west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

April 26, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-5100192, issued to CONSOLIDATION COAL COMPANY, 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 all 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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalities being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: 2-4004
Farm Name: ELDER, MAY
API Well Number: 47-5100192
Permit Type: Plugging
Date Issued: 04/26/2016

Promoting a healthy environment.

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

4705100192

1.) Date: March 18, 20 16.
2.) Operator's Well No. SGW-156.
3.) API Well No. 47 - 51 - 00192.
State County Permit

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

4.) WELL TYPE: Oil _____ / Gas X / Liquid injection _____ / Waste disposal _____ /
(IF "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow X

5.) LOCATION: Elevation: 1344.58' Watershed: Dunkard Fork of Wheeling Creek.

District: Webster County: Marshall Quadrangle: Majorsville, WV-PA 7.5'.

6.) WELL OPERATOR Consolidation Coal Co.

Address 1 Bridge St.

Monongah, WV 26554

7.) DESIGNATED AGENT Ronnie Harsh.

Address 1 Bridge St.

Monongah, WV 26554.

8.) OIL & GAS INSPECTOR TO BE NOTIFIED

Name Eric Blend

Address PO BOX 2115

Wheeling, WV 26003

9.) PLUGGING CONTRACTOR

Name _____.

Address _____.

_____.

10.) WORK ORDER: The work order for the manner of plugging this well is as follows:

Mine Permit V-1025-91 Revision 27 and 31

SEE EXHIBIT NO. 1

Soid cement plug from attanable bottom to 1003' then 101C exemption

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

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

Work order approved by inspector _____ Date _____

4705100192

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 one of the following two methods to plug all future wells.

4 ½ VENT PIPE METHOD

(a) If active well: clean out to total depth and plug back according to state regulations to a minimum of 200 feet below the lowest minable coal seam.
(b) If abandoned well: clean out to first plug 200 feet below lowest minable coal seam.
(c) Run 4 ½ casing from surface to a minimum of 200 feet below lowest minable coal seam and circulate 50/50 poz mix cement followed by expanding cement to surface. The expanding cement shall extend from a minimum of 200 feet below minable coal seam to a point 100 feet above.

The 4 ½ will remain open from surface to a minimum of 80 feet below that minable coal seam.

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 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 50/50 poz mix from 100 feet above coal seam to surface.

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

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

RECEIVED
OCT 22 1990
W. J. SCHELLER

U. S. Department of Labor
Mine Safety and Health Administration
4015 Wilson Boulevard
Arlington, Virginia 22203-1984

4705100

OCT 17 1990

In the matter of
Consolidation Coal Company
Shoemaker Mine
I.D. No. 46-01436
Ireland Mine
I.D. No. 46-01438

Petition for Modification

Docket No. M-90-066-C

PROPOSED DECISION AND ORDER

On April 24, 1990, a petition was filed seeking a modification of the application of 30 CFR 75.1700 to Petitioner's Shoemaker Mine and Ireland Mine, both located in Marshall 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, comments, 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 investigators) 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 Shoemaker Mine and Ireland 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 Shoemaker Mine and Ireland Mine is hereby:

GRANTED, conditioned upon compliance with all provisions of the Petitioner's alternative method and the following terms and conditions:

I. 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 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 tail-gate 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 conflicting provisions in the Petitioner's proposed alternative method.

Any party to this action desiring a hearing on this matter must file in accordance with 30 CFR 44.14, within 30 days, a request 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.

Edward C. Hugler

Edward C. Hugler
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 17th day of October, 1990, to:

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

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.

Mr. David Shreve
International Safety
Representative
District 6
United Mine Workers of America
56000 Dilles Bottom
Shadyside, Ohio 43947

Mary Ann Griffin

MARY ANN GRIFFIN
Mine Safety Clerk

4705100192

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Quadrangle Cameron

Permit No. MARS-192-D

Oil or Gas Well GAS (KIND) Storage

Company The Mfrs. Lt. and Ht. Co.
Address 800 Union Trust Bldg., Pittsburgh19,
Farm May Elder Acres 96
Location (waters)
Well No. 4004 Elev. 1341.60G.L.
District Webster County Marshall
The surface of tract is owned in fee by
Address
Mineral rights are owned by
Address
Drilling commenced May 23, 1963
Drilling completed September 2, 1963
Date Shot 8/30/63 From Big Injun
With Side Static
Open Flow /10ths Water in Inch
13 Dsig. ~~Hours~~ in 4 Inch
Volume 16,895,000 Cu. Ft.
Rock Pressure 890 lbs. 72 hrs.
Oil bbls., 1st 24 hrs.
Fresh water feet feet
Salt water feet feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
13			
10 3/4"		843'	Size of
8 5/8"		1410'	
7"	1908'	1908'	Depth set
5 3/16			
4 1/2"	1900'	1978'	Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED SIZE No. Ft. Date

COAL WAS ENCOUNTERED AT 797 FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES

Formation	Color	THICKNESS	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Pittsburgh Coal		6	797	803			
Little Dunkard		10	1160	1170			
Big Dunkard		22	1280	1302			
Gas Sand		107	1398	1505			
1st Salt Sand		70	1540	1610	Show of Gas 1552 - 1555 (Orig.Record)		
3rd Salt Sand		73	1725	1798	Water 1775-1785' (Orig. Record)		
Big Injun					Gas - 1954 to 1968'(Orig. Record)		
Reconditioned to Original total depth of 1978'							
TOTAL DEPTH				1978			

OCT 1963 RECEIVED West Virginia Dept. of Mines

WEST VIRGINIA DEPARTMENT OF MINES
OIL & GAS DIVISION
WELL RECORD

4705100192

Permit No. Mars 192
Cameron Quad.
Company The Manf. Light & Heat Co.
Address
Farm Mary Elder Acres 300
Well No. 4004 Elev. 1342
District Webster Marshall County
Commenced Oct. 3,1948
Completed Nov. 22,1948
Volume 80/10 M 4" ,6,286,080 B.Injun 11-22-48
Rock Pressure 368# 24 hr.
Water 1775-1785

Gas Well
CASING & TUBING

	Cond.	16	16
	10	843	843
	8¼	1410	1410
	6 5/8	1908	1908
	4		1989

Anchor Packer
Size 6 5/8 x 4
Depth 1927'

Clay	0	16	Slate	1302	1335
Slate	16	35	Lime	1335	1353
Lime	35	50	Slate	1353	1365
Slate	50	120	Lime	1365	1375
Red Rock	120	135	Slate	1375	1398
Slate	135	175	Sand	1398	1505
Lime	175	190	Slate	1505	1540
Slate	190	240	Sand	1540	1610
Sand	240	255	Slate	1610	1632
Slate	255	280	Lime	1632	1650
Lime	280	290	Slate	1650	1725
Slate	290	320	Sand	1725	1798
Lime	320	330	Black Slate	1798	1805
Slate	330	370	Lime	1805	1857
Lime	370	380	Slate	1857	1870
Slate	380	400	Lime	1870	1885
Lime	400	440	Slate	1885	1891
Slate	440	445	Big Injun Sand	1891	
Showing of coal	445	448	Pay Sand	1954	1968
Lime	448	458	Total Depth		1978
Slate	458	480			
Lime	480	500			
Sand	500	520			
Slate	520	530			
Lime	530	688			
Slate	688	692			
Mapletown Coal	692	694			
Slate	694	698			
Lime	698	780			
Slate & Shells	780	797			
Pitts. Coal	797	803			
Lime	803	810			
Slate	810	822			
Lime	822	840			
Slate	840	860			
Red Rock	860	870			
Slate & Shells	870	890			
Red Rock	890	898			
Lime	898	915			
Red Rock	915	950			
Lime	950	965			
Red Rock	965	980			
Slate	980	992			
Lime	992	1015			
White Slate	1015	1050			
Red Rock	1050	1072			
Slate	1072	1095			
Lime	1095	1104			
Slate	1104	1123			
Lime	1123	1137			
Slate	1137	1160			
Little Dunkard Sand	1160	1170			
Slate	1170	1197			
Lime	1197	1210			
Slate	1210	1280			
Big Dunkard	1280	1302			

Show of gas 1552-1555
SLM 1898
Gas 1954 to 1968 80/10 M in 4",6286,080CF

MINUTE PICKUP TEST IN 4" TUBING

1	2	3	4	5	6	7	8	9
220	275	290	295	302	305	307	310	311

10	15	30	45	60	24 hr.
312	320	330	335	340	368

Tubing record ------Thrd. on

Perf.	25'	2"
"	25'	2"
Packer	3'	8"
Tubing 80 jts.	1939'	7"
Total	1989'	11"

1805
1342
463

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

MAJORSVILLE COMPANY THE MANUFACTURERS LIGHT AND HEAT COMPANY SERIAL No. 4004

FARM May Elder #2 TWP. Webster COUNTY Marshall STATE W. Va.

COM. DR. 10-3-48 COMP. DR. 11-22-48 TOTAL DEPTH 1978' ELEV. 1342'

PROD. SD. Big Injun. INIT. VOL. 6,286,080 R. P. 368/24 hrs. ABD.

REMARKS Lease #19447 300 ac AUTHORITY

CONDUCTOR	13"	10"	8 1/4"	6 5/8"	5 3/16"	4"	3"	PACKER SIZE	TYPE	DEPTH SET
16.		843	1410	1908		1989		6 5/8 X 4	Anchor	1927

SIZE SHOT			DEPTH SHOT			VOL. BEFORE			VOL. AFTER		
DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS

ACTIVE STORAGE WELL RECON'D & RETAINED C.D. 9-7-63
TOTAL DEPTH 1978' W.O. 7301-L-7858-5
OPEN FLOW 16,895 M.C.F. ROCK PRESSURE 890/72 HRS.
RECON'D INTO BIG INJUN
.96 ACRES
U.F. = 16.55
4 1/2 TUBING 1978' - REST SAME

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

Storage Dept.

4705100192

FARM NAME	FARM NO.	COMPANY	WELL NO.
May Elder		M. L. & H.	L-4004

TOWNSHIP - TOWN - DISTRICT	COUNTY	STATE	WALL MAP REF.
Webster District	Marshall	W.Va.	Majorsville

ELEV.	DATE COMP.	T.D.	PROD. SAND	WELL FRACT.	VOL. B.F.	FINAL VOL.
1342	9/2/63	1978	Big Injun	☐ YES ☒ NO		16,895

I.R.P.	LEASE NO.	CONT. NO.	ACRES	DATE ABD.	DATE SOLD
890/72	19447		96		

PIPE SIZE	10	8	7	4½		
LEFT IN	843	1410	1908	1978		

TYPE COMPLETION 1900

☒ CEMENTED ☐ PACKER SET ☐ PERF. @ ____ FT.

DATE	DEPTH	STATUS	DATE	DEPTH	STATUS

AUTHORITY

Remarks:
Active storage well reconditioned and retained.

Work Order No. - 2301-L-2858-5

TOPO SHEET LOCATION

QUAD.

SIZE ☐ 7½' ☐ 15'

COORDINATES

4705 00192

FORM PD-87 CSD

COLUMBIA GAS SYSTEM **WELL RECORD** PITTSBURGH GROUP COMPANIES

FORMATION	TOP	BOTTOM	REMARKS	FORMATION	TOP	BOTTOM	REMARKS
PGH. COAL	797	803		BALLTOWN SAND			
L.DUNKARD SD.	1160	1170		RILEY SAND			
B.DUNKARD SD.	1280	1302		BENSON SAND			
Gas Sand	1398	1505		TULLY LIME			
1ST GAS SAND							
1ST SALT SAND	1540	1610		ONONDAGA LIME			
2ND SALT SAND				CHERT			
3RD SALT SAND	1725	1798					
MAXTON SAND				ORISKANY SAND			
LITTLE LIME							
T.D.		1978					
BIG LIME							
KEENER SAND							
BIG INJUN SAND							
SQUAW SAND							
BEREA SAND							
GANTZ 50 FT. 100° SD.							
GORDON STRAY							
GORDON SAND							
FOURTH SAND							
[illegible] SAND							
[illegible] SAND							

4705100192

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

MAJORSVILL
M. May
COM. DR.
PROD. SD.
REMARKS
CONDUCTOR

CSD

FARM May Elder NO. COMPANY M. L & H. Co. NO. L-4527

TWP. Webster COUNTY Marshall STATE W. Va. MAP Majorsville

COM. DR. COMP. DR. 1-26-61 ABD. ELEV.

INIT. VOL. INIT. R. P. 580/72 FIN. VOL. 721,249 cf T. D. 1932

PIPE SIZE	13 3/8	10 3/4	8 5/8	7		
FEET						
LEFT IN	158	614	783	1827		

PACKER SIZE 7" Cas. TYPE CEM. SET@ 1827

SHOT QTS. @ VOL. B. S.

VOL. A. S. VOL. TURNED IN

DATE	DEPTH	STATUS	DATE	DEPTH	STATUS

AUTHORITY

LEASE NO. 19447 ACS. 300

CONTRACT NO.

MINUTE PRESSURE TEST

1	2	3	4	5	10	15	20	30

REMARKS

Abd. Well Redrilled for Stg.

W. O. 1952-L-1882-5

4705100192

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

ELEV. 1261.54 GL

COMPLETION REPORT
Majorsville Shallow

NO. 4850

MAP SQ.

FARM John and Emma Crow

WELL OWNERS

~~TWP~~/DIST Webster COUNTY Marshall STATE WV

PERMIT NO. TOTAL DEPTH 1477 COMPLETED 2-5-71

OPEN FLOW 9250 M. C. F. 1st Salt Sand R. P. 460#

		INJUN	SHALE
1st Salt	1464-1477		
MAXON		BEREA	
BIG LIME			

REMARKS:

4705100192

RECEIVED
Office of Oil and Gas
APR 3 2016
WV Department of
Environmental Protection

Form PD-44a CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

(Rev.5-63)

WELL LOG SUMMARY

Sheet 1 of 2

4705100192

LOCATION	COMPANY: The Manufacturers Light & Heat Company	DIV.: 5	FIELD: Majorsville	WELL NO.: L-400h	
	FARM NAME: May Elder	ACRES: 96	LEASE NO.: 19447	DISTRICT: Webster	COUNTY: Marshall / STATE: W.Va.
	TOPO. MAP: Cameron Quadrangle ____ Ft. ____ of ____ ° ____ / and Ft. ____ of ____ ° ____ /				
CONTRACTOR	CONTRACTOR'S NAME: Ross Burns	Reconditioned Rotary from 0 Ft. to 1978 Ft.			
	ADDRESS: Waynesburg, Pa.	Type of Rig: Cable Tool Drilling Machine			
	DATE ~~DRILLING~~ COMMENCED: Reconditioning 5/23/63	DATE WELL COMPLETED: 9/2/63	COMPLETED TOTAL DEPTH: 1978 Feet	TYPE COMPLETION: Open Hole	

HOLE SIZE	BIT GAUGE (Inches)	13"	10"	8"	6"		
	FROM – TO (Feet)	0 – 843'	843-1410'	1410-1908'	1908-1978'		
CASING AND TUBING (All Measurement less threads)	SIZE (O.D.)	10 3/4"	8 5/8"	7"	4½"		
	WEIGHT / FOOT	Original	Original	Original	12.6#		
	STEEL GRADE	10"	8"	7"	J-55		
	COUPLING TYPE	Casing	Casing	Casing	Short		
	SETTING DEPTH			1908'	1900'		
	LEFT IN HOLE	843'	1410'	1908'	1978'		
CEMENT	NUMBER OF SACKS	50		150	225		
	TYPE	IS		IS	IS		
	WEIGHT (# Gal.)	15.2		15.1	15.3		
	RETURN to SURFACE (Yes-No)	—		Yes	Yes		
	PLUG DOWN PRESSURE	—		800	800		
CEMENTING SHOE OR PACKER	MANUFACTURER				Original Packer		
	TYPE				Anchor Packer		
	SIZE				6 5/8" x 4½"		
	SETTING DEPTH				1927'		

WELL STIMULATION (Attach Completed Form PD-17 – "Well Stimulation Report" if applicable)

TREATMENT	TYPE	SIZE AND/OR AMOUNT	ZONE TREATED	OPEN FLOW-MCF/DAY	PERFORMED BY	DATE
			From To	Before After		
			From To	Before After		
			From To	Before After		
			From To	Before After		

OPEN FLOW TESTS

DATE GAUGED	FORMATION	PAY ZONE	TYPE GAUGE (SPECIFY)	PRESSURE (SPECIFY UNITS)	SIZE OPENING (INCHES)	OPEN FLOW MCF/DAY	OPEN FLOW HRS.BLOWN
8 30 63	Big Injun	From 1954 To 1968	Side Static	13psi	4"	16,895	5 min.
6 6 63	Big Injun	From 1954 To 1968	Pitot Tube	4.5 in. Mercury	4"	4,090	15 min.

WELLHEAD PRESSURE TESTS

DATE GAUGED	FORMATION	MINUTE PRESSURES – PSIG 1	3	5	10	20	30	WELLHEAD PRESSURES – PSIG 24HR.	48HR.	72HR.	MAX.PRESS	HOURS
8 30 63	Big Injun	785	870	890	890	890	890	890	890	890	890	72 hr.
		¼ 420	½ 610									
6 6 63	Big Injun										523	

MISC.

DEPTH MEASUREMENT TAKEN FROM: [X] Derrick Floor [ ] Ground [ ] Other (Specify) ____

DIST. TO GROUND: 2 Feet

ELEVATION: 1341.60 G.L.

LOGGED: [ ] Yes [X] No

LOGGED BY (COMPANY):

DATE LOGGED:

REMARKS

Original 10" Casing Cemented in Annulus thru 1¾" pipe

Original 7" Casing Perforated at 1430' and Cemented to Surface

1900' of New 4½" Tubing joined up to Original tubing and Cemented to Surface

W.O. 2301-L-2858-5

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of Environmental Protection

APPROVED BY (DIVISION ENGINEER): David C. Gardner — DATE: 9 27 63

APPROVED BY (DIVISION SUPERINTENDENT): ____ DATE: ____

Attach additional sheets (Form PD-44b) and forward to Production Department – Pittsburgh General Office

Approved by ____ PRODUCTION-STORAGE DEPTS.-G.O. DATE ____

Form PD-44b CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

WELL LOG SUMMARY

DIV.	FIELD	FARM	COUNTY	WELL NO.
5	Majorsville	May Elder	Marshall	1-4004

ORIGIN OF FORMATION DEPTHS [X] Driller's Log [ ] Service Company Log [ ] Combination

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS (Water, Gas, Oil encountered-Open Flows-Rock Pressure-etc.)
Active Well Drilled 11/22/48		Reconditioned on W.O. 2301-I-2805-5		
Taken from Original Well Record				
				4705100192
Pittsburgh Coal	797	803	6	
Little Dunkard	1260	1270	10	
Big Dunkard	1280	1302	22	
Gas Sand	1398	1505	107	
1st. Salt Sand	1540	1610	70	Show of Gas 1552-1555'(Orig.Record)
3rd. Salt Sand	1725	1798	73	Water 1775-1785' (Orig.Record)
Big Injun				Gas - 1954 to 1960' (Orig.Record)
Reconditioned to Original				
total depth of 1978'				
TOTAL DEPTH		1978		

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

Form PD-34 CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

(Rev. 11-61)

NOTICE OF WELL STATUS CHANGE

COMPANY	FIELD	DIV.	FOREIGN WELL NO. (IF ANY)	COMPANY WELL NO.
The Manufacturers Light & Heat Company	Majorsville	5	—	L-1004

FARM NAME	TOWNSHIP-TOWN-DISTRICT	COUNTY	STATE	LEASE-DEED NO.	ACRES	DATE COMP.
May Rider	Webster	Marshall	W.Va.	19447	96	9 2 63

LAST ACTIVE WELL ON FARM: ☐ YES ☒ NO

(THIS BLOCK FOR GENERAL OFFICE USE ONLY) ☐ SURRENDER LEASE ☐ RENEW LEASE ☐ OTHER _____

STATUS PRIOR TO THIS REPORT

- ☐ DRILLING WELL — ☐ Production ☐ Storage
- ☒ ACTIVE WELL — ☐ Production ☒ Storage
- ☐ ABANDONED WELL

WELL STATUS CHANGE OR WORK PERFORMED

- ☐ COMPLETED — ☐ Gas ☐ Dry
- ☐ REDRILLED FOR STORAGE — ☐ Retained ☐ Abandoned
- ☒ RECONDITIONED — ☒ Retained ☐ Abandoned
- ☐ RECONDITIONED & TRANSF. TO STORAGE
- ☐ TRANSFERRED TO — ☐ Production ☐ Storage
- ☐ PURCHASED FOR — ☐ Production ☐ Storage
- ☐ DRILLED DEEPER
- ☐ PLUGGED AND ABANDONED
- ☐ SOLD

Remarks

4705100192

DRILLED TO Reconditioned to 1978 feet into Big Injun sand

PLUGGED BACK ☒ NO ☐ YES

If Yes, to depth of _____ feet _____ sand

WELL TREATMENT ☐ No ☐ Yes If Yes, Type of Treatment _____

COMPLETION DATA (If applicable)

OPEN FLOW TEST — BEFORE TREATMENT (If applicable)

TYPE OF GAUGE: ☐ Orifice Well Tester ☐ Pitot Tube ☐ Other (Specify) _____

GAUGE READING _____ inches ☐ Mercury ☐ Water or _____ psig through _____ inch opening after blowing _____ hours

FLOW _____ cubic feet per day

ROCK PRESSURE _____ psig in _____ hours

OPEN FLOW TEST — FINAL READING

TYPE OF GAUGE: ☐ Orifice Well Tester ☐ Pitot Tube ☒ Other (Specify) Side Static

GAUGE READING _____ inches ☐ Mercury ☐ Water or 33 psig through 4 inch opening after blowing 5 min.

FLOW 16,895,000 cubic feet per day

ROCK PRESSURE 890 psig in 72 hours

AUTHORIZATION FOR WORK PERFORMED

- ☐ Well Order Number _____ Budget No. _____
- ☒ Work Order Number 2301-I-2858-5
- ☐ Abandonment Order Number _____

WORK PERFORMED BY

MACHINE NUMBER OR CONTRACTORS NAME: Ross Burns

Compiled By A. Schafer D. Gumbert Date 9/16/63

Approved By _____ DIVISION SUPERINTENDENT Date _____

For General Office Use

DEPARTMENT	SECTION	NOTED BY	DATE
PRODUCTION	Geology		
	Storage		
	Clerical		
	Map		
LAND OPERATING	—		
TREASURY	Land Accounting		
	Plant Accounting		
CIVIL ENGINEERING	—		

Return to Land Operating Department for filing

Form PD-44a CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES (Rev.5-63)

WELL LOG SUMMARY

V.F. 16.55 47-051-00192

Sheet 1 of 2

LOCATION	COMPANY: The Manufacturers Light & Heat Company		DIV.: 5	FIELD: Majorsville		WELL NO.: L-4004
	FARM NAME: May Elder	ACRES: 96	LEASE NO.: 19447	DISTRICT - ~~TOWN TOWNSHIP~~: Webster	COUNTY: Marshall	STATE: W.Va.
	TOPO. MAP: Cameron Quadrangle ____ Ft. ____ of ____ ° ____ ' and ____ Ft. ____ of ____ ° ____ '					
CONTRACTOR	CONTRACTOR'S NAME: Ross Burns			Reconditioned ~~DRILLED~~ from 0 Ft. to 1978 Ft.		
	ADDRESS: Waynesburg, Pa.			Type of Rig: Cable Tool Drilling Machine		
	DATE ~~DRILLING~~ COMMENCED: Reconditioning 5/23/63	DATE WELL COMPLETED: 9/2/63		COMPLETED TOTAL DEPTH: 1978 Feet	TYPE COMPLETION: Open Hole	

HOLE SIZE	BIT GAUGE (Inches)	13"	10"	8"	6"		
	FROM – TO (Feet)	0 - 843'	843-1410'	1410-1908'	1908-1978'		
CASING AND TUBING (All Measurement less threads)	SIZE (O.D.)	10 3/4"	8 5/8"	7"	4½"		
	WEIGHT/FOOT	Original	Original	Original	12.6#		
	STEEL GRADE	10"	8"	7"	J-55		
	COUPLING TYPE	Casing	Casing	Casing	Short		
	SETTING DEPTH			1908'	1900'		
	LEFT IN HOLE	843'	1410'	1908'	1978'		
CEMENT	NUMBER OF SACKS	50		150	225		
	TYPE	IS		IS	IS		
	WEIGHT (# Gal.)	15.2		15.1	15.3		
	RETURN to SURFACE (Yes-No)	—		Yes	Yes		
	PLUG DOWN PRESSURE	—		800	800		
CEMENTING SHOE OR PACKER	MANUFACTURER				Original Packer		
	TYPE				Anchor Packer		
	SIZE				6 5/8"X 4½"		
	SETTING DEPTH				1927'		

SEP 30 1963
Production Department

WELL STIMULATION (Attach Completed Form PD-17 – "Well Stimulation Report" if applicable)	TREATMENT	TYPE	SIZE AND/OR AMOUNT	ZONE TREATED	OPEN FLOW-MCF/DAY	PERFORMED BY	DATE
				From / To	Before / After		
				From / To	Before / After		
				From / To	Before / After		
				From / To	Before / After		

OPEN FLOW TESTS	DATE GAUGED	FORMATION	PAY ZONE	TYPE GAUGE (SPECIFY)	PRESSURE (SPECIFY UNITS)	SIZE OPENING (INCHES)	OPEN FLOW MCF/DAY	OPEN FLOW HRS. BLOWN
	8 30 63	Big Injun	From 1954 To 1968	Side Static	13psi	4"	16,895	5 min.
	6 6 63	Big Injun	From 1954 To 1968	Pitot Tube	4.5 in. Mercury	4"	4,090	15 min.

WELLHEAD PRESSURE TESTS	DATE GAUGED	FORMATION	MINUTE PRESSURES – PSIG 1	3	5	10	20	30	WELLHEAD PRESSURES – PSIG 24HR.	48HR.	72HR.	MAX. PRESS	HOURS
	8 30 63	Big Injun	785	870	890	890	890	890	890	890	890	890	72 hr.
			¼ 420	½ 610									
	6 6 63	Big Injun										523	

MISC.			
DEPTH MEASUREMENT TAKEN FROM: [X] Derrick Floor [ ] Ground [ ] Other (Specify)		DIST. TO GROUND: 2 Feet	ELEVATION: 1341.60 G.L.
LOGGED: [ ] Yes [X] No	LOGGED BY (COMPANY)		DATE LOGGED

REMARKS

Original 10" Casing Cemented in Annulus thru 1¼" pipe

Original 7" Casing Perforated at 1430' and Cemented to Surface

1900' of New 4½" Tubing joined up to Original tubing and Cemented to Surface

W.O. 2301-L-2858-5 (ACTIVE STORAGE WELL - RECONDITIONED)

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of Environmental Protection

APPROVED BY (DIVISION ENGINEER)	DATE	APPROVED BY (DIVISION SUPERINTENDENT)	DATE
David Chambert	9/27/63	[signature]	9/27/63

Attach additional sheets (Form PD-44b) and forward to Production Department – Pittsburgh General Office

Approved by [signature] PRODUCTION - STORAGE DEPTS. - G.O. 10/3/63 DATE

Form 9D-44b CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

WELL LOG SUMMARY

DIV.	FIELD	FARM	COUNTY	WELL NO.
5	Majorsville	May Elder	Marshall	L-4004

ORIGIN OF FORMATION DEPTHS [X] Driller's Log [ ] Service Company Log [ ] Combination

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS (Water, Gas, Oil encountered-Open Flows-Rock Pressure-etc.)
Active Well Drilled 11/22/48	Reconditioned on W.O.			2301-L-2858-5
Taken from Original Well Record				
Pittsburgh Coal	797	803	6	4705100192
Little Dunkard	1160	1170	10	
Big Dunkard	1280	1302	22	
Gas Sand	1398	1505	107	
1st. Salt Sand	1540	1610	70	Show of Gas 1552-1555'(Orig.Record)
3rd. Salt Sand	1725	1798	73	Water 1775-1785' (Orig.Record)
Big Injun				Gas - 1954 to 1968' (Orig.Record)
Reconditioned to Original				
total depth of 1978'				
TOTAL DEPTH		1978		

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

FORM 109 C&D

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division 5

Record of well No. Lock on Mary Elder Farm 300 Acres

Majorsville Storage Field Webster Township District Marshall County W. Va. State

Rig Commenced Sept. 13 19 48 Completed Sept. 26, 1948

Drilling Commenced October 3, 1948. Completed November 22, 1948

Contractor Rawe Drilling Co. Address New Martinsville, W. Va.

Driller's Name Willard Lemasters, Wm. Parry Wayne Rawe

Tool Dressers- Archie Sole, J. E. Throckmortin, John Blatt

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg.	16'		843'	1410'		1908'					
Left in well	16'		843'	1410'		1908'		1989'			

PACKER RECORD

Size	Depth Set	Type Packer
6 5/8"4"	1927'	Anchor

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours
11/22/48	80/10	Mercury	1"	6,286,080	Rig Injun	220	302	312	330	340	368		

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay	0	16	16	
Slate	16	35	19	
Lime	35	50	15	
Slate	50	120	70	
Red Rock	120	135	15	
Slate	135	175	40	
Lime	175	190	15	
Slate	190	240	50	
Sand	240	255	15	
Slate	255	280	25	
Lime	280	290	10	
Slate	290	320	30	
Lime	320	330	10	
Slate	330	370	40	
Lime	370	380	10	
Slate	380	400	20	
Lime	400	440	40	
Slate	440	445	5	
Showing of coal	445	448	3	
Lime	448	458	10	
Slate	458	480	22	
Lime	480	500	20	
Sand	500	520	20	
Slate	520	530	10	
Lime	530	688	158	
Slate	688	692	4	
Mapletown Coal	692	694	2	
Slate	694	698	4	

Examined above information and measurements and found to be correct by

Rawe Drilling Co. Contractor

Examined and Approved by

Chas. O'Hara Field Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

FORM 109 C&D

THE MANUFACTURERS LIGHT & HEAT CO
Company

Division 5

PAGE 2

Record of well No. 1004 on May Elder Farm 300 Acres

Majorsville Storage Field Webster ~~Township~~ District Marshall County W. Va. State

Rig Commenced 19 , Completed 19

Drilling Commenced 19 , Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1 4"	7"	6 5 8"	5 3/16"	4"	3"		
Used in drlg.											
Left in well											

PACKER RECORD

Size	Depth Set	Type Packer

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Lime	698	780	82	
Slate & Shells	780	797	17	
Pittsburgh Coal	797	803	6	S. D. M. 803
Lime	803	810	7	
Slate	810	822	12	
Lime	822	840	18	
Slate	840	860	20	
Red Rock	860	870	10	
Slate & Shells	870	890	20	
Red Rock	890	898	8	
Lime	898	915	17	
Red Rock	915	950	35	
Lime	950	965	15	
Red Rock	965	980	15	
Slate	980	992	12	
Lime	992	1015	23	
White Slate	1015	1050	35	
Red Rock	1050	1072	22	
Slate	1072	1095	23	
Lime	1095	1104	9	
Slate	1104	1123	19	
Lime	1123	1137	14	
Slate	1137	1160	23	
Little Dunkard Sand	1160	1170	10	
Slate	1170	1197	27	
Lime	1197	1210	13	
Slate	1210	1280	70	
Big Dunkard	1280	1302	22	

Examined above information and measurements and found to be correct by

Rowe Drilling Co. Contractor

Examined and Approved by

[illegible] Field Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

of
ection

FORM 109 C&O

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division # 5 PAGE 3

Record of well No. 4004 on May Elder Farm 300 Acres

Majorsville Storage Field Webster Township District Marshall County W. Va. State

Rig Commenced 19 , Completed 19

Drilling Commenced 19 , Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg.											
Left in well											

PACKER RECORD

Size	Depth Set	Type Packer

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Slate	1302	1335	33	
Lime	1335	1353	18	
Slate	1353	1365	12	
Lime	1365	1375	10	
Slate½	1375	1398	23	
Sand	1398	1505	107	
Slate	1505	1540	35	
Sand	1540	1610	70	Show of gas 1552-1555
Slate	1610	1632	22	
Lime	1632	1650	18	
Slate	1650	1725	75	
Sand	1725	1798	73	Water 1775 - 1785
Black Slate	1798	1805	7	
Lime	1805	1857	52	
Slate	1857	1870	13	
Lime	1870	1885	15	S. L. M. 1898
Slate	1885	1891	6	Gas 1921 to 1968
Big Injun Sand	1891			80/10 mercury in 4"=6,586,080 Cu. ft.
Pay Sand	1954	1968		
Total depth		1978		

MINUTE PICKUP TEST IN 4" TUBING

1	2	3	4	5	6	7	8	9	10	15	30	45	60	24hr.
220	275	290	295	302	305	307	310	311	312	320	330	335	340	368

Tubing Record--------- Thrd. on

Perforation	25'	2"
Perforation	25'	2"
Packer 3' 8"		
Tubing 80 jts.	1939'	7"
Total	1989'	11"

Examined above information and measurements and found to be correct by

Pauw Drilling Co. Contractor

Examined and Approved by

Field Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

4705100192

Form RO-34 CSO — COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES — (Rev. 11-61)

NOTICE OF WELL STATUS CHANGE

Company	Field	Div.	Former Well No.	Company Well No.
The Manufacturers Light & Heat Company	Majorsville	5		L-1004

Farm Name	District	County	State	Lease/Deed	Acres	Date Comp.
Ney Elder	Webster	Marshall	W.Va.		96	9 12 63

Last Active Well on Farm: [ ] Yes [X] No — (This block for General Office use only) [ ] Is Former Lease [ ] Renew Lease [ ] Other

Status Prior to This Report:
- [ ] Drilling Well — [ ] Production [ ] Storage
- [X] Active Well — [ ] Production [X] Storage
- [ ] Abandoned Well

Well Status Change or Work Performed:
- [ ] Completed — [ ] Gas [ ] Oil
- [ ] Redrilled for Storage — [ ] Retained [ ] Abandoned
- [X] Reconditioned — [X] Retained [ ] Abandoned
- [ ] Reconditioned & Transf. to Storage
- [ ] Transferred to — [ ] Production [ ] Storage
- [ ] Purchased for — [ ] Production [ ] Storage
- [ ] Drilled Deeper
- [ ] Plugged and Abandoned
- [ ] Sold

Remarks: OCT 15 1963

0-25/10

Reconditioned to 1976 and Injection into Big Injun — [X] No [ ] Yes — If Yes, to depth of feet

Well Treatment: [ ] No [X] Yes — If Yes, Type of Treatment

Completion Data (If applicable):

Open Flow — Before Treatment: [ ] Orifice Well Tester [ ] Pitot Tube [ ] Other (Specify) — Flow: inches [ ] Mercury [ ] Water at inches through inch orifice, gauge blowing — Rock Pressure: cubic feet per day — psig in hours

Test — Final Reading: [ ] Orifice Well Tester [ ] Pitot Tube [X] Other (Specify) Side Static — [ ] Mercury [ ] Water at 13 inches through 4 inch orifice, gauge blowing 5 min. — Rock Pressure: 10,695,093 cubic feet per day 890 psig in 32 hours

Authorization for Work Performed:
- [ ] No. Order Number — Permit No.
- [X] Work Order Number 2301-1-2858-5
- [ ] Abandonment Order Number

Name of Well Servicing Contractor: Hobo Furrs

Completed By: A. Schafer, D. Gunter — Date: 9/16/63

Approved By: [signature], Chief Production Engineer — Date: 9/27/63

For General Office Use

Department	Section	Noted By	Date
Production	Storage		
	Clerical		
	Map		10/15/63
Land Operating			10/17/63
Treasury	Lease Accounting		10/18/63
	Plant Accounting		
Civil Engineering			10/21/63

Return to Land Operating Department for filing

4705100192

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division 5

Record of well No. 1-Cd. ob. Mary Elder Farm 300 Acres

Valley Grove Storage Field Webster District Marshall County W. Va. State

Rig Commenced Sept. 11 1948 Completed Sept. 26 1948

Drilling Commenced October 3, 1948 Completed November 2, 1948

Contractor Rave Drilling Co. Address New Martinsville, W. Va.

Driller's Name: Willard Lancaster, Mac Perry Bayne, Zeke

Tool Dressers: Arch Sole, J. H. Throckmorton, John Blair

CASING AND TUBING RECORD

	75'		8 5/8"	1,101		1908'					
	75'		8 5/8"	1,101		1908'		1939'			

PACKER RECORD

8 5/8"	1927'	Anchor									

SHOOTING RECORD

VOLUME AND PRESSURE

11/22/48	80/10	Mercury	1"	6,286,000	Air Injection	820	320	312	310	240	360			

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay	0	16	16	
Slate	16	35	19	
Lime	35	50	15	
Slate	50	120	70	
Red Rock	120	135	15	
Slate	135	175	40	
Lime	175	190	15	
Slate	190	240	50	
Sand	240	255	15	
Slate	255	280	25	
Lime	280	290	10	
Slate	290	320	30	
Lime	320	330	10	
Slate	330	370	40	
Lime	370	380	10	
Slate	380	400	20	
Lime	400	410	10	
Slate	410	415	5	
Showing of coal	415	418	3	
Lime	418	456	38	
Slate	456	480	22	
Lime	480	500	20	
Sand	500	520	20	
Slate	520	530	10	
Lime	530	680	150	
Slate	680	692	12	
Pittsburgh Coal	692	694	2	
Slate	694	699	5	

Rave Drilling Co. Contractor

Approved by: [illegible] Field Superintendent

0000 1125

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 2 4004

Division 5

Record of well No. 4004 on May Elder Farm 300 Acres

Majorsville Storage Field Webster District Marshall County W. Va. State

Rig Commenced 19 Completed 19

Drilling Commenced 19 Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

PACKER RECORD

SHOOTING RECORD

VOLUME AND PRESSURE

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Lime	698	780	82	
Slate & Shells	780	797	17	
Pittsburgh Coal	797	805	6	S. L. K. 805
Lime	805	810	7	
Slate	810	822	12	
Lime	822	840	18	
Slate	840	860	20	
Red Rock	860	870	10	
Slate & Shells	870	890	20	
Red Rock	890	898	8	
Lime	898	915	17	
Red Rock	915	950	35	
Lime	950	965	15	
Red Rock	965	980	15	
Slate	980	992	12	
Lime	992	1015	23	
White Slate	1015	1050	35	
Red Rock	1050	1072	22	
Slate	1072	1095	23	
Lime	1095	1104	9	
Slate	1104	1123	19	
Lime	1123	1137	14	
Slate	1137	1160	23	
Little Dunkard Sand	1160	1170	10	
Slate	1170	1197	27	
Lime	1197	1210	13	
Slate	1210	1280	70	
Big Dunkard	1280	1302	22	

Examined above information and measurements and found to be correct by

Rave Drilling Co. Contractor

Examined and Approved by

Field Superintendent

Party Sheet

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 3

4004

Division 5

Record of well No. 1001 on Kay Elder Farm 300 Acres

Weston Village Sheet & Field Webster Township District Marshall County W. Va. State

Rig Commenced 19 Completed 19

Drilling Commenced 19 Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Size										
Left in Well											
Pulled											

PACKER RECORD | SHOOTING RECORD

Size	Depth Set	Size Packer	Date	Size Torpedo	Amount	Depth Top	Depth Bottom	Volume Before Shot	Volume After Shot

VOLUME AND PRESSURE

Date	Hours Shut In	Tubing	Casing	Volume	Sand	Pressure in Min 5	10	20	30	60	Max. B.P.	Max. B.P.	Remarks

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Slate	1302	1335	33	
Lime	1335	1351	18	
Slate	1353	1365	12	
Lime	1365	1375	10	
Slate	1375	1398	23	
Sand	1398	1505	107	
Slate	1505	1540	35	
Sand	1540	1610	70	Show of gas 1552-1555
Slate	1610	1632	22	
Lime	1632	1650	18	
Slate	1650	1725	75	
Sand	1725	1798	73	Water 1775 - 1785
Black Slate	1798	1805	7	
Lime	1805	1857	52	
Slate	1857	1870	13	
Lime	1870	1885	15	Gas at 1898
Slate	1885	1891	6	Gas 1891 to 1900
Big Injun Sand	1891			80/10 mercury in 1/4" = 26,716,000 Cu. ft.
Pay Sand	1954	1958		
Total Depth		1978		

MINUTES PICKUP: FIRST 15 1/4" TUBING

1 2 3 4 5 6 7 8 9 10 15 30 45 60 Hr.

220 275 290 295 302 305 307 310 311 312 320 330 335 340 348

Tubing Packer ------- Thrd. on Perforation 1954' 2"

Perforation 1954' 2"

Packer 31' 8"

Tubing 80 lbs. 1949' 7"

Total 1980' 11"

Remarks: This sheet to be filled out completely by the contractor with a complete and accurate record of the well and attachments, when presented for approval of the job for drilling. All information here known must be given in their proper place, with that the proper records, and under the head of Remarks must be recorded in full and set down, for, due to varied and [illegible] the reading of some the reality of the sheet and [illegible] of any.

Rave Drilling Co. Contractor

Checked and Approved by [illegible] Field Superintendent

0000 1328

MAJORSVILLE COMPANY THE MANUFACTURERS LIGHT AND HEAT COMPANY SERIAL No. 4004

FARM May Elder #2 TWP. Webster COUNTY Marshall STATE W. Va.

COM. DR. 10-3-48 COMP. DR. 11-22-48 TOTAL DEPTH 1978' ELEV. 1342'

PROD. SD. Big Injun. INIT. VOL. 6,286,080 R. P. 368/24 hrs. ABD.

REMARKS Lease #19447 300 ac AUTHORITY

CONDUCTOR	13"	10"	8 1/4"	6 5/8"	5 3/16"	4"	3"	PACKER SIZE	TYPE	DEPTH SET
16.		843	1410	1908		1989		6 5/8 X 4	Anchor	1927

SIZE SHOT			DEPTH SHOT			VOL. BEFORE			VOL. AFTER		
DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS	DATE	DEPTH	REMARKS

ACTIVE STORAGE WELL RECON'D & RETAINED C. D. 9-7-63
TOTAL DEPTH 1978' W.O. 7301-L-7858-5
OPEN FLOW 16,895 M.C.F. ROCK PRESSURE 890/77 HRS.
RECON'D INTO BIG INJUN
.96 ACRES
U.F. = 16.55
4 1/2 TUBING 1978' - REST SAME

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

Storage Dept.

4705100192

FARM NAME	FARM NO.	COMPANY	WELL NO.
May Elder		M. L. & H.	L-4004

TOWNSHIP - TOWN - DISTRICT	COUNTY	STATE	WALL MAP REF.
Webster District	Marshall	W.Va.	Majorsville

ELEV.	DATE COMP.	T.D.	PROD. SAND	WELL FRACT.	VOL. B.F.	FINAL VOL.
1342	9/2/63	1978	Big Injun	☐ YES ☒ NO		16,895

I.R.P.	LEASE NO.	CONT. NO.	ACRES	DATE ABD.	DATE SOLD
890/72	19447		96		

PIPE SIZE	10	8	7	4½		
LEFT IN	843	1410	1908	1978		

TYPE COMPLETION 1900
☒ CEMENTED ☐ PACKER SET ☐ PERF. @ _____ FT.

DATE	DEPTH	STATUS	DATE	DEPTH	STATUS

AUTHORITY

Remarks:
Active storage well reconditioned and retained.

Work Order No. -
2301-L-2858-5

TOPO SHEET LOCATION

QUAD.

SIZE ☐ 7½' ☐ 15'

COORDINATES

4705100192

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

FORM PD-27 CSD COLUMBIA GAS SYSTEM **WELL RECORD** PITTSBURGH GROUP COMPANIES

FORMATION	TOP	BOTTOM	REMARKS	FORMATION	TOP	BOTTOM	REMARKS
PGH. COAL	797	803		BALLTOWN SAND			
L.DUNKARD SD.	1160	1170		RILEY SAND			
B.DUNKARD SD.	1280	1302		BENSON SAND			
Gas Sand	1398	1505					
1ST GAS SAND				TULLY LIME			
1ST SALT SAND	1540	1610					
2ND SALT SAND				ONONDAGA LIME			
3RD SALT SAND	1725	1798		CHERT			
MAXTON SAND							
LITTLE LIME				ORISKANY SAND			
T.D.		1978					
BIG LIME							
KEENER SAND							
BIG INJUN SAND							
SQUAW SAND							
BEREA SAND							
GANTZ / 100' SD. / 50 FT.							
GORDON STRAY							
GORDON SAND							
FOURTH SAND							
FIFTH SAND							
ND							

Ohio Department of Natural Resources
Division of Oil and Gas
Environmental Protection Agency
Water Pollution Control Board
Ohio Department of Health
Ohio Department of Agriculture
Ohio Department of Industrial Relations
Ohio Department of Transportation
Ohio Department of Public Safety
Ohio Department of Development
Ohio Department of Natural Resources
Ohio Department of Taxation
Ohio Department of Administrative Services
Ohio Department of Insurance
Ohio Department of Education
Ohio Department of Higher Education
Ohio Department of Rehabilitation and Correction
Ohio Department of Youth Services
Ohio Department of Mental Health
Ohio Department of Mental Retardation and Developmental Disabilities
Ohio Department of Aging
Ohio Department of Job and Family Services
Ohio Department of Bureau of Workers' Compensation
Ohio Department of Public Utilities Commission
Ohio Department of Liquor Control
Ohio Department of Lottery
Ohio Department of Veterans Affairs
Ohio Department of Agriculture
Ohio Department of Natural Resources
Ohio Department of Environmental Protection
Ohio Department of Transportation
Ohio Department of Public Safety
Ohio Department of Development
Ohio Department of Taxation
Ohio Department of Administrative Services
Ohio Department of Insurance
Ohio Department of Education
Ohio Department of Higher Education
Ohio Department of Rehabilitation and Correction
Ohio Department of Youth Services
Ohio Department of Mental Health
Ohio Department of Mental Retardation and Developmental Disabilities
Ohio Department of Aging
Ohio Department of Job and Family Services
Ohio Department of Bureau of Workers' Compensation
Ohio Department of Public Utilities Commission
Ohio Department of Liquor Control
Ohio Department of Lottery
Ohio Department of Veterans Affairs

MAJORSVILLE

REMARKS

CONDUCTOR

4705100192

CSD

FARM	May Elder	NO.		COMPANY	M. L & H. Co.	NO.	L-4527
TWP.	Webster	COUNTY	Marshall	STATE	W. Va.	MAP	Majorsville
COM. DR.		COMP. DR.	1-26-61	ABD.		ELEV.	
INIT. VOL.		INIT. R. P.	580/72	FIN. VOL.	721,249 cft	T. D.	1932

PIPE SIZE	13 3/8	10 3/4	8 5/8	7			PACKER SIZE	7" Cas.	TYPE	CEM.	SET@	1827
FEET							SHOT		QTS. @		VOL. B. S.	
LEFT IN	158	614	783	1827			VOL. A. S.		VOL. TURNED IN			

DATE	DEPTH	STATUS	DATE	DEPTH	STATUS

AUTHORITY

LEASE NO. 19447 ACS. 300

CONTRACT NO.

MINUTE PRESSURE TEST

1	2	3	4	5	10	15	20	30

REMARKS

Abd. Well Redrilled for Stg.

W. O. 1952-L-1882-5.

4705100192

ELEV. 1261.54 GL

COMPLETION REPORT
Majorsville Shallow

NO. 4850

MAP SQ:

FARM John and Emma Crow

WELL OWNERS

~~TWP~~/DIST Webster COUNTY Marshall STATE WV

PERMIT NO. TOTAL DEPTH 1477 COMPLETED 2-5-71

OPEN FLOW 9250 M. C. F. 1st Salt Sand R. P. 460#

		INJUN	SHALE
1st Salt	1464-1477		
MAXON		BEREA	
BIG LIME			

REMARKS:

4705100192

Form PD-44a CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES (Rev.5-63)

WELL LOG SUMMARY

4705100192

Sheet 1 of 2

LOCATION

COMPANY	DIV.	FIELD	WELL NO.
The Manufacturers Light & Heat Company	5	Majorsville	L-400h

FARM NAME	ACRES	LEASE NO.	DISTRICT - TOWNSHIP	COUNTY	STATE
May Elder	96	19447	Webster	Marshall	W.Va.

TOPO. MAP: Cameron Quadrangle ____ Ft. ____ of ____ ° ____ / and ____ Ft. ____ of ____ ° ____ /

CONTRACTOR

CONTRACTOR'S NAME: Ross Burns

ADDRESS: Waynesburg, Pa.

Reconditioned ~~Drilled~~ from 0 Ft. to 1978 Ft.

Type of Rig: Cable Tool Drilling Machine

DATE ~~DRILLING~~ COMMENCED	DATE WELL COMPLETED	COMPLETED TOTAL DEPTH	TYPE COMPLETION
Reconditioning 5/23/63	9/2/63	1978 Feet	Open Hole

HOLE SIZE	BIT GAUGE (Inches)	13"	10"	8"	6"		
	FROM – TO (Feet)	0 – 843'	843–1410'	1410–1908'	1908–1978'		
CASING AND TUBING (All Measurement less threads)	SIZE (O.D.)	10 3/4"	8 5/8"	7"	4½"		
	WEIGHT/FOOT	Original	Original	Original	12.6#		
	STEEL GRADE	10"	8"	7"	J-55		
	COUPLING TYPE	Casing	Casing	Casing	Short		
	SETTING DEPTH			1908'	1900'		
	LEFT IN HOLE	843'	1410'	1908'	1978'		
CEMENT	NUMBER OF SACKS	50		150	225		
	TYPE	IS		IS	IS		
	WEIGHT (# Gal.)	15.2		15.1	15.3		
	RETURN to SURFACE (Yes-No)	—		Yes	Yes		
	PLUG DOWN PRESSURE	—		800	800		
CEMENTING SHOE OR PACKER	MANUFACTURER				Original Packer		
	TYPE				Anchor Packer		
	SIZE				6 5/8"X 4½"		
	SETTING DEPTH				1927'		

WELL STIMULATION (Attach Completed Form PD-17 – "Well Stimulation Report" if applicable)

TREATMENT	TYPE	SIZE AND/OR AMOUNT	ZONE TREATED	OPEN FLOW-MCF/DAY	PERFORMED BY	DATE
			From To	Before After		
			From To	Before After		
			From To	Before After		
			From To	Before After		

OPEN FLOW TESTS

DATE GAUGED	FORMATION	PAY ZONE	TYPE GAUGE (SPECIFY)	PRESSURE (SPECIFY UNITS)	SIZE OPENING (INCHES)	OPEN FLOW MCF/DAY	OPEN FLOW HRS.BLOWN
8 30 63	Big Injun	From 1954 To 1968	Side Static	13psi	4"	26,895	5 min.
6 6 63	Big Injun	From 1954 To 1968	Pitot Tube	4.5 in. Mercury	4"	4,090	15 min.

WELLHEAD PRESSURE TESTS

DATE GAUGED	FORMATION	MINUTE PRESSURES – PSIG 1	3	5	10	20	30	WELLHEAD PRESSURES – PSIG 24HR.	48HR.	72HR.	MAX.PRESS	HOURS
8 30 63	Big Injun	785	870	890	890	890	890	890	890	890	890	72 hr.
		¼ 420	½ 610									
6 6 63	Big Injun										523	

MISC.

DEPTH MEASUREMENT TAKEN FROM: [X] Derrick Floor [ ] Ground [ ] Other (Specify) ____

DIST. TO GROUND: 2 Feet

ELEVATION: 1341.60 G.L.

LOGGED: [ ] Yes [X] No

LOGGED BY (COMPANY):

DATE LOGGED:

REMARKS

Original 10" Casing Cemented in Annulus thru 1¼" pipe

Original 7" Casing Perforated at 1430' and Cemented to Surface

1900' of New 4½" Tubing joined up to Original tubing and Cemented to Surface

W.O. 8301-L-2858-5

APPROVED BY (DIVISION ENGINEER): David C. Lambert

DATE: 9 27 63

APPROVED BY (DIVISION SUPERINTENDENT):

DATE:

Attach additional sheets (Form PD-44b) *and forward to Production Department – Pittsburgh General Office*

Approved by ____ PRODUCTION-STORAGE DEPTS.-G.O. ____ DATE

Form PD-44b CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

WELL LOG SUMMARY

47051-00192

DIV.	FIELD	FARM	COUNTY	WELL NO.
5	Majorsville	May Elder	Marshall	1-4004

ORIGIN OF FORMATION DEPTHS [X] Driller's Log [ ] Service Company Log [ ] Combination

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS (Water, Gas, Oil encountered-Open Flows-Rock Pressure-etc.)
Active Well Drilled 11/22/48		Reconditioned on W.O. 2301-I-2858-5		
Taken from Original Well Record				
Pittsburgh Coal	797	803	6	
Little Dunkard	1160	1170	10	
Big Dunkard	1280	1302	22	
Gas Sand	1398	1505	107	
1st. Salt Sand	1540	1610	70	Show of Gas 1552-1555'(Orig.Record)
3rd. Salt Sand	1725	1798	73	Water 1775-1785' (Orig.Record)
Big Injun				Gas - 1954 to 1960' (Orig.Record)
Reconditioned to Original				
total depth of 1978'				
TOTAL DEPTH		1978		

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

Form PD-34 CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES (Rev. 11-61)

NOTICE OF WELL STATUS CHANGE

4705100192

COMPANY	FIELD	DIV.	FOREIGN WELL NO. (IF ANY)	COMPANY WELL NO.
The Manufacturers Light & Heat Company	Majorsville	5	----	L-1004

FARM NAME	TOWNSHIP-TOWN-DISTRICT	COUNTY	STATE	LEASE-DEED NO.	ACRES	DATE COMP.
May Elder	Webster	Marshall	W.Va.	19447	96	9 / 2 / 63

LAST ACTIVE WELL ON FARM: ☐ YES ☒ NO

(THIS BLOCK FOR GENERAL OFFICE USE ONLY) ☐ SURRENDER LEASE ☐ RENEW LEASE ☐ OTHER _____

STATUS PRIOR TO THIS REPORT

- ☐ DRILLING WELL — ☐ Production ☐ Storage
- ☒ ACTIVE WELL — ☐ Production ☒ Storage
- ☐ ABANDONED WELL

WELL STATUS CHANGE OR WORK PERFORMED

- ☐ COMPLETED — ☐ Gas ☐ Dry
- ☐ REDRILLED FOR STORAGE — ☐ Retained ☐ Abandoned
- ☒ RECONDITIONED — ☒ Retained ☐ Abandoned
- ☐ RECONDITIONED & TRANSF. TO STORAGE
- ☐ TRANSFERRED TO — ☐ Production ☐ Storage
- ☐ PURCHASED FOR — ☐ Production ☐ Storage
- ☐ DRILLED DEEPER
- ☐ PLUGGED AND ABANDONED
- ☐ SOLD

Remarks _____

DRILLED TO Reconditioned to 1978 feet into Big Injun sand

PLUGGED BACK ☒ NO ☐ YES — If Yes, to depth of _____ feet _____ sand

WELL TREATMENT ☐ No ☐ Yes If Yes, Type of Treatment _____

COMPLETION DATA (If applicable)

OPEN FLOW TEST — BEFORE TREATMENT (If applicable)

TYPE OF GAUGE: ☐ Orifice Well Tester ☐ Pitot Tube ☐ Other (Specify) _____

GAUGE READING _____ inches ☐ Mercury ☐ Water or _____ psig through _____ inch opening after blowing _____ hours

FLOW _____ cubic feet per day — ROCK PRESSURE _____ psig in _____ hours

OPEN FLOW TEST — FINAL READING

TYPE OF GAUGE: ☐ Orifice Well Tester ☐ Pitot Tube ☒ Other (Specify) Side Static

GAUGE READING _____ inches ☐ Mercury ☐ Water or 13 psig through 4 inch opening after blowing 5 min.

FLOW 16,895,000 cubic feet per day — ROCK PRESSURE 890 psig in 72 hours

AUTHORIZATION FOR WORK PERFORMED

- ☐ Well Order Number _____ Budget No. _____
- ☒ Work Order Number 2301-I-2858-5
- ☐ Abandonment Order Number _____

WORK PERFORMED BY — MACHINE NUMBER OR CONTRACTORS NAME: Ross Burns

Compiled By A. Schafer D. Gumbert Date 9/16/63

Approved By _____ DIVISION SUPERINTENDENT Date _____

For General Office Use

DEPARTMENT	SECTION	NOTED BY	DATE
PRODUCTION	Geology		
	Storage		
	Clerical		
	Map		
LAND OPERATING	—		
TREASURY	Land Accounting		
	Plant Accounting		
CIVIL ENGINEERING	—		

Return to Land Operating Department for filing

Form PD-44a CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES (Rev.5-63)

WELL LOG SUMMARY

V.F. 16-55 Sta. 4705100192

Sheet 1 of 1

LOCATION	COMPANY: The Manufacturers Light & Heat Company		DIV.: 5	FIELD: Majorsville		WELL NO.: L-4004
	FARM NAME: May Elder	ACRES: 96	LEASE NO.: 19447	DISTRICT - ~~TOWN OR TWP.~~: Webster	COUNTY: Marshall	STATE: W.Va.
	TOPO. MAP: Cameron Quadrangle ____ Ft. ____ of ____ ° ____ / and ____ Ft. ____ of ____ ° ____ /					
CONTRACTOR	CONTRACTOR'S NAME: Ross Burns			Reconditioned ~~DRILL~~ from 0 Ft. to 1978 Ft.		
	ADDRESS: Waynesburg, Pa.			Type of Rig: Cable Tool Drilling Machine		
	DATE ~~DRILLING~~ COMMENCED: Reconditioning 5/23/63	DATE WELL COMPLETED: 9/2/63	COMPLETED TOTAL DEPTH: 1978 Feet		TYPE COMPLETION: Open Hole	

HOLE SIZE	BIT GAUGE (Inches)	13"	10"	8"	6"		
	FROM – TO (Feet)	0 - 843'	843-1410'	1410-1908'	1908-1978'		
CASING AND TUBING (All Measurement less threads)	SIZE (O.D.)	10 3/4"	8 5/8"	7"	4½"		
	WEIGHT/FOOT	Original	Original	Original	12.6#		
	STEEL GRADE	10"	8"	7"	J-55	SEP 30 1963	
	COUPLING TYPE	Casing	Casing	Casing	Short		
	SETTING DEPTH			1908'	1900'	Production Department	
	LEFT IN HOLE	843'	1410'	1908'	1978'		
CEMENT	NUMBER OF SACKS	50		150	225		
	TYPE	IS		IS	IS		
	WEIGHT (# Gal.)	15.2		15.1	15.3		
	RETURN to SURFACE (Yes-No)	--		Yes	Yes		
	PLUG DOWN PRESSURE	--		800	800		
CEMENTING SHOE OR PACKER	MANUFACTURER				Original Packer		
	TYPE				Anchor Packer		
	SIZE				6 5/8"X 4½"		
	SETTING DEPTH				1927'		

WELL STIMULATION (Attach Completed Form PD-17 – "Well Stimulation Report" if applicable)

TREATMENT	TYPE	SIZE AND/OR AMOUNT	ZONE TREATED	OPEN FLOW-MCF/DAY	PERFORMED BY	DATE
			From / To	Before / After		
			From / To	Before / After		
			From / To	Before / After		
			From / To	Before / After		

OPEN FLOW TESTS

DATE GAUGED	FORMATION	PAY ZONE	TYPE GAUGE (SPECIFY)	PRESSURE (SPECIFY UNITS)	SIZE OPENING (INCHES)	OPEN FLOW MCF/DAY	OPEN FLOW HRS.BLOWN
8/30/63	Big Injun	From 1954 To 1968	Side Static	13psi	4"	16,895	5 min.
6/6/63	Big Injun	From 1954 To 1968	Pitot Tube	4.5 in. Mercury	4"	4,090	15 min.

WELLHEAD PRESSURE TESTS

DATE GAUGED	FORMATION	MINUTE PRESSURES – PSIG 1	3	5	10	20	30	WELLHEAD PRESSURES – PSIG 24HR.	48HR.	72HR.	MAX.PRESS	HOURS
8/30/63	Big Injun	785	870	890	890	890	890	890	890	890	890	72 hr.
		¼ 420	½ 610									
6/6/63	Big Injun										523	

MISC.

DEPTH MEASUREMENT TAKEN FROM: [X] Derrick Floor [ ] Ground [ ] Other (Specify) ____

DIST. TO GROUND: 2 Feet

ELEVATION: 1341.60 G.L.

LOGGED: [ ] Yes [X] No

LOGGED BY (COMPANY):

DATE LOGGED:

REMARKS

Original 10" Casing Cemented in Annulus thru 1¼" pipe

Original 7" Casing Perforated at 1430' and Cemented to Surface

1900' of New 4½" Tubing joined up to Original tubing and Cemented to Surface

W.O. 2301-I-2858-5 (ACTIVE STORAGE WELL - RECONDITIONED)

APPROVED BY (DIVISION ENGINEER): Harold Crawford — DATE: 9-27-63

APPROVED BY (DIVISION SUPERINTENDENT): R. R. Sullivan — DATE: 9-27-63

Attach additional sheets (Form PD-44b) and forward to Production Department – Pittsburgh General Office

Approved by: M M Ellington — PRODUCTION - STORAGE DEPTS. - G.O. — DATE: 10/3/63

SM 7

Form D-44b CSD

COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES

WELL LOG SUMMARY

DIV.	FIELD	FARM	COUNTY	WELL NO.
5	Majorsville	May Elder	Marshall	L-4004

ORIGIN OF FORMATION DEPTHS [X] Driller's Log [ ] Service Company Log [ ] Combination

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS (Water, Gas, Oil encountered-Open Flows-Rock Pressure-etc.)
Active Well Drilled 11/22/48	Reconditioned on W.O.			2301-L-2858-5
Taken from Original Well Record				
				4705100192
Pittsburgh Coal	797	803	6	
Little Dunkard	1160	1170	10	
Big Dunkard	1280	1302	22	
Gas Sand	1398	1505	107	
1st. Salt Sand	1540	1610	70	Show of Gas 1552-1555'(Orig.Record)
3rd. Salt Sand	1725	1798	73	Water 1775-1785' (Orig.Record)
Big Injun				Gas - 1954 to 1968' (Orig.Record)
Reconditioned to Original				
total depth of 1978'				
TOTAL DEPTH		1978		

FORM 109 C&D

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division 5

Record of well No. 4004 on Mary Elder Farm 300 Acres

Majorsville Storage Field Webster Township District Marshall County W. Va. State

Rig Commenced Sept. 13 19 48 Completed Sept. 26, 1948

Drilling Commenced October 3, 1948. Completed November 22, 1948

Contractor Rawe Drilling Co. Address New Martinsville, W. Va.

Driller's Name Willard Lemasters, Wm. Parry Wayne Rawe

Tool Dressers- Archie Sole, J. E. Throckmortin, John Blatt

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg.	16'		843'	1410'		1908'					
Left in well	16'		843'	1410'		1908'		1989'			

PACKER RECORD

Size	Depth Set	Type Packer
6 5/8"4"	1927'	Anchor

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours
11/22/48	80/10	Mercury	4"	6,286,080	Big Injun	220	302	312	330	340	368		

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay	0	16	16	
Slate	16	35	19	
Lime	35	50	15	
Slate	50	120	70	
Red Rock	120	135	15	
Slate	135	175	40	
Lime	175	190	15	
Slate	190	240	50	
Sand	240	255	15	
Slate	255	280	25	
Lime	280	290	10	
Slate	290	320	30	
Lime	320	330	10	
Slate	330	370	40	
Lime	370	380	10	
Slate	380	400	20	
Lime	400	440	40	
Slate	440	445	5	
Showing of coal	445	448	3	
Lime	448	458	10	
Slate	458	480	22	
Lime	480	500	20	
Sand	500	520	20	
Slate	520	530	10	
Lime	530	688	158	
Slate	688	692	4	
Mapletown Coal	692	694	2	
Slate	694	698	4	

Examined above information and measurements and found to be correct by

Rawe Drilling Co. Contractor

Examined and Approved by

Chas. O'Hare Field Supermtendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

FORM 109 C&D

THE MANUFACTURERS LIGHT & HEAT CO
Company

Division 5

PAGE 2

Record of well No. 1001 on May Elder Farm 300 Acres

Majorsville Storage Field Webster Township District Marshall County W. Va. State

Rig Commenced 19 , Completed 19

Drilling Commenced 19 , Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg.											
Left in well											

PACKER RECORD

Size	Depth Set	Type Packer

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Lime	698	780	82	
Slate & Shells	780	797	17	
Pittsburgh Coal	797	803	6	S. D. M. 803
Lime	803	810	7	
Slate	810	822	12	
Lime	822	840	18	
Slate	840	860	20	
Red Rock	860	870	10	
Slate & Shells	870	890	20	
Red Rock	890	898	8	
Lime	898	915	17	
Red Rock	915	950	35	
Lime	950	965	15	
Red Rock	965	980	15	
Slate	980	992	12	
Lime	992	1015	23	
White Slate	1015	1050	35	
Red Rock	1050	1072	22	
Slate	1072	1095	23	
Lime	1095	1104	9	
Slate	1104	1123	19	
Lime	1123	1137	14	
Slate	1137	1160	23	
Little Dunkard Sand	1160	1170	10	
Slate	1170	1197	27	
Lime	1197	1210	13	
Slate	1210	1280	70	
Big Dunkard	1280	1302	22	

Examined above information and measurements and found to be correct by Howe Drilling Co. Contractor

Examined and Approved by [illegible] Field Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or Water was found, the quantity of same, the quality of the sand, and thickness of pay.

FORM 109 C&O

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division C. 5. PAGE 3

Record of well No. 1004 on May Elder Farm 300 Acres

Majorsville Storage Field Webster Township District Marshall County W. Va. State

Rig Commenced 19 , Completed 19

Drilling Commenced 19 , Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg.											
Left in well											

PACKER RECORD

Size	Depth Set	Type Packer

SHOOTING RECORD

Date	Type Explosive	Amount	DEPTH Top	DEPTH Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN. 1	5	10	30	60	24 Hour R. P.	Max. R. P.	Hours

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Slate	1302	1335	33	
Lime	1335	1353	18	
Slate	1353	1365	12	
Lime	1365	1375	10	
Slate½	1375	1398	23	
Sand	1398	1505	107	
Slate	1505	1540	35	
Sand	1540	1610	70	Show of gas 1552-1555
Slate	1610	1632	22	
Lime	1632	1650	18	
Slate	1650	1725	75	
Sand	1725	1798	73	Water 1775 - 1785
Black Slate	1798	1805	7	
Lime	1805	1857	52	
Slate	1857	1870	13	
Lime	1870	1885	15	S. L. M. 1898
Slate	1885	1891	6	Gas 1954 to 1968
Big Injun Sand	1891			80/10 mercury in 4"=6,386,080 Cu. ft.
Pay Sand	1954	1968		
Total depth		1978		

MINUTE PICKUP TEST IN 4" TUBING

1	2	3	4	5	6	7	8	9	10	15	30	45	60	24 Hr.
220	275	290	295	302	305	307	310	311	312	320	330	335	340	368

Tubing Record---------- Thrd. on

Perforation	25'	2"
Perforation	25'	2"
Packer 3' 8"		
Tubing 80 jts.	1939'	7"
Total	1989'	11"

Examined above information and measurements and found to be correct by

Rowe Drilling Co. Contractor

Examined and Approved by

Field Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

4705100192

Form PD-24 CSO — COLUMBIA GAS SYSTEM – PITTSBURGH GROUP COMPANIES — (Rev. 11-61)

NOTICE OF WELL STATUS CHANGE

Company	Field	Dist.	Foreign Well No. or Ann.	Company Well No.
The Manufacturers Light & Heat Company	Majorsville	5		L-100h

Farm Name	District	County	State	Lease Code	Acres	Date Comp.
Guy Elder	Webster	Marshall	W.Va.	[illegible]	56	9/2/63

Last active well on farm: [ ] Yes [X] No — (This block for general office use only) [ ] Surrender lease [ ] Renew lease [ ] Other

Status prior to this report: [ ] Drilling well [ ] Production [ ] Storage; [X] Active well [ ] Production [X] Storage; [ ] Abandoned well

Well status change or work performed: [ ] Completed [ ] Gas [ ] Oil; [ ] Redrilled for storage [ ] Retained [ ] Abandoned; [X] Reconditioned [X] Retained [ ] Abandoned; [ ] Reconditioned & transf. to storage; [ ] Transferred to [ ] Production [ ] Storage; [ ] Purchased for [ ] Production [ ] Storage; [ ] Drilled deeper; [ ] Plugged and abandoned; [ ] Sold

Remarks: 0-25/10

OCT 15 1963

Reconditioned to 1978 and into Big Injun

Fracture treatment: [X] No [ ] Yes — If Yes, to depth of ____ feet ____ sand

Well treatment: [ ] No [X] Yes — If Yes, type of treatment

Completion data (if applicable):

Open flow — Before treatment: [ ] Open hole tester [ ] Pitot tube [ ] Other (Specify) — Open flow ____ inches ____ [ ] Mercury [ ] Water at ____ cubic feet through ____ inch orifice after blowing ____ hours; ____ cubic feet per day; ____ psig in ____ hours

Test — Final reading: [ ] Open hole tester [ ] Pitot tube [X] Other (Specify) Side Static — ____ inches [ ] Mercury [ ] Water at 13 psig through 4 inch opening after blowing 5 min. — 10,895,093 cubic feet per day 690 psig — 72 choke

Authorization for work performed: [ ] Verbal Order Number ____ Permit No. ____ [X] Work Order Number 2301-1-2858-5 [ ] Abandonment Order Number ____

Work performed by: Hess Burns

Compiled by: A. Schafer, D. Gunter — Date 9/26/63

Approved by: [illegible] Engineer — Date 9/27/63

For General Office Use

Department	Section	Inited by	Date
Production	Storage	[illegible]	
	Clerical	[illegible]	10/4/63
	Map	[illegible]	10/15/63
Land Operating		[illegible]	10/11/63
Treasury	Land Accounting	[illegible]	10/18/63
	Main Accounting		
Civil Engineering		[illegible]	10/22/63

Return to Land Operating Department for filing

4705100192

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division 5

Record of well No. 1-Ind. on Mary Elder Farm 300 Acres

Walkersville Stonerg Field Worster District Ritchie County W. Va. State

Rig Commenced Sept. 11 1948 Completed Sept. 26 1948

Drilling Commenced October 3, 1948 Completed November 8, 1948

Contractor Rose Drilling Co. Address New Martinsville, W. Va.

Driller's Name: Willard Lancaster, Mac Perry Bayne, Rose

Tool Dressers: Arville Sole, J. H. Throckmorton, John Slater

CASING AND TUBING RECORD

15"			8.3'	11.10'		190.8'					
15"			8.3'	11.10'		190.8'		189'			

PACKER RECORD

4 1/8" x 4"	192.7'	Anchor		

SHOOTING RECORD

11/22/48	80/10	Mercury	1"	0.286 x 10^0	Jason

VOLUME AND PRESSURE

							PRESSURE IN MIN.						
							1	2	3	4	5		
							P20	30	312	310	310	368	

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay	0	36	36	
Slate	36	55	19	
Lime	55	70	15	
Slate	70	120	50	
Red Rock	120	135	15	
Slate	135	175	40	
Lime	175	190	15	
Slate	190	240	50	
Sand	240	255	15	
Slate	255	280	25	
Lime	280	290	10	
Slate	290	320	30	
Lime	320	330	10	
Slate	330	370	40	
Lime	370	380	10	
Slate	380	400	20	
Lime	400	440	40	
Slate	440	445	5	
Showing of coal	445	448	3	
Lime	448	458	10	
Slate	458	480	22	
Lime	480	500	20	
Sand	500	520	20	
Slate	520	530	10	
Lime	530	680	150	
Slate	680	692	12	
Pocahontas Coal	692	694	2	
Slate	694	698	4	

Rose Drilling Co. Contractor

Field Superintendent

WWW 1425

WV Department of Environmental Protection

4705100192

Commenced

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 2 4004

Division 5

Record of well No. 1004 on May-Elder Farm 300 Acres

Wadesville Storage Field Kanawha District Marshall County W. Va. State

Rig Commenced 19 Completed 19

Drilling Commenced 19 Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

	Conductor	10"	8"	6 5/8"	4"	3 1/2"	3"	2"	1"		
Left in well											
Drawn											

PACKER RECORD

Size	Depth Set	Kind Packer	Size	Depth Set	Shell	Shell

SHOOTING RECORD

Date	Depth Top	Depth Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Rock Pressure	Choke	Gas Volume	Oil Volume	Hour	Pressure in Min. 15	30	45	60	90	Hours B.T.U.	Max. B.T.U.	Gravity

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Lime	698	780	82	
Slate & Shells	780	797	17	
Pittsburg Coal	797	805	6	S. L. E. 805
Lime	805	810	7	
Slate	810	822	12	
Lime	822	840	18	
Slate	840	860	20	
Red Rock	860	870	10	
Slate & Shells	870	890	20	
Red Rock	890	898	8	
Lime	898	915	17	
Red Rock	915	950	35	
Lime	950	965	15	
Red Rock	965	980	15	
Slate	980	992	12	
Lime	992	1015	23	
Maxee Slate	1015	1050	35	
Red Rock	1050	1072	22	
Slate	1072	1095	23	
Lime	1095	1110	9	
Slate	1110	1123	13	
Lime	1123	1137	14	
Slate	1137	1160	23	
Little Dutch Sand	1160	1170	10	
Slate	1170	1197	27	
Lime	1197	1210	13	
Slate	1210	1280	70	
Big Injun	1280	1302	22	

Drilled by Contractor and performed and finished by Dave Drilling Co. Contractor

Examined and Approved by Field Superintendent

NOTE: The above work was done by Drill Bit exclusively by the undersigned with a complete and entirely reliable set of records and drawings, who presented the Manager of the Gas Department and Superintendent of Gas Production and Transmission, with blue line prints thereof, and under the head of "Remarks" must be reported to the Superintendent of Gas Production, the quantity of water, the quality of the sand, and thickness of gas.

4705100192

Date Issued

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 3

4304

Division 5

Record of well No. 1001 on Ray Elder Farm 300 Acres

Marshallville District Wahster Township Board Marshall County W. Va. State

Rig Commenced 19 Completed 19

Drilling Commenced 19 Completed 19

Contractor Address

Driller's Name

CASING AND TUBING RECORD

Description	13"	10"	8 5/8"	6 5/8"	5 1/2"	4 1/2"	3 1/2"	2"
Used in drilling								
Left in well								

PACKER RECORD

Size	Depth Set	Make Packer	Date

SHOOTING RECORD

Date	Shot Off	Amount	Depth Top	Depth Bottom	Volume Before Cu. Ft.	Volume After Cu. Ft.

VOLUME AND PRESSURE

Date	Hours Gauged	Tubing	Rock Pressure	Volume	Sand	Pressure in Min 1	1.5	2	3	4	Gauge Size	Max. B.P.	Nozzle

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

Formation	Top	Bottom	Thickness	Remarks
Slate	1302	1335	33	
Lime	1335	1353	18	
Slate	1353	1365	12	
Lime	1365	1375	10	
Slate	1375	1398	23	
Sand	1398	1505	107	
Slate	1505	1540	35	
Sand	1540	1610	70	Show of gas 1552-1555
Slate	1610	1632	22	
Lime	1632	1650	18	
Slate	1650	1725	75	
Sand	1725	1798	73	Water 1775 - 1785
Black Slate	1798	1805	7	
Lime	1805	1857	52	
Slate	1857	1870	13	
Lime	1870	1885	15	S. L. W. 1898
Slate	1885	1891	6	Gas 1891 to 1900
Big Injun Sand	1891			80/10 mercury in 4"=2,916,000 cu. ft.
Pay Sand	1954	1968		
Total Depth		1978		

Minutes Pickup that in 4" Tubing

1	2	3	4	5	6	7	8	9	10	15	30	45	60	Equip.
290	275	290	295	302	305	307	310	311	312	320	330	335	340	348

Tubing Needed ---------- Thrd. on Perforation 25' 2"

Perforation 25' 8"

Packer 3' 8"

Tubing 80 lbs. 1930' 7"

Total 1980' 11"

Recorded Date Delivered for and when required and to be signed by Rave Drilling Co. Contractor

Checked and Approved by Field Superintendent

NOTE: The above is to be filed with authority by the contractor, and a complete and accurate record of the well and elevations, when obtainable, for outcrops at the time for drilling, all formations and known sands penetrated, to be given in their proper names, with their thicknesses, and under the head of "Remarks" must be recorded the kind and size of pipe drawn, the number of sacks and pounds of sand, the quality of the sand and thickness of bar.

0000 1328

WV Department of Environmental Protection

FORM WW-4(A)
Revised 6-07

4705100192

1) Date: March 18, 2016
2) Operator's Well No. SGW-156
3) API Well No. 47 - 51 - 00192
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

4) SURFACE OWNER(S) TO BE SERVED
(a) Name Brian K. Milliken
Address 1018 China berry Rd
Clearwater FL 33764

(b) Name
Address

(c) Name
Address

(6) INSPECTOR Eric Blend
Address PO BOX 2115
Wheeling, WV 26003
Telephone (304) 552-1179

5)a) COAL OPERATOR
Name CONSOLIDATION COAL CO.
Address 1 Bridge Street
Monongah, WV 26554

(b) COAL OWNER(S) WITH DECLARATION:
Name
Address

(c) COAL LESSEE WITH DECLARATION:
Name
Address

TO THE PERSON(S) 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 and its location 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 REVERSE SIDE OF THE COPY OF THE APPLICATION (FORM WW-4(B) DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice 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 From WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivery by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery by the Chief.

WELL OPERATOR Consolidation Coal Company
By Mason Smith Mason Smith 3-29-16
Its Project Engineer
Address 6126 Energy Road
Moundsville, WV 26041
Telephone (304) – 843 – 3565

Subscribed and sworn before me this 30th day of March, 2016
Joseph E Williams Notary Public
Marshall County, State of West Virginia
My commission expires June, 2024

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Joseph E Williams
1512 Fifth Street
Moundsville, WV 26041
My Commission Expires June 5, 2024

RECEIVED
Office of Oil & Gas
APR 13 2016
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 deprivacyofficer@wv.gov.

4705100192

MURRAY AMERICAN ENERGY, INC. & CONSOLIDATION COAL COMPANY

MURRAY AMERICAN ENERGY, INC. & CONSOLIDATION COAL COMPANY
46226 National Road
St. Clairsville, OH 43950

phone: 304.843.3565
fax: 304.843.3546
e-mail: MasonSmith@coalsource.com

MASON SMITH
Project Engineer

April 1, 2016

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

To Whom It May Concern,

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

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

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

Sincerely,

Mason Smith
Project Engineer

RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

WW-9
Rev. 5/08

Page _____ of _____
API Number 47 - 051 - 00192
Operator's Well No. SGW-156

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

4705100192

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

Operator Name **Consolidation Coal Company** OP Code _____

Watershed **Dunkard Fork of Wheeling Creek** Quadrangle **Majorsville, WV-PA**

Elevation **1344.58'** County **Marshall** District **Webster**

Description of anticipated Pit Waste: **N/A**

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

Will a synthetic liner be used in the pit? **N/A**. If so, what mil.? _____

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
X Other (Explain **Tanks, see attached letter**

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. **Freshwater**
If oil based, what type? Synthetic, petroleum, etc.? _____
Additives to be used? **Bentonite, Bicarbonate of Soda**

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. **Reused or Disposed (see attached letter)**
-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust _____
-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, 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 Mason Smith 3-29-16

Company Official (Typed Name) **Mason Smith**

Company Official Title **Project Engineer**

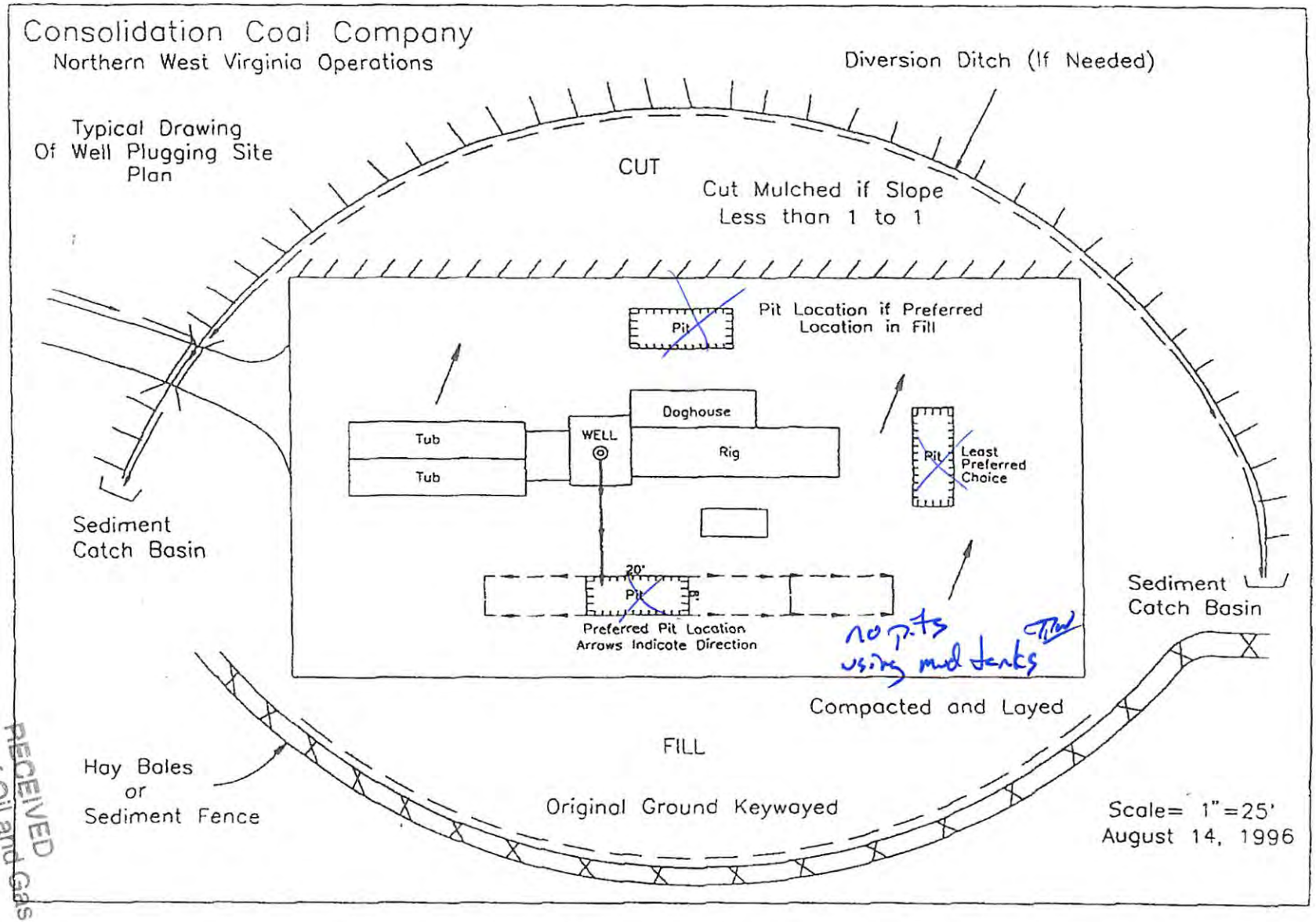
Subscribed and sworn before me this 30th day of March, 20 16

Joseph E. Williams Notary Public

My commission expires June 5th, 2024

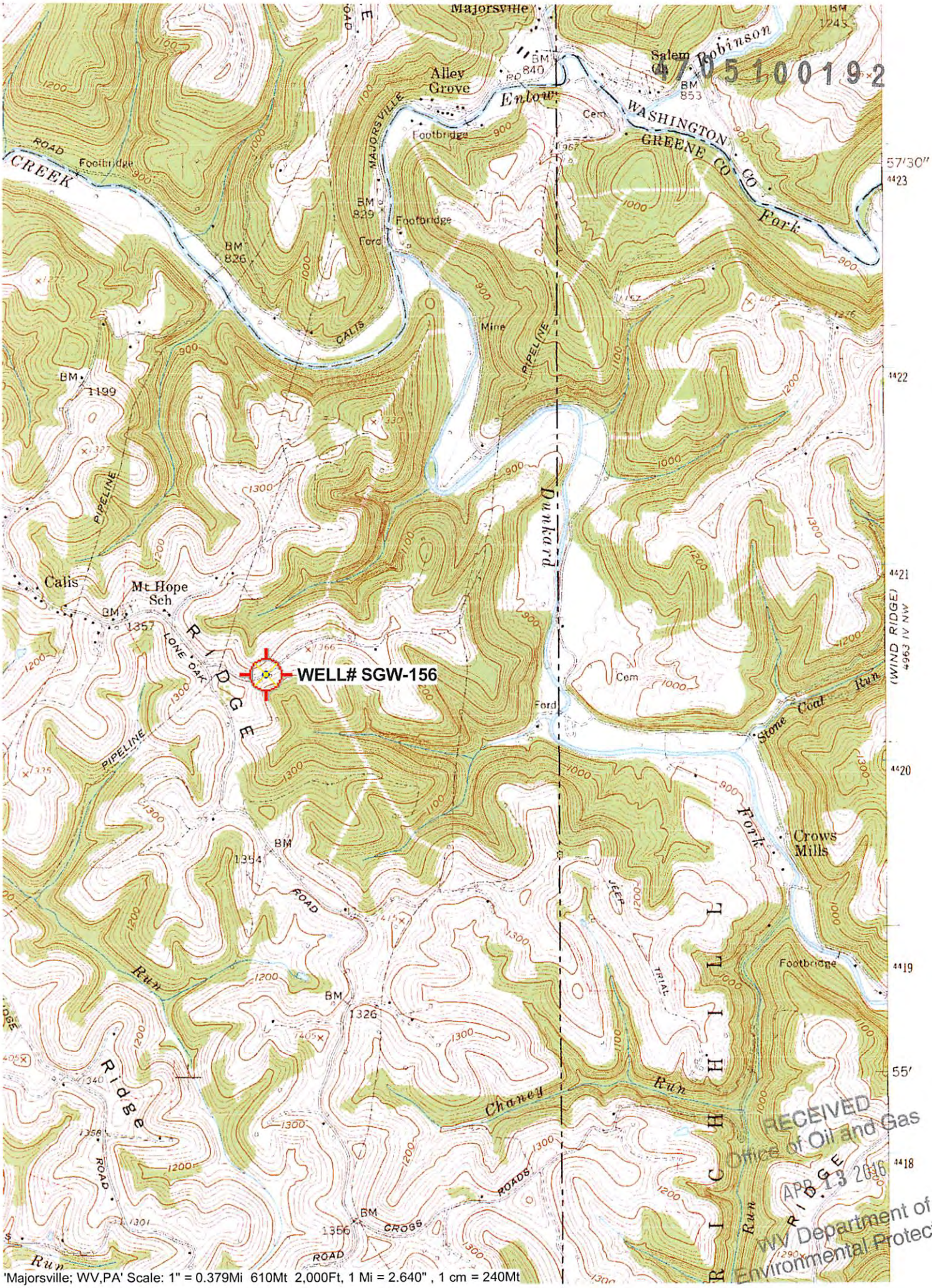
RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of Environmental Protection

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Joseph E. Williams
1512 Fifth Street
Moundsville, WV 26041
My Commission Expires June 5, 2024



RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

4705100192



RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of
Environmental Protection

WW-7
8-30-06

4705100192

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

API: 47-051-00192 **WELL NO.:** SGW-156

FARM NAME: May Elder

RESPONSIBLE PARTY NAME: Consolidation Coal Company

COUNTY: Marshall **DISTRICT:** Webster

QUADRANGLE: Majorsville, WV PA

SURFACE OWNER: Brian K Milliken

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,420,663 m

UTM GPS EASTING: 539,593 m **GPS ELEVATION:** 410 m

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

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

Survey grade GPS ____: Post Processed Differential ____
Real-Time Differential ____
Mapping Grade GPS X: Post Processed Differential X
Real-Time Differential ____

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

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

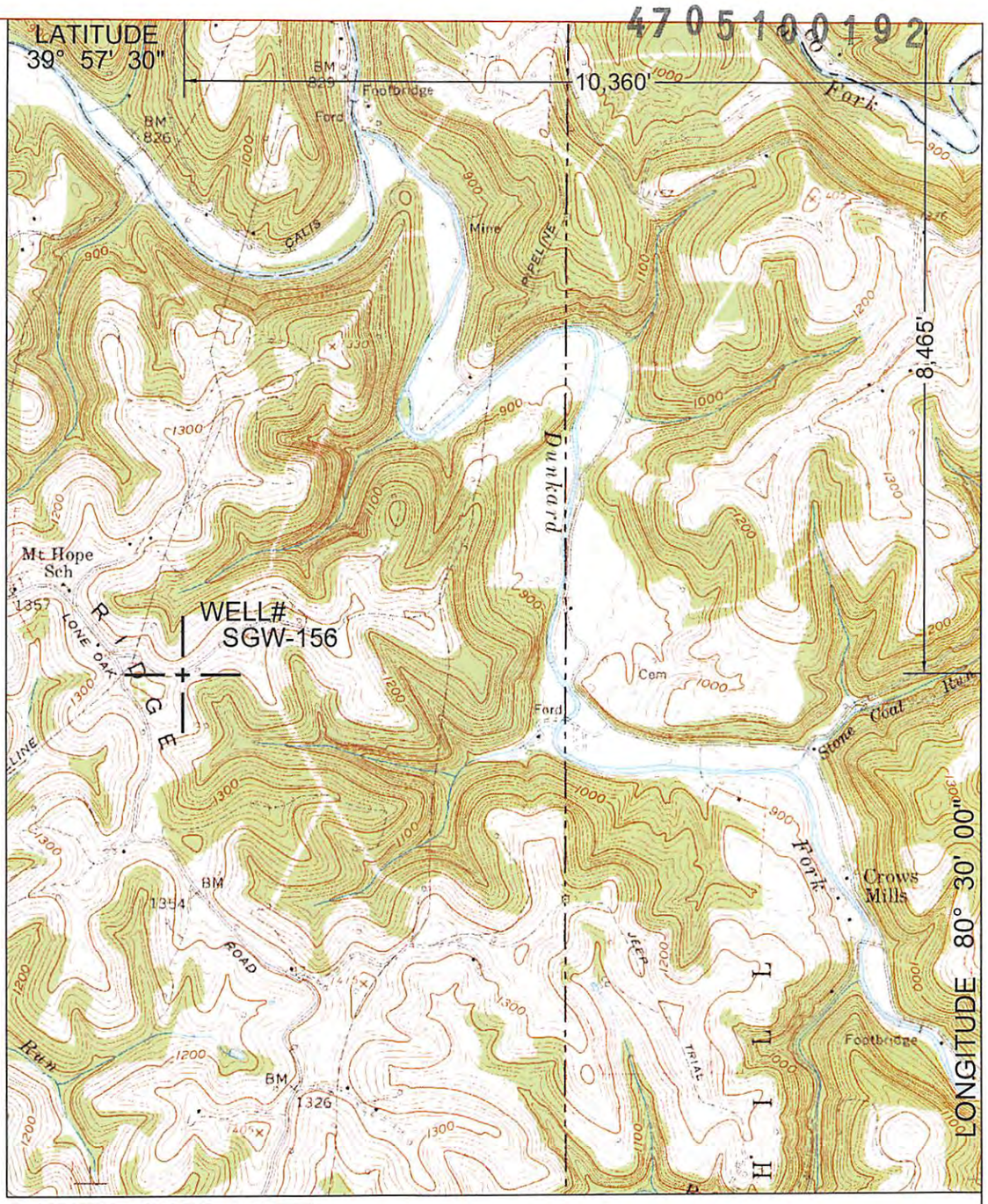
RECEIVED
Office of Oil and Gas
APR 13 2016
WV Department of Environmental Protection

[signature] **Professional Surveyor**
Signature Title

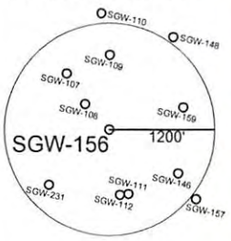
March 18, 2016
Date

FORM WW 6

4705100192



SURROUNDING WELLS WITHIN 1200' RADIUS



UTM ZONE 17N NAD83 CONUS		LAT/LONG NAD27 CONUS
NORTHING 4,420,663	METERS	39° 56' 06.3" N
EASTING 539,593	METERS	80° 32' 12.5" 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

TROY B. FREELS LICENSED No. 2002 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE MARCH 18 , 20 16

OPERATORS WELL NO. SGW-156

API WELL NO. 47 — 51 — 00192 P
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY: 1/ 2500 FILE NO.: MAJORSVILLE6.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

RECEIVED Office of Oil and Gas APR 13 2016 WV Department of Environmental Protection

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

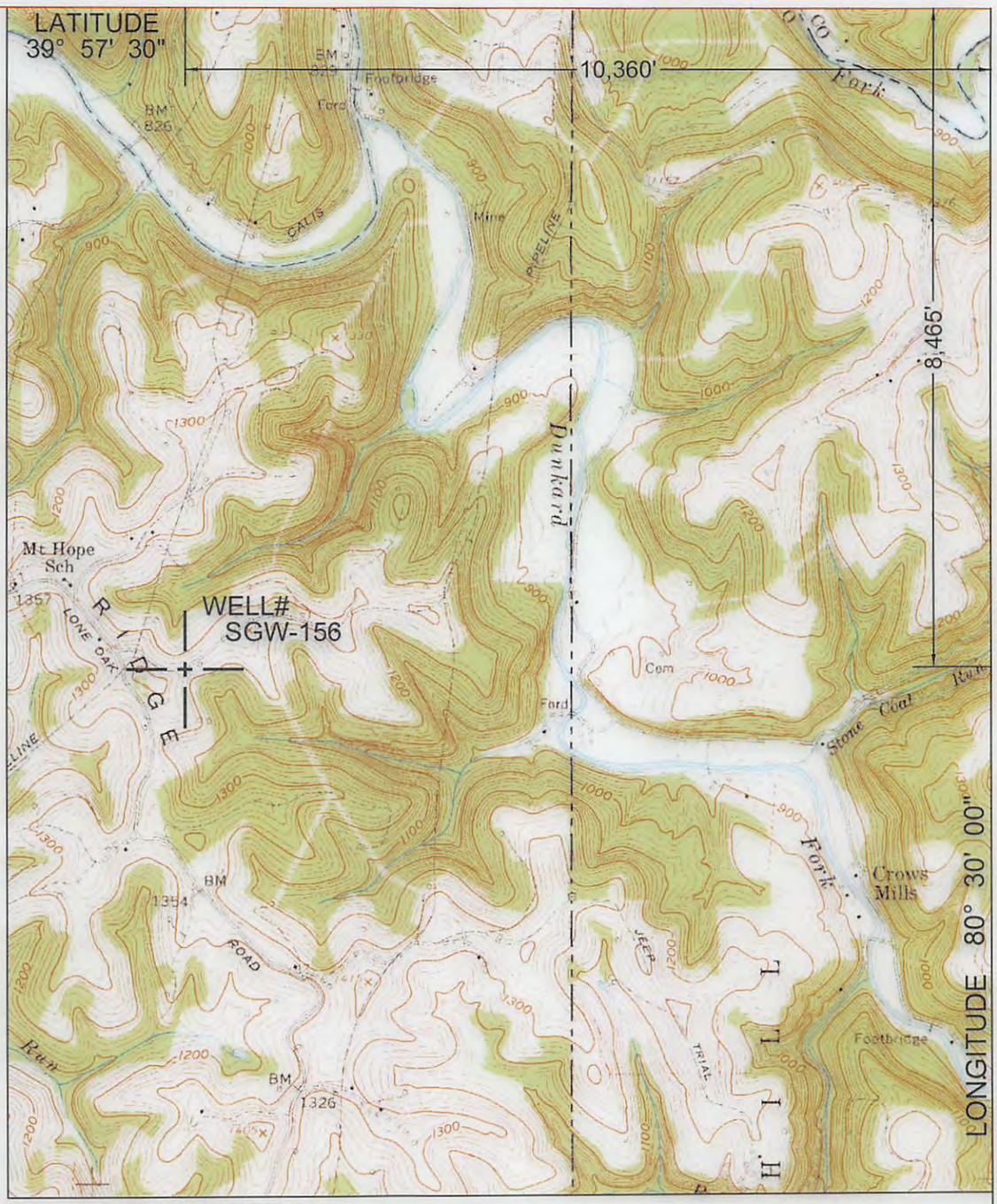
LOCATION:
ELEVATION: 1344.58' WATERSHED: DUNKARD FORK OF WHEELING CREEK
DISTRICT: WEBSTER COUNTY: MARSHALL QUADRANGLE: MAJORSVILLE, WV-PA 7.5'
SURFACE OWNER: BRIAN K. MILLIKEN ACREAGE: 96± ACRES
ROYALTY OWNER: ____ LEASE ACREAGE: ____
PROPOSED WORK: ____ LEASE NO.: ____
DRILL: ____ CONVERT: ____ DRILL 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

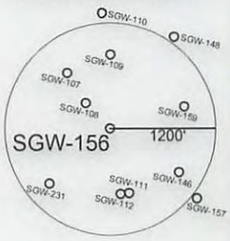
PERMIT

WELL OPERATOR: CONSOLIDATION COAL COMPANY DESIGNATED AGENT: RONNIE HARSH
ADDRESS: 6126 ENERGY DRIVE, MOUNDSVILLE WV 26041 ADDRESS: 6126 ENERGY DRIVE, MOUNDSVILLE WV 26041

FORM WW 6



SURROUNDING WELLS WITHIN 1200' RADIUS



UTM ZONE 17N NAD83 CONUS		LAT/LONG NAD27 CONUS
NORTHING 4,420,663	METERS	39° 56' 06.3" N
EASTING 539,593	METERS	80° 32' 12.5" 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

TROY B. FREELS LICENSED No. 2002 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE MARCH 18 , 20 16

OPERATORS WELL NO. SGW-156

API WELL NO. 47 — 51 — 00192P
STATE COUNTY PERMIT

RECEIVED Office of Oil and Gas APR 13 2016 WV Department of Environmental Protection

MINIMUM DEGREE OF ACCURACY: 1 / 2500 FILE NO.: MAJORSVILLE6.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: 1344.58' WATERSHED: DUNKARD FORK OF WHEELING CREEK

DISTRICT: WEBSTER COUNTY: MARSHALL QUADRANGLE: MAJORSVILLE, WV-PA 7.5'

SURFACE OWNER: BRIAN K. MILLIKEN ACREAGE: 96± 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: RONNIE HARSH

ADDRESS: 6126 ENERGY DRIVE, MOUNDSVILLE WV 26041 ADDRESS: 6126 ENERGY DRIVE, MOUNDSVILLE WV 26041