B1 FOR ADDITIONAL INFORMATION.

2. CONSOLIDATION COAL COMPANY OWNS ALL COAL EXCEPT TWO SMALL TRACTS OF SEWICKLEY, WHICH IS OWNED BY CARSPECKEN ET. AL. AND NEW AUGUSTA, INC.-TRUSTEE. A SALE IS PENDING TO CONSOL ENERGY, INC.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPH

FILE NO. B01-015-176
DRAWING NO. B01-015-A7
SCALE 1" : 500'
MINIMUM DEGREE OF ACCURACY 1 : 2500
PROVEN SOURCE OF ELEVATION USC&G MONUMENT
STATION NAME BURTON

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

(SIGNED) _____

P.S. _____ No. 1231

CLAUDIO E. YON
LICENSED
No. 1231
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

WVDEP
OFFICE OF OIL AND GAS DIVISION
1356 HANSFORD ST.
CHARLESTON, WV 25301

DATE APRIL 03, 2001
OPERATOR'S WELL NO. L-1
API WELL NO. 47 061 1404C
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS ___ CBM X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1118.53 WATERSHED SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK
DISTRICT BATTELLE COUNTY MONONGALIA
QUADRANGLE WADESTOWN ACREAGE 613±
SURFACE OWNER CONSOLIDATION COAL COMPANY LEASE ACREAGE ___
OIL & GAS ROYALTY OWNER (CBM) SEE NOTE 2 ABOVE LEASE NO. ___
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE
IN WELL (SPECIFY) ___
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION MONONGAHELA, CONEMAUGH, ALLEGHENY & POTTSVILLE
ESTIMATED DEPTH 2123'

JUL 06 2001

WELL OPERATOR CONSOL ENERGY, INC (NORTH)
ADDRESS 1800 WASHINGTON ROAD
PITTSBURGH, PA 15421-1421

DESIGNATED AGENT EDWIN L. MERRIFIELD
ADDRESS 116 1/2 HUNSAKER STREET
FAIRMONT, WV 26554

RECEIVED
Office of Oil and Gas
SEP 21 2018
WV Department of Environmental Protection

MONO 140 4C

6-6 51

47-061-01404P

WW-9
(5/16)

API Number 47 - 061 - 01404
Operator's Well No. L-1

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) South Fork of West Virginia Fork of Dunkard Creek Quadrangle WADESTOWN, WV,PA 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 systembe used? If so, describe: Yes. Gel circulated from tank thru well bore and returned to 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 cutting 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.

RECEIVED
Office of Oil and Gas
SEP 21 2018
WV Department of
Environmental Protection

Company Official Signature _____

Company Official (Typed Name) DAVID RODDY

Company Official Title Project Engineer

Subscribed and sworn before me this 12th day of September, 2018

_____ Notary Public

My commission expires June 20, 2022

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
RICHARD WALTON
520 PROSPECT AVE
FAIRMONT, WV 26554
MY COMM. EXP. JUNE 20, 2022

47-061-01404P

Form WW-9

Operator's Well No. L-1

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
See Attachment	100	See Attachment	100

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: Maryw J Kurtz

Comments:

Reclaim site ASAP.

Title: Inspector Date: 9/17/2018

Field Reviewed? (X) Yes ( ) No

47-061-01404P

CAUDILL SEED * 1064 E MAIN HWY 60 HOUSE #2 * MOREHEAD KY 40351 * AMS # 4923

7M1000

NOTICE TO CONSUMERS

"Notice: Arbitration/conciliation/mediation required by several states. Under the seed laws of several states, arbitration, mediation, or conciliation is required as a prerequisite to maintaining a legal action based upon the failure of seed, to which this notice is attached, to produce as represented. The consumer shall file a complaint (sworn for AR, FL, IN, MS, SC, TX, WA; signed only CA, ID, ND, SD) along with the required filing fee (where applicable) with the Commissioner/Director/Secretary of Agriculture, Seed Commissioner (IN), or Chief Agricultural Officer within such time as to permit inspection of the crops, plants, or trees by the designated agency and the seedsman from whom the seed was purchased. A copy of the complaint shall be sent to the seller by certified or registered mail or as otherwise provided by state statue."

NOTICE TO BUYER: WE WARRANT THAT SEEDS WE SELL WILL CONFORM TO THE LABEL DESCRIPTION REQUIRED UNDER STATE AND FEDERAL LAWS. WITHIN RECOGNIZED TOLERANCES. WE MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, WHICH WOULD EXTEND BEYOND SUCH DESCRIPTIONS, AND IN ANY EVENT OUR LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO SUCH SEED IS LIMITED TO THE PURCHASE PRICE OF SUCH SEEDS.

MIXTURE-COASTAL SEED 2015
LOT NO:7M1000 NET WT 50
CROP: .58 INERT: 1.56 WEED SEED: .26

KIND	VARIETY	ORG	PURE	GERM	HARD	DORM	TEST
ANNUAL RYEGRASS	MAGNUM	OR	29.40	90.00	.00	.00	10/16
ORCHARDGRASS	POTOMAC	OR	11.39	85.00	.00	.00	11/16
COATING MATERIAL			8.00	.00	.00	.00	11/16
PERENNIAL RYEGRASS	LINN	OR	19.60	85.00	.00	.00	11/16
CLOVER	NOT STATED	OR	6.40	85.00	.00	.00	12/16
COATING MATERIAL			3.40	.00	.00	.00	12/16
TIMOTHY	CLIMAX	CAN	9.80	85.00	.00	.00	10/16
BIRDSFOOT TREFOIL	NOT STATED	CAN	2.83	83.00	7.00	.00	11/16
COATING MATERIAL			1.91	.00	.00	.00	11/16
LADINO CLOVER	SEMINOLE	OR	3.17	60.00	25.00	.00	8/16
COATING MATERIAL			1.70	.00	.00	.00	8/16

Memo
Treatments

NOXIOUS WEEDS PER LB:

47-061-01404P

Consolidation Coal Company
Northern West Virginia Operations
1 Bridge Street
Monongah, WV 26554

phone: 304-534-4748
fax: 304-534-4739
e-mail: ronnieharsh@consolenergy.com
web: www.coalsource.com

*Name: RONNIE HARSH
*title: Project Engineer

April. 7, 2014

Department of Environmental Protection
Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304-2345
Phone: (304) 926-0499
Fax: (304) 926-0452

To Whom It May Concern:

As per the Department of Environmental Protection, Office of Oil and Gas request, Consolidation Coal Company, Northern West Virginia Operations, submits the following procedures utilizing pit waste.

Upon submitting a well work application (without general permit for Oil and Gas Pit Waste Discharge Application), Consolidation Coal Company, Northern West Virginia Operations, 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 impoundment facilities number U-78-83, U-104-83, or U-1011-93.

Sincerely,

Ronnie Harsh
Project Engineer

47-061-01404P

WW-9- GPP
Rev. 5/16

N/A

Page _____ of _____
API Number 47 - 061 - 01404
Operator's Well No. L-1

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

Operator Name: CONSOLIDATION COAL COMPANY

Watershed (HUC 10): South Fork of West Virginia Fork of Dunkard Creek Quad: WADESTOWN, WV,PA 7.5'

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.

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

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

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

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

47-061-01404P

WW-9- GPP
Rev. 5/16

N/A

Page _____ of _____
API Number 47 - 061 - 01404
Operator's Well No. L-1

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

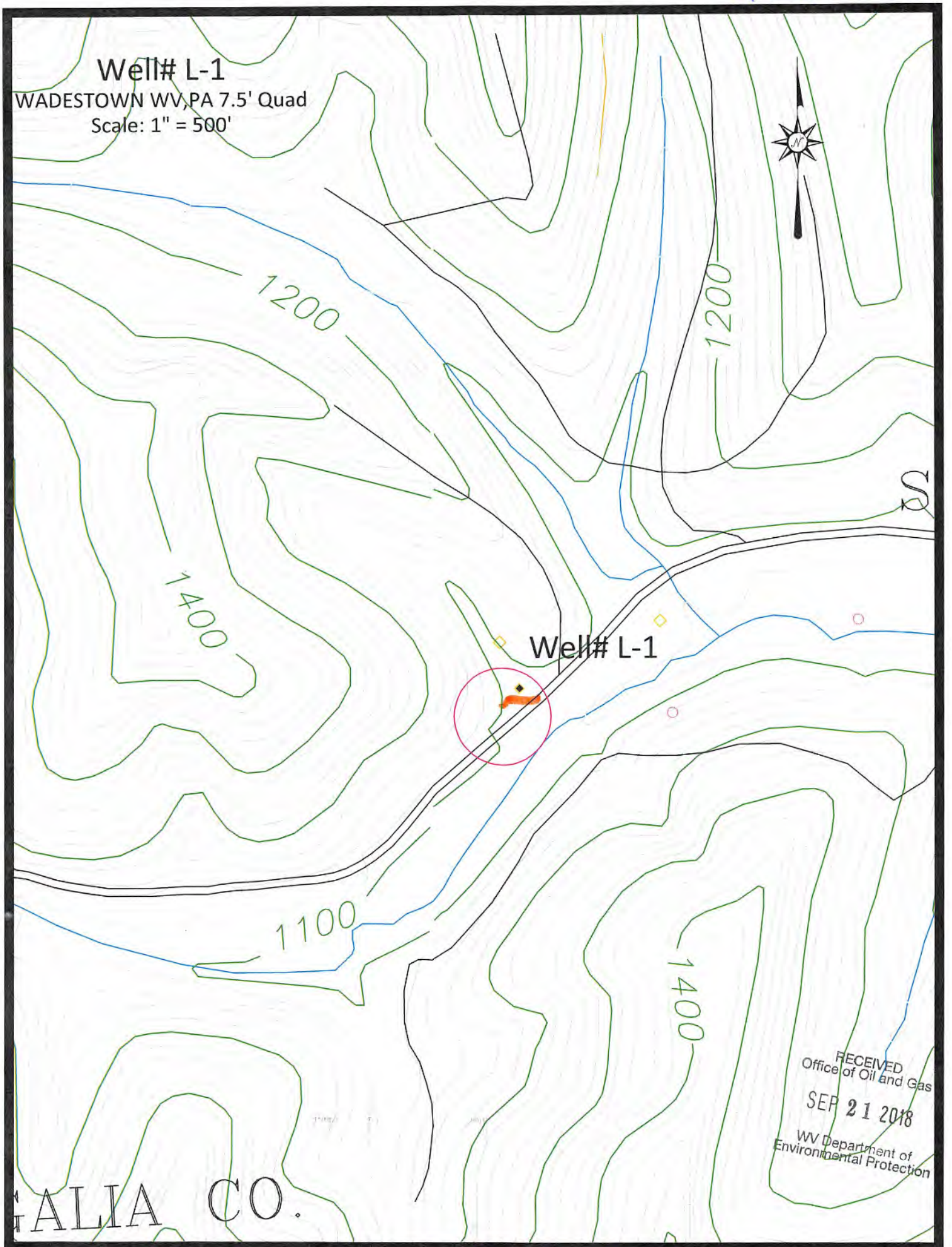
7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

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

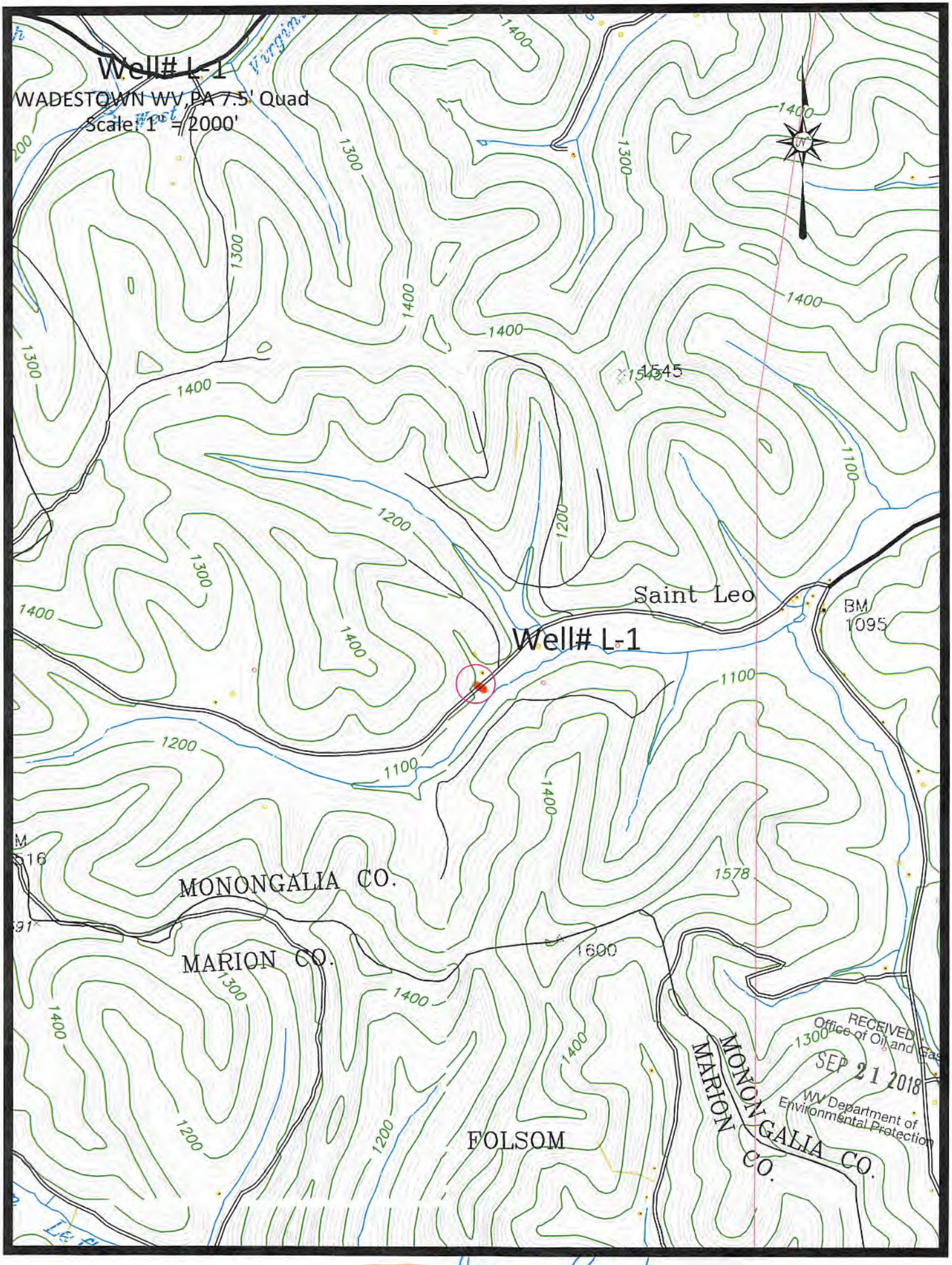
Signature: _____

Date: _____

47-061-01404P



47-061-01404P



47-061-01404-P

WW-7
8-30-06

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

API: 47-061-01404 **WELL NO.:** L-1

FARM NAME: S. JUDSON HALL

RESPONSIBLE PARTY NAME: CONSOLIDATION COAL COMPANY

COUNTY: Monongalia **DISTRICT:** Battelle

QUADRANGLE: WADESTOWN WV,PA 7.5'

SURFACE OWNER: CONSOL MINING COMPANY LLC.

ROYALTY OWNER:

UTM GPS NORTHING: 4,387,992 m (1115')

UTM GPS EASTING: 553,729 m **GPS ELEVATION:** 340 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 __X__: Post Processed Differential _____

Real-Time Differential __X__

Mapping Grade GPS ____: Post Processed Differential _____

Real-Time Differential _____

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Office of Oil and Gas
SEP 21 2018
WV Department of
Environmental Protection

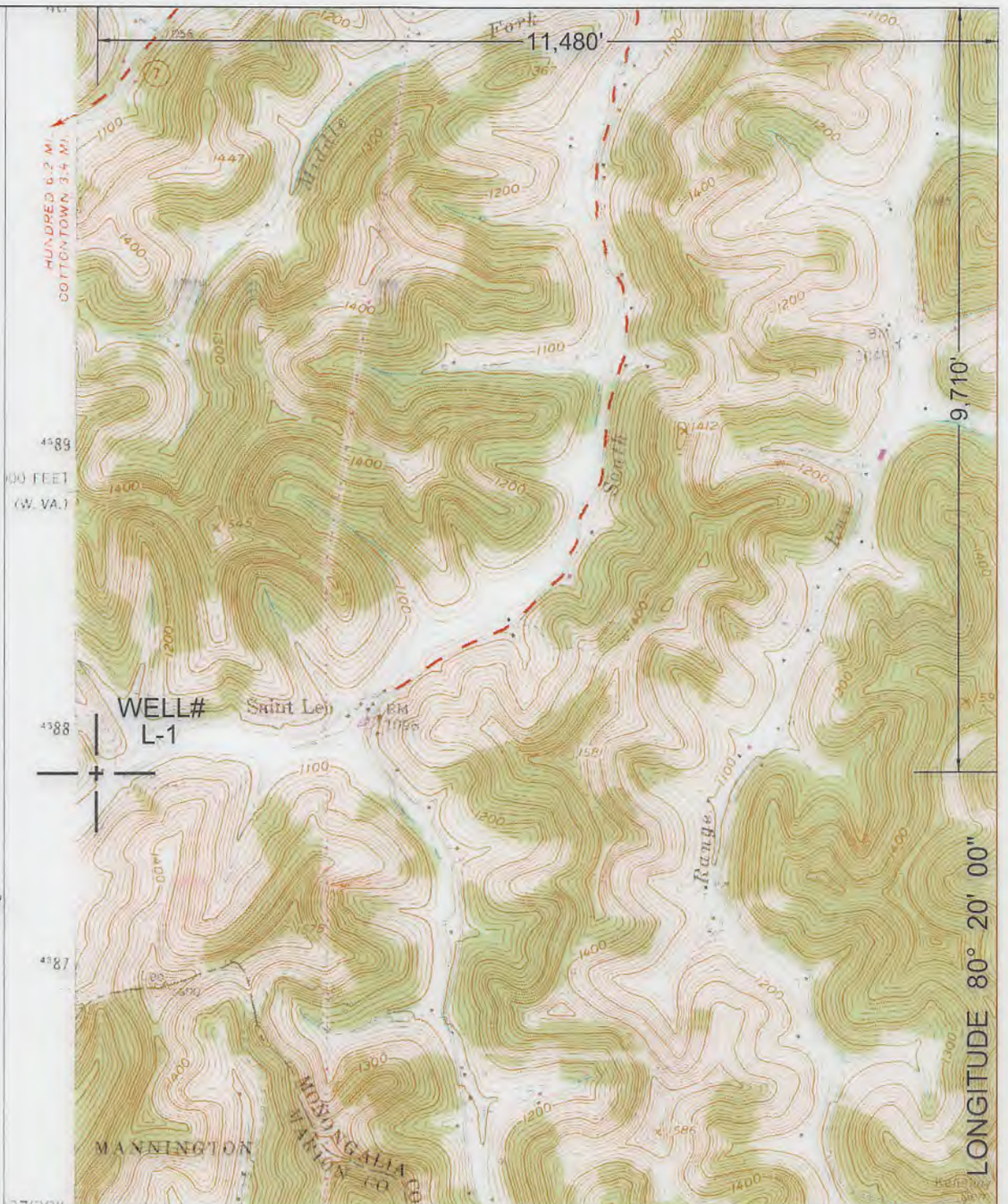
4. **Letter size copy of the topography map showing the well location.**

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	JUNE 15, 2018 Date

FORM WW 6

LATITUDE
39° 40' 00"



SURROUNDING WELLS
WITHIN 1200' RADIUS

UTM ZONE 17N NAD83 CONUS		LAT/LONG NAD27 CONUS
NORTHING 4,387,992	METERS	39° 38' 23.78" N
EASTING 553,729	METERS	80° 22' 26.51" W

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2002

LOYD D. FREELS LICENSED No. 2002 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE JUNE 14 , 20 18

OPERATORS WELL NO. L-1

API WELL NO. 47 — 61 — 01404 P
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY: 1 / 2500

FILE NO.: WADESTOWN 7.DWG

SCALE: 1"=2000'

PROVEN SOURCE OF ELEVATION: GPS METADATA OR COMPANY NETWORK TIED INTO U.S.G.S.

WV DEP
OFFICE OF OIL AND GAS
601 57TH ST., CHARLESTON, WV 25304

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

LOCATION:
ELEVATION: 1114.86' WATERSHED: SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK
DISTRICT: BATTELLE COUNTY: MONONGALIA QUADRANGLE: WADESTOWN, WV,PA 7.5'
SURFACE OWNER: CONSOL MINING COMPANY LLC. ACREAGE: 156.904± ACRES
ROYALTY OWNER: ____ LEASE ACREAGE: ____
PROPOSED WORK: ____ LEASE NO.: ____
DRILL: ____ CONVERT: ____ DRILL DEEPER: ____ REDRILL: ____ FRACTURE OR STIMULATE: ____ PLUG OFF OLD: ____
FORMATION: ____ PERFORATE NEW FORMATION: ____ PLUG AND ABANDON: X CLEAN OUT AND REPLUG: ____ OTHER: ____
PHYSICAL CHANGE IN WELL (SPECIFY): ____ TARGET FORMATION: NONE
ESTIMATED DEPTH: ____

COUNTY NAME
PERMIT

WELL OPERATOR: CONSOLIDATION COAL COMPANY DESIGNATED AGENT: DAVID RODDY
ADDRESS: 1 BRIDGE ST., MONONGAH, WV 26554 ADDRESS: 1 BRIDGE ST., MONONGAH, WV 26554

47-061-01404P

RECEIVED
Office of Oil and Gas
SEP 21 2018
WV Department of
Environmental Protection

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