

#### 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

Friday, June 09, 2017 WELL WORK PERMIT Vertical / Plugging

CONSOLIDATION COAL COMPANY (A)
1 BRIDGE STREET

MONONGAH, WV 265540000

Re: Permit approval for 3952 47-049-02456-00-00

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: 3952

Farm Name: CITY OF MANNINGTON U.S. WELL NUMBER: 47-049-02456-00-00

Vertical / Plugging

Date Issued: 6/9/2017

Promoting a healthy environment.

## 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.

FORM WW-4(B) Rev. 2/01

1.) Date:	M	ay 1,		, 20	)	17		
2.) Operator	's We	ll No.	39	952				
3.) API Wel		47	-	49	-	0:	245	۷
		State	(	County	,	Pe	rmit	

# STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL & GAS APPLICATION FOR A PERMIT TO PLUG & ABANDON

	APPLICATION I	FOR A PERMIT TO	PLUG & ABANDON	
4.) WELL TYPE:	Oil/ Gas X/ (IF "Gas", Production/	Liquid injection	/ Waste disposal/ Deep	/ ShallowX
5.) LOCATION:	Elevation:1016.78'	Watershed: Little	Dents Run of Dents Run of	Buffalo Creek .
	District: Mannington	County: Marion	Quadrangle: Mann	ington, WV 7.5'
6.) WELL OPERA	TOR <u>Consolidation Coal Co.</u>		7.) DESIGNATED AC	GENT Ronnie Harsh
Address	1 Bridge St.		Address	1 Bridge St.
	Monongah, WV 26554			Monongah, WV 26554 .
8.) OIL & GAS INS	PECTOR TO BE NOTIFIED		9.) PLUGGING CON	TRACTOR
Name	Sam Ward		Name	
Address	P.O. Box 2327		Address	<u> </u>
	Buckhannon, WV 26201		5-	
		MSHA 101 EXEMPTION MINIE-TH	FOL	REGENCES Office of Oil and Gas MAY 8 2017 WV Department of Environmental Protection
Www. Notification must be	G/8 17 e given to the district oil and gas insp	pector 24 hours before permit	ted work can commence.	
Work order approve	ed by inspector		Date	

## **EXHIBIT NO.1**

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

## SOLID PLUG METHOD

- (a) If active well: clean out to total depth and plug back according to state regulations to a minimum of 200 feet below lowest minable coal seam.
- (b) If abandoned well: clean out to first plug 200 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.

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

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

RESERVED
Office of Oil and Gas

MAY 8 2017

WV Department of Environmental Protection U. S. Department of Labor

Tind Sarar, and Hadlan Administration -218 (ab. 5...a.ar.)



4 JUN 1991

## MSHA 101 C EXEMPTION FOR MINE-THROUGH

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:

- Procedures to be utilized when plugging gas or oil wells.
- (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

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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 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 10Q 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

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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 perminute 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 long-wall mining equipment, the tests for methane shall be made at least every 10 minutes when the long-wall 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.

- (1) 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, 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.

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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 Corder.

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

Acting Deputy Administrator for Coal Mine Safety and Health

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## Certificate of Service

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

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MARY ANN GRIFFIN Mine Safety Clerk FORM WW-4(A) Revised 6-07

8 2017

1) Date: May	1,2017	
2) Operator's W	ell No. 3952	
3) API Well No	. 47 – 49 -	
4,44,44,44,44,44	State County Permit	

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

A) SUBSIA OF OWNER/S) TO BE SERVED	S A COAL OREDATION
4) SURFACE OWNER(S) TO BE SERVED (a) Name <u>City of Mannington</u>	5)a) COAL OPERATOR Name CONSOLIDATION COAL CO.
Address City Hall Main St.	Address 1 Bridge St.
Mannington, WV 26582	Monongah, WV 26554
(b) Name	(b) COAL OWNER(S) WITH DECLARATION:
Address	Name
ANY	Address
(c) Name Address	
	(c) COAL LESSEE WITH DECLARATION:
(6) INSPECTOR	Name Name
Address	Address
Telephone	
TO THE PERSON(S) NAMED ABOVE: Yo	ou 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 work order; and	e well and its location and the plugging
(2) The Plat (surveyor's map) showing the well to	ocation on Form WW-6
(2) The triat (surveyor's map) showing the well to	Scatton on Form ww-o.
Take notice under Chapter 22-6 of the West Virginia Co and Application and accompanying documents for a permit to Virginia Department of Environmental Protection, with respec on the attached From WW-6. Copies of this Notice, the Applic	de, the undersigned well operator proposes to file or has filed this Notice plug and abandon a well with the Chief of the Office of Oil and Gas, West to the well at the location described on the attached Application and depicted cation, and the plat have been mailed by registered or certified mail or delivery by a circumstances) on or before the day of mailing or delivery by the Chief.
	WELL OPERATOR Consolidation Coal Company  By Ronnie Harsh
	Its Project Engineer / Agent
	Address 1 Bridge St.
	Monongah, West Virginia 26554
	Telephone (304) – 534 – 4748
Rome Hand	
Subscribed and sworn before me this 2rd day of May	.20/7
Sant & Links	Notary Publication Official SEAL
Marion County, State of West	Notary Public, State of West Virginia
	199 Broadviaw Avenue
My commission expires / 13, 20 24	Fairmont, WV 26554 My commission expires June 13, 2024
Oil and Gas Privacy Notice	

Oil and

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.

				490245
	Page		of	
API Number 47 -	049	- 8		

MAY 8 2017

# Operator's Well No. 3952 2017 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

OFFICE OF OIL AND GAS

Operator Nam	e Consolidation Coal	Company		OP Code	10950
Watershed Li	ttle Dents Run of Dents	Run of Buff	falo Creek	Quadrangle Ma	nnington
					Mannington
Description of	anticipated Pit Waste: _	N/A			
Do you anticip	pate using more than 5,00	00 bbls of war	ter to complete the	proposed well work? Ye	es NoX
Will a syntheti	ic liner be used in the pit	N/A	If	so, what mil.?	
Proposed Disp	Land Application  Land Application  Underground Reuse (at All Off Site Disp X Other (Exp	ation I Injection (U PI Number_ oosal (Supply	form WW-9 for d	isposal location)	
If oil	im anticipated for this wo based, what type? Synth	ell? Air, fresl	hwater, oil based, um, etc.?	etc. Freshwa	
-If lef	ft in pit and plan to solidi	fy what medi	ium will be used?	Cement, lime, sawdust _	osed (see attached letter)
on August 1, 2 provisions of the law or regulation of the law of regulation of the law o	2005, by the Office of Oi the permit are enforceab on can lead to enforcement tify under penalty of lay rm and all attachments	I and Gas of the by law. Vent action.  I thereto and that the inforce, including	the West Virginia Violations of any to e personally exame that, based on remation is true, ac g the possibility of	Department of Environment or condition of the guined and am familiar with inquiry of those indicturate, and complete. If fine or imprisonment.	ATER POLLUTION PERMIT issued ental Protection. I understand that the eneral permit and/or other applicable the the information submitted on this viduals immediately responsible for am aware that there are significant
		Ronnie I			*
Company Offi	icial (Typed Name)		Engineer		
Subscribed and	d sworn before me this_	2 nd t S.	day of 7/ Lieuns	May 2	Public OFFICIAL SEAL Notary Public, State of West Virginia JANET L LIEVING 199 Broadview Avenue Fairmont, WV 26554 My commission expires during 12, 2021

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

phone: 304-534-4748 fax: 304-534-4739

e-mail: ronnicharsh@consolenergy.com

web: www.contsource.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 Far: (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,

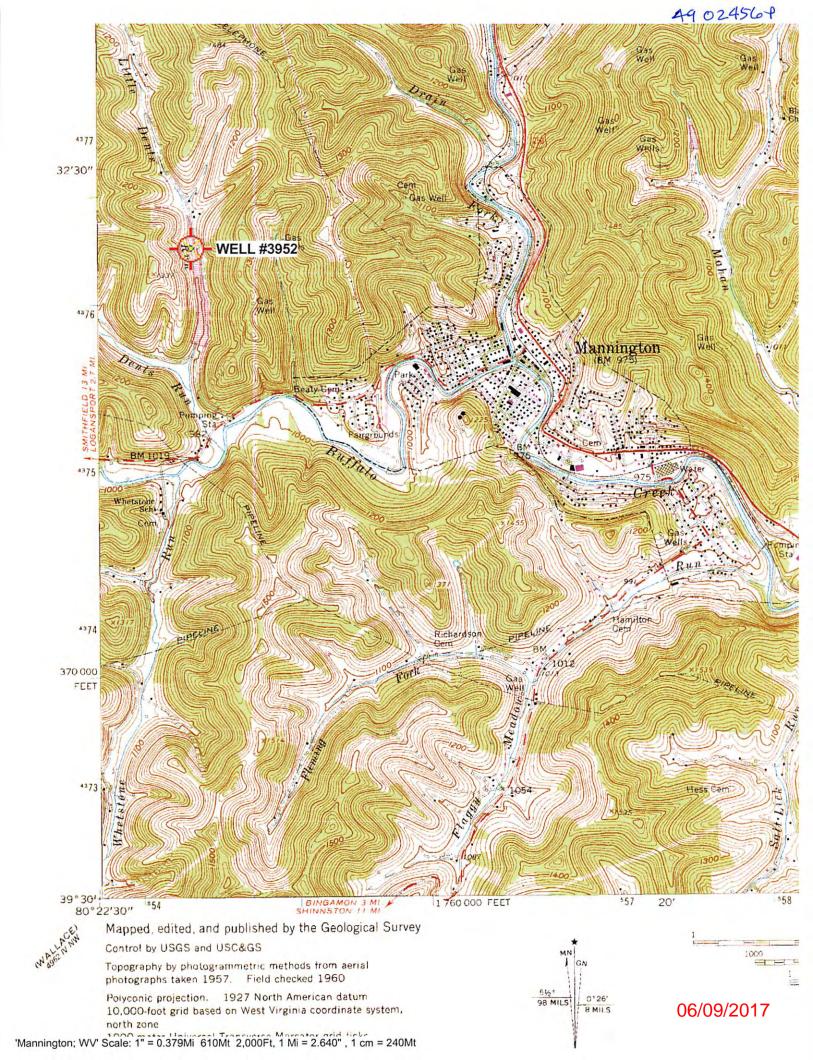
Ronnie Harsh Project Engineer

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Office of Oil and Gas

MAY 8 2017

WV Department of Environmental Protection



WW-7 8-30-06 REGEIVEN Office of Oil and Gas

MAY 8 2017



WV Department of Environmental Protection

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

## WELL LOCATION FORM: GPS

API: 47-049-	WELL NO.: 3952
FARM NAME: Edward M. &	& David T. Roberts
RESPONSIBLE PARTY NAM	E: Consolidation Coal Company
COUNTY: Marion	DISTRICT: Mannington
QUADRANGLE: Manningto	on
SURFACE OWNER: City of	of Mannington
ROYALTY OWNER:	
UTM GPS NORTHING: 4,3	
UTM GPS EASTING: 554,	GPS ELEVATION: 310 m
preparing a new well location pla above well. The Office of Oil and the following requirements:  1. Datum: NAD 1983, Z height above mean see 2. Accuracy to Datum –	
3. Data Collection Methodology grade GPS Post	od: t Processed Differential
Rea	al-Time Differential
	Post Processed Differential X  Real-Time Differential
4. <b>Letter size copy of th</b> I the undersigned, hereby certify	he topography map showing the well location. this data is correct to the best of my knowledge and ion required by law and the regulations issued and
100.	Professional Surveyor
Signature	Title
May 1, 2017	<del></del>

