



west virginia department of environmental protection

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

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

Wednesday, December 20, 2017
WELL WORK PERMIT
Coal Bed Methane Well / Plugging

CONSOLIDATION COAL COMPANY
1 BRIDGE STREET

MONONGAH, WV 265540000

Re: Permit approval for L-5
47-061-01407-00-00

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

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

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

James A. Martin
Chief

Operator's Well Number: L-5
Farm Name: CONSOLIDATION COAL CO.
U.S. WELL NUMBER: 47-061-01407-00-00
Coal Bed Methane Well / Plugging
Date Issued: 12/20/2017

Promoting a healthy environment.

12/22/2017

H

47-061-01407cP

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.

12/22/2017

WV-4B
Rev. 2/01

1) Date: September 28 (rev. 11/2017), 2017
2) Operator's Well No. LS
3) API Well No. 47-061-01407CP

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON A CBM WELL

- 4) Well Type: Oil / Gas / Liquid injection / Waste disposal /
(If "Gas, Production or Underground storage) Deep / Shallow
- 5) Location: Elevation 1219.71 Watershed South Fork of West Virginia Fork of Dunkard Creek
District Battelle County Monongalia Quadrangle Hundred WV, PA 7.5'
- 6) Well Operator Consolidation Coal Company 7) Designated Agent Ronnie Harsh
Address 1 Bridge Street Address 1 Bridge Street
Monongah, WV 26554 Monongah, WV 26554
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Gayne Knitowski Name _____
Address P.O. Box 108 Address _____
Gorman, WV 26720

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

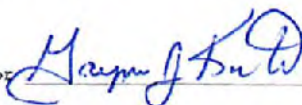
See Exhibit #1

E

MSHA 101 C EXEMPTION FOR MINE-THROUGH.

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

Work order approved by inspector



Date 11/21/2017

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. TO (2272')
- (b) If abandoned well: clean out to first plug 200 feet below lowest minable coal seam.
- (c) Circulate through tubing or drill steel an expanding Class A cement plug from a minimum of 200 feet below minable coal seam to a point 100 feet above minable coal. TO OF 2272' 597'

Circulate through tubing or drill steel an expanding Class A cement plug from 100 feet above coal seam to surface. (FROM 597' TO SURFACE). g # 4

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

Reclaim plugged well SITE ASAP AFTER plugging is complete.

MPH-

U. S. Department of Labor

Mine Safety and Health Administration
-1015-1-10-1990



4 JUN 1991

MSHA 101C EXEMPTION

In the matter of
Consolidation Coal Company
Loveridge No. 22 Mine
I.D. No. 46-01433

Petition for Modification

Docket No. M-90-156-C

PROPOSED DECISION AND ORDER

On October 18, 1990, MSHA received a proposed amendment dated October 16, 1990, to amend a section of Paragraph 4 of a previously issued Decision and Order, Docket No. M-79-59-C, which granted a modification of the application of 30 CFR 75.1700 to Petitioner's Loveridge No. 22 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.

MSHA personnel conducted an investigation of the petition and filed a report of their findings and recommendations with the Administrator for Coal Mine Safety and Health. After a careful review of the entire record, including the petition and MSHA's investigative report and recommendation, this Proposed Decision and Order is issued.

Finding of Fact and Conclusion of Law

The alternative method proposed by the Petitioner (as amended by the recommendations of MSHA) will at all times guarantee no less than the same measure of protection afforded the miners under 30 CFR 75.1700.

On the basis of the petition and the findings of MSHA's investigation, Consolidation Coal Company is granted a modification of the application of 30 CFR 75.1700 to its Loveridge No. 22 Mine.

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., sec. 811(c), it is ordered that Consolidation Coal Company's Petition for Modification of the application of 30 CFR 75.1700 in the Loveridge No. 22 Mine is hereby:

GRANTED, conditioned upon compliance with the following terms and conditions:

I. Procedures to be utilized when plugging gas or oil wells.

4. (a) Cleaning out and preparing oil and gas wells.

Prior to plugging an oil or gas well, the following procedure shall be followed:

- (1) A diligent effort shall be made to clean the borehole to the original total depth. If this depth cannot be reached, the borehole shall be cleaned out to a depth which would permit the placement of at least 200 feet of expanding cement below the base of the lowest mineable coalbed.
- (2) When cleaning the borehole, a diligent effort shall be made to remove all the casing in the borehole. If it is not possible to remove all casing, the casing which remains shall be perforated, or ripped, at intervals spaced close enough to permit expanding cement slurry to infiltrate the annulus between the casing and the borehole wall for a distance of at least 200 feet below the base of the lowest mineable coalbed.
- (3) If the cleaned-out borehole produces gas, a mechanical bridge plug shall be placed in the borehole in a competent stratum at least 200 feet below the base of the lowest mineable coalbed, but above the top of the uppermost hydrocarbon-producing stratum. If it is not possible to set a mechanical bridge plug, a substantial brush plug may be used in place of the mechanical bridge plug.
- (4) A suite of logs shall be made consisting of a caliper survey directional deviation survey, and log(s) suitable for determining the top and bottom of the lowest mineable coalbed and potential hydrocarbon producing strata and the location for the bridge plug.
- (5) If the uppermost hydrocarbon-producing stratum is within 200 feet of the base of the lowest mineable coalbed, properly placed mechanical bridge plugs or a suitable brush plug described in subparagraph (a)(3) shall

be used to isolate the hydrocarbon producing stratum from the expanding cement plug. Nevertheless, a minimum of 200 feet of expanding cement shall be placed below the lowest mineable coalbed.

- (6) The wellbore shall be completely filled and circulated with a gel that inhibits any flow of gas, supports the walls of the borehole, and densifies the expanding cement. This gel shall be pumped through open-end tubing run to a point approximately 20 feet above the bottom of the cleaned out area of the borehole or bridge plug.
- (b) Plugging oil or gas wells to the surface. The following procedures shall be utilized when plugging gas or oil wells to the surface:
- (1) A cement plug shall be set in the wellbore by pumping an expanding cement slurry down the tubing to displace the gel and fill the borehole to the surface. (As an alternative, the cement slurry may be pumped down the tubing so that the borehole is filled with Portland cement or a Portland cement-fly ash mixture from a point approximately 100 feet above the top of the lowest mineable coalbed to the surface with an expanding cement plug extending from at least 200 feet below the lowest mineable coalbed to the bottom of the Portland cement.) There shall be at least 200 feet of expanding cement below the base of the lowest mineable coalbed.
 - (2) A small quantity of steel turnings, or other small magnetic particles, shall be embedded in the top of the cement near the surface to serve as a permanent magnetic monument of the borehole.
- (c) Plugging oil or gas wells using the vent pipe method. The following procedures shall be utilized when using the vent pipe method for plugging oil and gas wells:
- (1) A 4 1/2-inch or larger vent pipe shall be run into the wellbore to a depth of 100 feet below the lowest mineable coalbed and swedged to a smaller diameter pipe, if desired, which will extend to a point approximately 20 feet

above the bottom of the cleaned out area of the borehole or bridge plug.

- (2) A cement plug shall be set in the wellbore by pumping an expanding cement slurry, Portland cement, or a Portland cement-fly ash mixture down the tubing to displace the gel so that the borehole is filled with cement. The borehole and the vent pipe shall be filled with expanding cement for a minimum of 200 feet below the base of the lowest mineable coalbed. The top of the expanding cement shall extend upward to a point approximately 100 feet above the top of the lowest mineable coalbed.
 - (3) All fluid shall be evacuated from the vent pipe to facilitate testing for gases. During the evacuation of fluid, the expanding cement shall not be disturbed.
 - (4) The top of the vent pipe shall be protected to prevent liquids or solids from entering the wellbore, but permit ready access to the full internal diameter of the vent pipe when necessary.
- (d) Plugging oil and gas wells for use as degasification boreholes. The following procedures shall be utilized when plugging oil or gas wells for subsequent use as degasification boreholes:
- (1) A cement plug shall be set in the wellbore by pumping an expanding cement slurry down the tubing to displace the gel and provide at least 200 feet of expanding cement below the lowest mineable coalbed. The top of the expanding cement shall extend upward to a point above the top of the coalbed being mined. This distance shall be based on the average height of the roof strata breakage for the mine.
 - (2) To facilitate methane drainage, degasification casing of suitable diameter, slotted or perforated throughout its lower 150 to 200 feet, shall be set in the borehole to a point 10 to 30 feet above the top of the expanding cement.
 - (3) The annulus between the degasification casing and the borehole wall shall be cemented from

a point immediately above the slots or perforations to the surface.

- (4) The degasification casing shall be cleaned out for its total length.
 - (5) The top of the degasification casing shall be fitted with a wellhead equipped as required by the District Manager. Such equipment may include check valves, shutin valves, sampling ports, flame arrestor equipment, and security fencing.
- II. The following procedures shall apply to mining through a plugged oil or gas well:
- (a) The operator shall notify the District Manager or designee:
 - (1) Prior to mining within 300 feet of the well; and
 - (2) When a specific plan is developed for mining through each well.
 - (b) The MSHA District Manager or designee shall conduct a conference prior to mining through any plugged well to review and approve the specific procedures for mining through the well. Representatives of the operator, the representative of the miners, and the appropriate State agency shall be informed, within a reasonable time prior to the conference, and be given an opportunity to attend and participate. This meeting may be called by the operator.
 - (c) Mining through a plugged well shall be done on a shift approved by the District Manager or designee.
 - (d) The District Manager or designee, representative of the miners, and the appropriate State agency shall be notified by the operator in sufficient time prior to the mining through operation in order to have an opportunity to have representatives present.
 - (e) When using continuous or conventional mining methods, drivage sights shall be installed at the last open crosscut near the place to be mined to ensure intersection of the well, and again if necessary

to ensure that the sight line is not more than 50 feet from the well.

- (f) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mining through shall be available when either the conventional or continuous mining method is used. The fire hose shall be located in the last open crosscut of the entry or room. When the longwall mining method is implemented, the fire hose shall be extended to the face area of the mine through. All fire hoses shall be ready for operation during the mining through.
- (g) Sufficient supplies of roof support and ventilation materials shall be available and located at the last open crosscut. In addition, an emergency plug and/or plugs, shall be available within the immediate area of the mine through.
- (h) The quantity of air required by the approved ventilation system and methane and dust control plan, but not less than 9,000 cubic feet of air per minute shall be used to ventilate the working face during the mining through operation. On longwall sections, a minimum of 20,000 cfm shall be used to ventilate the working face during the mining through operation.
- (i) Equipment shall be checked for permissibility and serviced on the shift prior to mining through the well.
- (j) The methane monitor on the longwall, continuous mining machine, or cutting machine and loading machine shall be calibrated on the shift prior to mining through the well.
- (k) When mining is in progress, tests for methane shall be made with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine, cutting machine, or loading machine is within 30 feet of the well until the well is intersected and immediately prior to mining through. When mining with longwall mining equipment, the tests for methane shall be made at least every 10 minutes when the longwall face is within 10 feet of the well. During the actual cutting through process, no individual shall be allowed on the return side until mining

through has been completed and the area has been examined and declared safe.

- (l) 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 mining through 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.
- (m) When the wellbore is intersected, all equipment shall be deenergized and the place thoroughly examined and determined safe before mining is resumed. Any well casing shall be removed and no open flame shall be permitted in the area until adequate ventilation has been established around the wellbore.
- (n) After a well 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 wellbore.
- (o) No person shall be permitted in the area of the mining through operation except those actually engaged in the operation, company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (p) The mining through operation shall be under the direct supervision of a certified official. Instructions concerning the mining through operation shall be issued only by the certified official in charge.
- (q) MSHA personnel may interrupt or halt the mining through operation when it is necessary for the safety of the miners.
- (r) A copy of the petition shall be maintained at the mine and be available to the miners.
- (s) The Petitioner shall file a plugging affidavit setting forth the persons who participated in the work, a description of the plugging work, and a certification by the Petitioner that the well has been plugged as described.

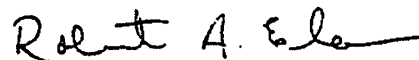
- (t) Within 60 days after this Proposed Decision and Order becomes final, the Petitioner shall submit proposed revisions for their approved 30 CFR Part 48 training plan to the Coal Mine Safety and Health District Manager. These proposed revisions shall include initial and refresher training regarding compliance with the alternative method stated in the petition and the special terms and conditions stated in the Proposed Decision and Order.

The terms and conditions of this Proposed Decision and Order shall supersede the Decision and Order, Docket No. M-79-59-C, issued August 17, 1979.

All rights, terms and conditions granted under this Proposed Decision and Order shall terminate if it is not implemented within six months from the date that the Proposed Decision and Order becomes final. However, an extension of time may be granted by the Administrator for good cause shown by the Petitioner.

Any party to this action desiring a hearing on this matter must file in accordance with 30 CFR 44.14, as amended, (55 Federal Register, December 28, 1990) within 30 days. The request for hearing must be filed with the Administrator for Coal Mine Safety and Health, 4015 Wilson Boulevard, Arlington, Virginia 22203.

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



Acting Deputy Administrator
for Coal Mine Safety and Health


Certificate of Service

I hereby certify that a copy of this proposed decision was served personally or mailed, postage prepaid, this 4th day of June, 1991, to:

Walter J. Scheller III, Esq.
Consolidation Coal Company
Consol Plaza
Pittsburgh, Pennsylvania 15241-1421

Robert Stropp, Esq.
United Mine Workers of
America
900 Fifteenth Street, NW.
Washington, DC 20005

Ms. Linda Raisovich-Parsons
Special Assistant
United Mine Workers of America
900 Fifteenth Street, NW.
Washington, DC 20005


MARY ANN GRIFFIN
Mine Safety Clerk

WR-35

DATE: 6/5/02
 API#: 47-061-01407 *WEP*

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

Well Operator's Report of Well Work

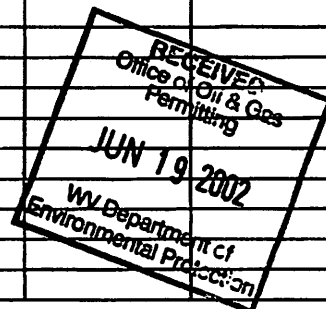
Farm Name: Consolidation Coal Company Operator Well No.: St. Leo CBM No. L-5

LOCATION: Elevation: 1220.75' Quadrangle: Hundred

District: Battelle County: Monongalia
 Latitude: 9183.27' Feet South of 39 Deg. 40 Min. 00 Sec.
 Longitude: 3048.58 Feet West of 80 Deg. 22 Min. 30 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"	723'	723'	212
Agent: Edwin L. Merrifield	5 1/2"	2128.50	2128.50	431
Inspector: Randal Mick				
Date Permit Issued: 4/26/01				
Date Well Work Commenced: 5/4/01				
Date Well Work Completed: 10/31/01				
Verbal Plugging: N/A				
Date Permission granted on:				
Rotary Cable Rlg				
Total Depth (feet): 2272				
Fresh Water Depth (ft.): 60'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 697, 955, 1039, 1391, 1657, 2093				



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: *Proffey Janning*
 By: *Proffey Janning* Drill Foreman CNX Gas
 Date: 6/5/02

RECEIVED
 Office of Oil and Gas
 NOV 27 2017

ATTACHMENT A**St. Leo CBM No. L-5 Drill Log**

Depth (In Feet)	Description
0-30	Top
30-694	Sand/Shale
694-697	Shale
697-700	Coal (Waynesburg)
700-730	Shale
730-955	Sand/Shale
955-957	Coal (Sewickely)
957-1039	Shale
1039-1047	Coal (Pittsburgh)
1047-1167	Sand/Shale
1167-1347	Blue Rock (Limestone)
1347-1391	Shale
1391-1393	Coal (Bakerstown)
1393-1657	Sand/Shale
1657-1659	Coal (Middle Kittanning)
1659-2093	Sand/Shale
2093-2095	Coal (Quakertown)
2095-2240	Shale
2240-2272 (TD)	Sand/Shale



RECEIVED
Office of Oil and Gas
NOV 27 2017

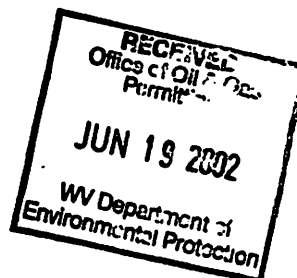
WV Department of
Environmental Protection

12/22/2017

ATTACHMENT B**St. Leo CBM Well No. L-5 Completion**

Permittee:	CNX Gas Company, LLC (North)
API Permit No.:	47-061-01407
Company Well No.:	St. Leo CBM Well No. L-5
Completion Date:	10/31/2001
Total Depth:	2272

	Zone 1 Coal and Kittanning Coals	Zone 2 Freeport, Coal and Bakerstown	Zone 3 Pittsburgh	Zone 4 Sewickley and Redstone
Coals				
Treatment				
Nitrogen (MSCF)	0	0	0	0
Water (BBLs)	163	139	153	170
Sand (SXS 20/40)	248	300	215	300
Top Perf	1808	1397	1160	954
Bottom Perf.	1852	1693	1166	1024
# Perfs	26	24	24	20
Perf Size	0.45	0.45	0.45	0.45
Break. Press.	2158	3468	2232	2025
Avg. Rate	14.88	10.4	20.5	22.9
ISIP	1705	2387	N/A	1815
Min	5	5	5	5
Min Press.	N/A	1707	N/A	1454
Avg. Press.	2600	2829	2870	2197
Stimulated	Yes	Yes	Yes	Yes
Stim. Date(s)	6/7/01, 7/27/01, 8/6/01 and 08/22/2001	6/7/01, 7/27/01, 8/6/01 and 08/22/2001	6/7/01, 7/27/01, 8/6/01 and 08/22/2001	6/7/01, 7/27/01, 8/6/01 and 08/22/2001



RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection
12/22/2017

ATTACHMENT C**St. Leo CBM Well No. L-5 Perforations**

Permittee: CNX Gas Company, LLC (North)
 API Permit No.: 47-061-01407
 Company Well No.: St. Leo CBM Well No. L-5
 Total Coal Thickness: 23.8 ft

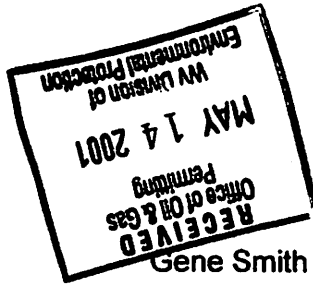
	Formation	Top of Coal	Bottom of Coal	Coal Thickness	Actual Perfs
STAGE 1	Coal	1991.9	1992.5	0.6	1991.5-1993
	Coal	1916.9	1917.3	0.4	1916.5-1918
	Lower Kittanning	1851.8	1852.1	1.5	1850-1852
	Lower Kittanning	1849.8	1851.3	0.3	
	Middle Kittanning	1808	1809.8	1.8	1808-1810
Total Coal				4.6	
STAGE 2	Middle Freeport	1686.9	1690.0	3.1	1687-1690
	Brush Creek	1501.2	1501.9	0.7	1501-1502
	Bakerstown	1397.8	1400.2	2.4	1398-1400
Total Coal				6.2	
STAGE 3	Pittsburgh	1058	1065.6	7.6	1060-1066
Total Coal				7.6	
STAGE 4	Sewickley	954.3	958.6	4.3	954.5-958.5
	Redstone	1023.3	1024.4	1.1	1023.5-1024.5
Total Coal				5.4	

** Perf with 4" guns, 4 Jet Shots per Foot, 120 degree Phasing

** Isolate stages with FasDrill Frac Plugs



RECEIVED
Office of Oil and Gas
NOV 27 2017
12/22/2017
WV Department of
Environmental Protection



MEMORANDUM

TO: Gene Smith - WVDEP-Office of Oil & Gas

FROM: Gary W. Boschain - Alliance Consulting, Inc. *JWB 5/15/01*

DATE: May 15, 2001

SUBJECT: Consol Energy Inc. (North) St. Leo CBM Well No. L-5 (API No. 47-061-01407)

As you requested during our meeting yesterday, I talked with Geoff Fanning - Consol Energy Inc. (North) concerning the St. Leo CBM Well No. L-5 (API No. 47-061-01407). More specifically you were requesting information pertaining to the total depth of the hole and what (casing, packer, etc.) was in the hole. Geoff gave me the following information on the well:

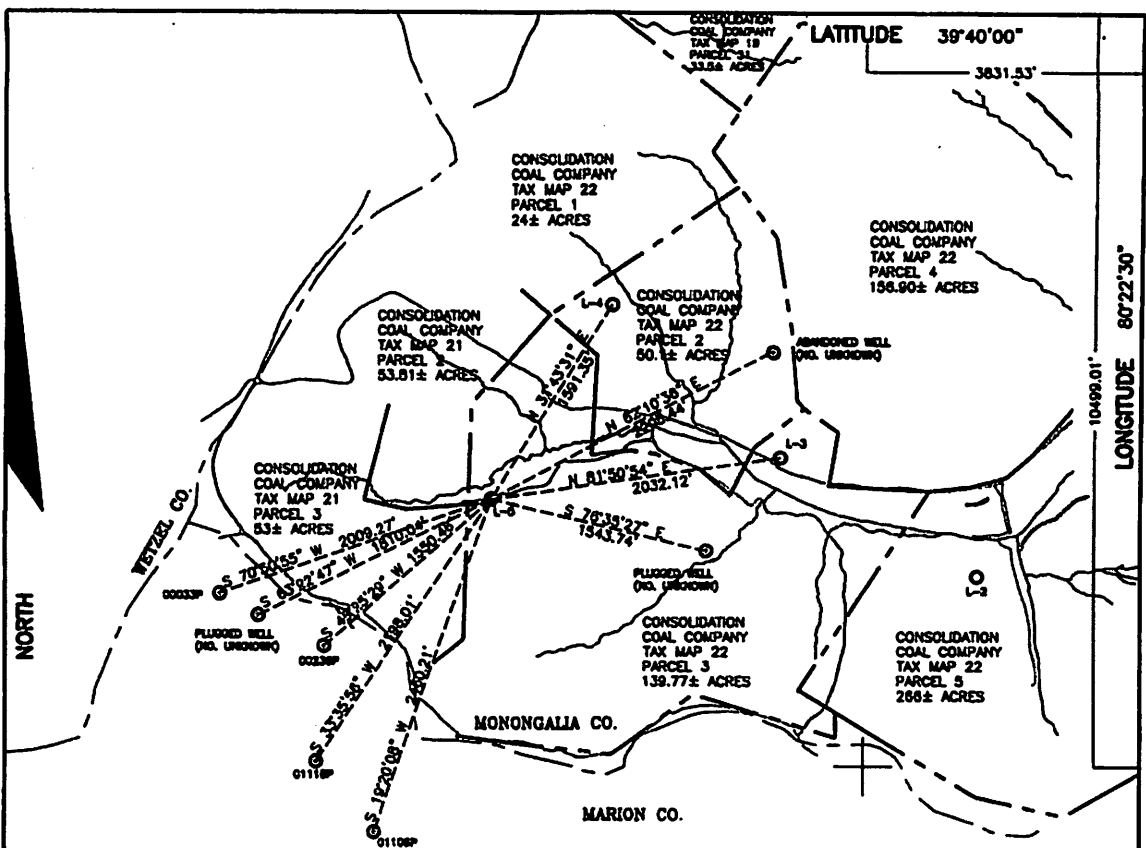
- ◆ 723 ft. of 8 5/8" casing cemented to surface
- ◆ TD 7 7/8" hole at a depth of 2272 ft.
- ◆ 5 1/2" casing set at a depth of 2128.95 ft. and cemented to surface
- ◆ packer shoe set at a depth of 2128.95 ft.
- ◆ latch down baffle set at a depth of 2124 ft.

cc: Geoff Fanning (Consol)
Joseph Aman (Consol)

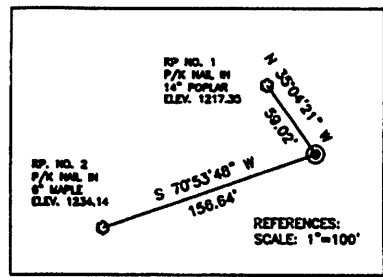
RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection
12/22/2017



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

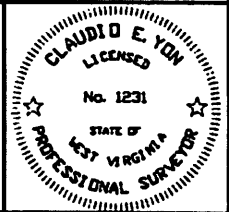


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. B01-015-178
 DRAWING NO. B01-015-A11
 SCALE 1" = 1000'
 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) *Charles S. Yon*
 P.S. _____ No. 1231



RECEIVED
 Office of Oil and Gas
 NOV 27 2017
 WV Department of Environmental Protection

WVDEP OFFICE OF OIL AND GAS DIVISION
 1358 HANSFORD ST.
 CHARLESTON, WV 25301

DATE APRIL 03, 2001
 OPERATOR'S WELL NO. L-5
 API WELL NO. 47-061-01407C
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1219.71 WATERSHED SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK
 DISTRICT BATTELLE COUNTY MONONGALIA
 QUADRANGLE HUNDRED ACREAGE 613±

SURFACE OWNER CONSOLIDATION COAL COMPANY LEASE ACREAGE _____
 OIL & GAS ROYALTY OWNER (CBM) CONSOLIDATION COAL CO. LEASE NO. _____

PROPOSED WORK: DRILL 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'

WELL OPERATOR CONSOL ENERGY, INC (NORTH) DESIGNATED AGENT EDWIN L. MERRIFIELD
 ADDRESS 1800 WASHINGTON ROAD ADDRESS 116 1/2 HUNSAKER STREET
PITTSBURGH, PA 15421-1421 FAIRMONT, WV 26554

ALLIANCE CONSULTING, INC. (WVREGS.DWG) FORM IV-9

12/22/2017

WW-4A
Revised 6-07

1) Date: September 28, 2017 (rev. 11/20/17)
2) Operator's Well Number
L-5
3) API Well No.: 47 - 061 - 01407C

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Consolidation Coal Company</u>	Name <u>Consolidation Coal Company</u>
Address <u>1 Bridge Street</u>	Address <u>1 Bridge Street</u>
<u>Monongah, WV 26554</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>Gayne Knitowski</u>	(c) Coal Lessee with Declaration
Address <u>P. O. Box 108</u>	Name _____
<u>Gorman, WV 26720</u>	Address _____
Telephone _____	_____

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.

Ronnie Harsh



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

Well Operator	<u>Consolidation Coal Company</u>
By:	<u>Ronnie Harsh</u>
Its:	<u>Project Engineer</u>
Address	<u>1 Bridge Street</u>
	<u>Monongah, WV 26554</u>
Telephone	<u>304-534-4748</u>

RECEIVED
Office of Oil and Gas

Subscribed and sworn before me this 20th day of November 2017
R. Walton Notary Public
My Commission Expires June 20, 2022

NOV 27 2017
WV Department of
Environmental Protection

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.

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 Hundred, 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 system be 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.

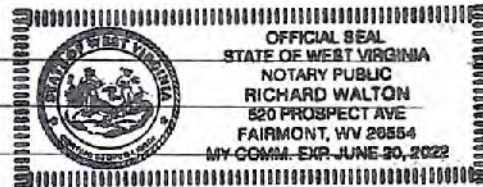
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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.

Company Official Signature Ronnie Harsh

Company Official (Typed Name) Ronnie Harsh

Company Official Title Project Engineer



Subscribed and sworn before me this 20th day of November, 20 17

RE Walt Notary Public

My commission expires June 30, 2022

RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection
12/27/2017

Form WW-9

Operator's Well No. _____

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	<u>100</u>	See Attachment	<u>100</u>

Attach:

Map(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: _____

[Handwritten Signature]

Comments:

Reclaim site ASAP.

Title: Inspector

Date: 11/21/2017

Field Reviewed? Yes

No

CAUDILL SEED

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



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 statute."

MIXTURE-COASTAL SEED 2015

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

KIND	VARIETY
ANNUAL RYEGRASS	MAGNUM
ORCHARDGRASS	POTOMAC
COATING MATERIAL	
PERENNIAL RYEGRASS	LINN
CLOVER	NOT STATED
COATING MATERIAL	
TIMOTHY	CLIMAX
BIRDSFOOT TREFOIL	NOT STATED
COATING MATERIAL	
LADINO CLOVER	SEMINOLE
COATING MATERIAL	

ORG	PURE	GERM	HARD	DORM	TEST
OR	29.40	90.00	.00	.00	10/16
OR	11.39	85.00	.00	.00	11/16
	8.00	.00	.00	.00	11/16
OR	19.60	85.00	.00	.00	11/16
OR	6.40	85.00	.00	.00	12/16
	3.40	.00	.00	.00	12/16
CAN	9.80	85.00	.00	.00	10/16
CAN	2.83	83.00	7.00	.00	11/16
	1.91	.00	.00	.00	11/16
OR	3.17	60.00	25.00	.00	8/16
	1.70	.00	.00	.00	8/16

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.

Memo
Treatments

NOXIOUS WEEDS PER LB:

RECEIVED
Office of Oil and Gas
NOV 27 2017
WV Department of
Environmental Protection

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

phone: 304-534-4748
fax: 304-534-4739
e-mail: ronnieharsb@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

RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection

12/22/2017

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): South Fork of West Virginia Fork of Dunkard Creek Quad: Hundred, 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.

[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]

RECEIVED
Office of Oil and Gas
NOV 27 2017
WV Department of
Environmental Protection

- 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.

Signature: _____

Date: _____

RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection

12/22/2017

Well# L-5

Hundred WV 7.5' Quad
Scale: 1" = 500'



1400

BM

Oil Well

Well# L-5

1200

RECEIVED
Office of Oil and Gas

NOV 27 2017

WV Department of
Environmental Protection

1510

BM

1516

Oil Well

MONO

1591

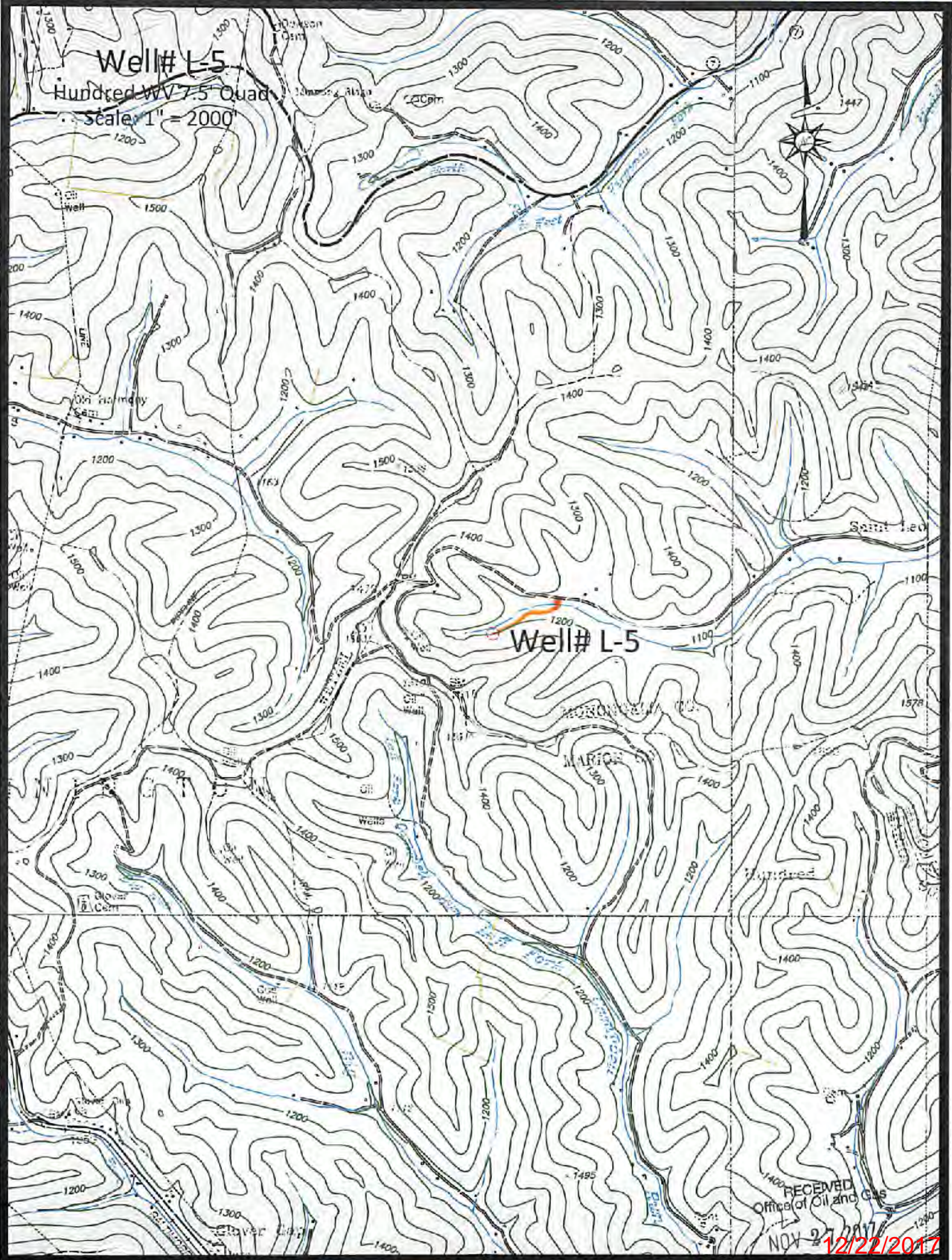
MARIO

1300

12/22/2017

— Access Road

Left Fl



Access Road

RECEIVED
Office of Oil and Gas
NOV 27 2017
12/22/2017
WV Department of
Environmental Protection

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-061-01407C WELL NO.: L-5
 FARM NAME: CONSOLIDATION COAL COMPANY
 RESPONSIBLE PARTY NAME: CONSOLIDATION COAL COMPANY
 COUNTY: Monongalia DISTRICT: Battelle
 QUADRANGLE: Hundred WV, PA 7.5'
 SURFACE OWNER: CONSOLIDATION COAL COMPANY
 ROYALTY OWNER: _____
 UTM GPS NORTHING: 4,387,724 m
 UTM GPS EASTING: 552,454 m GPS ELEVATION: 371 m (217')

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

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

Survey grade GPS : Post Processed Differential _____

Real-Time Differential

Mapping Grade GPS _____ : Post Processed Differential _____

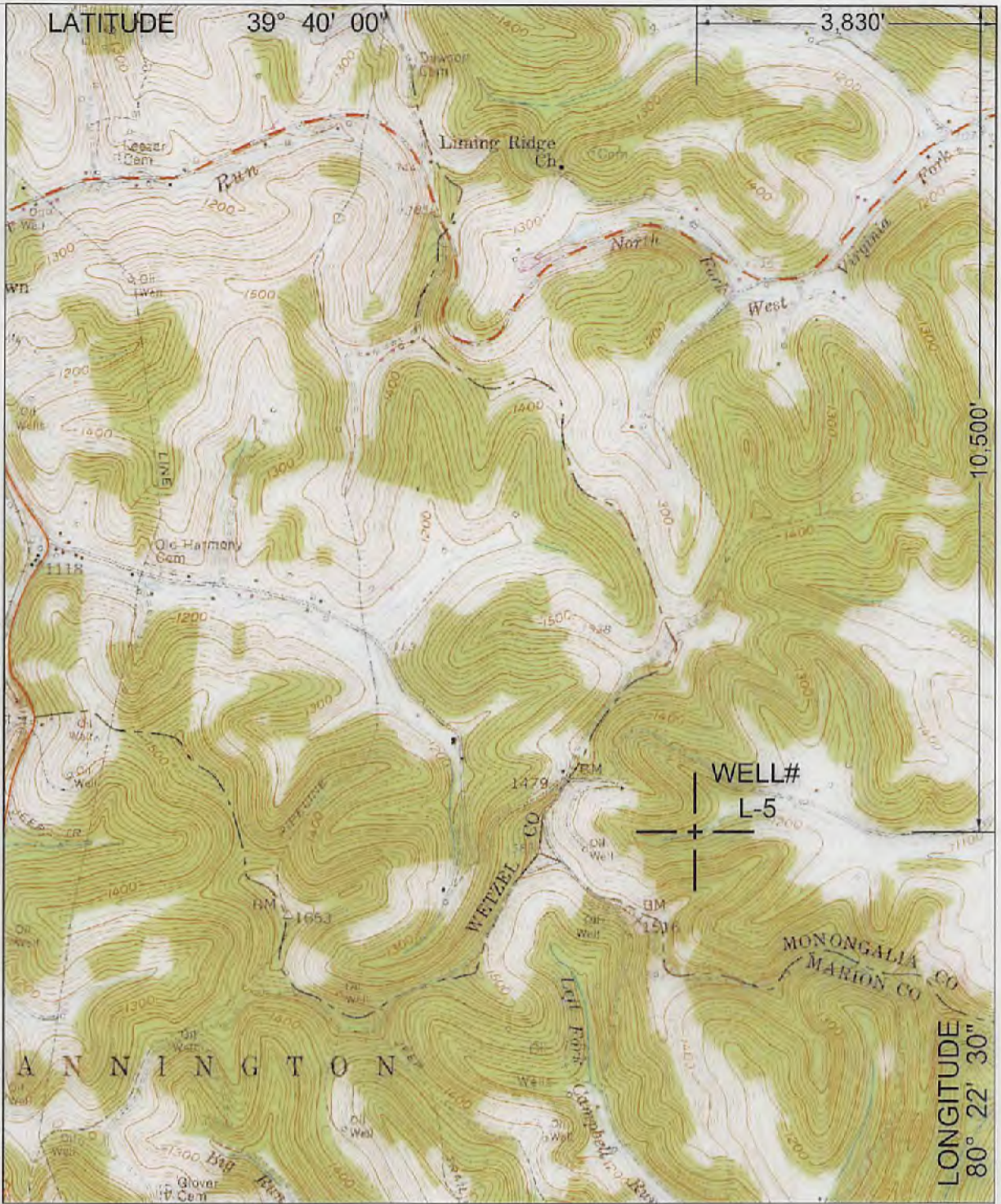
Real-Time Differential _____

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

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

 Professional Surveyor SEPTEMBER 28, 2017
 Signature Title Date

12/22/2017



NORTH

SURROUNDING WELLS WITHIN 1200' RADIUS



UTM ZONE 17N NAD83 CONUS	LAT/LONG NAD27 CONUS
NORTHING 4,387,724 METERS	39° 38' 15.7" N
EASTING 552,454 METERS	80° 23' 19.4" 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



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

DATE SEPTEMBER 28, 20 17

OPERATORS WELL NO. L-5

API WELL NO. 47 - 61 - 01407C P
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY: 1 / 2500
FILE NO.: HUNDRED 9.DWG
PROVEN SOURCE OF ELEVATION: GPS METADATA OR COMPANY NETWORK TIED INTO U.S.G.S.
SCALE: 1"=2000'

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



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

LOCATION: ELEVATION: 1219.71' WATERSHED: SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK
DISTRICT: BATTELLE COUNTY: MONONGALIA QUADRANGLE: HUNDRED, WV, PA 7.5'
SURFACE OWNER: CONSOLIDATION COAL COMPANY ACREAGE: 613± ACRES
ROYALTY OWNER: CONSOLIDATION COAL COMPANY LEASE ACREAGE: _____
PROPOSED WORK: _____ LEASE NO.: 12/22/2017

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: 2123'

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

COUNTY NAME PERMIT