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

February 22, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-5100188, issued to COLUMBIA GAS TRANSMISSION, LLC, 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: 9-3992
Farm Name: STEELE, IDA
API Well Number: 47-5100188
Permit Type: Plugging
Date Issued: 02/22/2016

Promoting a healthy environment.

5100188P

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.

2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.

3. Well work activities shall not constitute a hazard to the safety of persons.

5100188P

WW-4B
Rev. 2/01

Ck# 5114036
$100.00

1) Date 7/29, 2015
2) Operator's Well No. Majorsville Deep 3992
3) API Well No. 47- 051 - 00188

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

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

5) Location: Elevation 1153.7 ft (351.65 m) Watershed Wheeling Creek
District Webster County Marshall Quadrangle Majorsville, WV

6) Well Operator Columbia Gas Transmission
Address 1700 MacCorkle Ave SE
Charleston, WV 25325-1273

7) Designated Agent Paul Amick
Address 1700 MacCorkle Ave SE
Charleston, WV 25325-1273

8) Oil and Gas Inspector to be notified
Name James Nicholson
Address PO Box 44
Moundsville, WV 26041

9) Plugging Contractor
Name Contractor Services Inc (CSI)
Address 929 Charleston Rd
Spencer, WV 25276

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

* refer to "prior to P&A" and "proposed post P&A" wellbore schematics

Kill well. Obtain CBL. Pull or cut/fish all 4-1/2" tubing, packer, and anchor assembly that are free. Clean to TD. Spot bottom cement plug from TD to 50' above Gantz, and cement plug from 50' below base of Big Injun to 50' below 7" csg shoe. Pull or cut/fish all 7" csg that is free. Install cement plugs from top of last plug to 50' below 8-5/8" csg shoe. Pull or cut/fish all 8-5/8" csg that is free. Spot cement plug from top of last plug to 50' above top of Gas Sand. Perforate 10-3/4" csg below the Pittsburgh Coal and attempt to squeeze cement to surface. Repeat as necessary moving up hole until 10-3/4" csg is cemented to surface. Install cement plug from 50' below 10-3/4" csg shoe to surface. 6% gel to be placed between all cement plugs. Install permanent steel monument with top 36" above ground level.

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

Work order approved by inspector James Nicholson, Environmental Inspector Date 8/3/15

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Majorsville Deep Well 3992
Well and Well Line Abandonment Prognosis

Drilled in 1948 by ML&H
Marshall Co, WV

Casing Info

10-3/4" surface/coal combined csg set @ 634'		(no record of cement)
8-5/8" csg set @ 1218'		(no record of cement)
7" csg set @ 1718'		(no record of cement)
4-1/2" tubing to 2557' (*I think it was ran as follows*):		
tubing	0 – 2255'	(no record of cement)
packer	@ 2255'	
tubing (179')	2255 – 2434'	(no record of cement)
perforated tubing (25')	2434 – 2459'	(no record of cement)
tubing (75')	2459 – 2534'	(no record of cement)
perforated tubing (23')	2534 – 2557'	(no record of cement)

Formation Tops

Coal	113 – 116'	elog	
Slate	116 – 153'	driller	show W @ 150' (0.5 bailer)
Pittsburgh Coal	591 – 597'	driller & elog match	
Gas Sand	1132 – 1184'	elog	show G 1135 – 60'
Salt Sand 1	1236 – 1322'	elog	
Salt Sand 2	1458 – 1494'	elog	
Maxton	1534 – 1563'	elog	
Big Lime	1685 – 1692'	elog	
Loyalhanna Big Injun	1704 – 1756'	elog	
Pocono Big Injun	1756 – 1900'	elog	
Gantz	2242 – 2256'	elog	
Fifty Foot Sand	2447 - 2458'	elog	Gas 2449 – 53' (250 MCFD)
Thirty Foot Sand	2508 – 2513'	elog	
TD	2557'	driller	

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** CPG geologist indicates there is always a potential for gas to be contained in all porous formations from the Gas Sand to the Fifth Sand*

P&A Procedure

1. Kill well and load 4-1/2" x 7" annulus.
2. Obtain CBL.
3. NU 9" annular BOP on 7" csg.
4. Attempt to pull all of the 4-1/2" casing string, including the packer and anchor. If cannot pull, wireline free point and cut/pull all casing that is free.
5. Clean to below base of Thirty Foot Sand.
6. Spot cement plug from TD to 50' below the 7" csg shoe. WOC and tag.
7. ND BOP, dress top of 7" csg for pulling, and NU 9" 2M annular BOP on 8-5/8" csg.
8. Attempt to pull 7" csg. If stuck, perform wireline free-pt and cut/pull all casing that is free.

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9. Install cement plug from top of last plug to 50' below 8-5/8" csg shoe.
10. ND BOP, dress top of 8-5/8" csg for pulling, and install 11" annular BOP on 10-3/4" csg.
11. Attempt to pull 8-5/8" csg. If stuck, perform wireline free-pt and cut/pull all casing that is free.
12. Spot cement plug from top of last plug to 30' below 10-3/4" csg shoe.
13. DO NOT PULL 10-3/4" CASING – RISK OF LOSING WELLBORE IF PULLED, AND SERVES TO FACILITATE RE-ENTRY OF WELLBORE IF NEEDED.
14. Perforate 10-3/4" csg below the Pittsburgh Coal @ 620' and perform injection test. If circulation established squeeze cement to surface. If circulation not established, perforate @ 300' and repeat.

*** DISCUSS WITH STATE INSPECTOR TO DETERMINE NEXT OPTIONS (15A or 15B below) FOR COMPLETING P&A. Option 15A is the preferred method due to Markwest's plans to excavate and possibly build structures above wellbore.*

15A. Install cement plug from top of last plug to surface inside the 10-3/4" casing and install monument, or
15B. Evacuate/swab all fluid from inside 10-3/4" casing and install vent.

IF ANY CASING CAN NOT BE PULLED, BUT HAS UNCEMENTED OIL & GAS SHOWS, COAL SHOWS OR WATER SHOWS, THEN THE REMAINING CASING NEEDS TO BE PERFORATED TO ALLOW CEMENT TO BE SQUEEZED BEHIND THE UNCEMENTED CASING TO COVER ANY OIL & GAS, COAL & WATER SHOWS.

JWM

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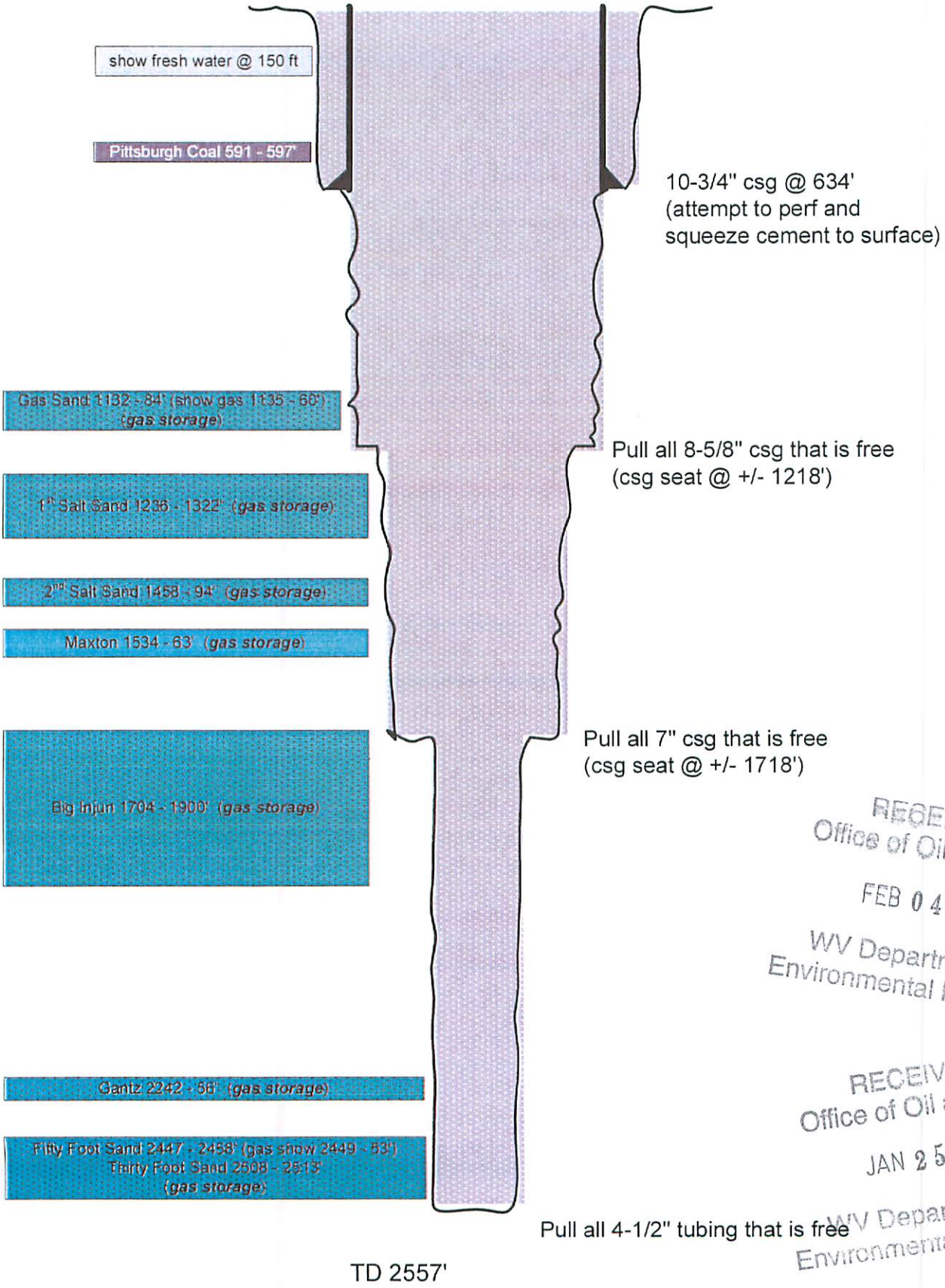
Majorsville Deep well 3992
(proposed post P&A)

1/19/16

~ not to scale ~



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5100BB P

FORM 109 C S D

THE MANUFACTURERS LIGHT & HEAT CO.
Company

Division 5

Record of well No. 3992 on Ida M. Steele Farm 80 Acres

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

Rig Commenced 19 Completed 19

Drilling Commenced September 4, 1948 Completed October 14, 1948

Contractor Bernard B. Mulvaney Address Box 410 Waynesburg, Penna.

Driller's Name Sam Finch, Herman Bowers, Earl Kerr

Tool Dressers - Fred Fordyce, L. Grim, Milton Todd.

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drlg			634'	1232'		1728'					
Left in well			634'	1232'		1728'		2583			

PACKER RECORD

Size	Depth Set	Type Packer
6 5/8"x4"	2255	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
10/15/48	14/10	Water	2"	117.302	50-foot	10	40	75	175	250	322	325	48

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Clay	0	80	80	
Red Rock	80	87	7	
Lime	87	94	7	
Putty	94	100	6	
Lime	100	113	13	
Coal	113	116	3	
Slate	116	153	37	Water at 150' ½ bailer
Lime	153	160	7	
Slate	160	171	11	
Lime	171	180	9	
Slate	180	193	13	
Lime	193	215	22	
Slate	215	225	10	
Lime	225	285	60	
Slate	285	314	29	
Lime	314	332	18	
Slate	332	340	8	
Lime	340	348	8	
Slate	348	358	10	
Lime	358	386	28	
Slate	386	425	39	
Lime	425	568	143	
Slate	568	591	23	
Pitts. Coal	591	597	6	Steel Line measure at 597'
Lime	597	604	7	
Slate	604	628	24	
Shells	628	695	67	
Red Rock	695	705	10	

Examined above information and measurements and found to be correct by Contractor

Examined and Approved by Field Superintendent

NOTE: The above back 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.

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FORM 109 C S D

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 2

Division 9

Record of well No. 3992 on Ida M. Steele Farm 80 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"	5 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	705	715	10	
Red Rock	715	718	3	
Slate	718	778	60	
Lime	778	793	15	
Slate & Shells	793	855	62	
Red Rock	855	875	20	
Slate & Shells	875	923	48	
Gritty Lime	923	930	7	
Slate	930	935	5	
Lime	9355	970	35	
Slate	970	982	12	
Lime	982	995	13	
Slate & Shells	995	1050	55	
1st. Cow run Sand	1050	1065	15	
Slate	1065	1106	41	Small show of Gas 1135' and 1160'
2nd. Cow run sand	1106	1180	74	Test 8/10 water 3/8
Slate & Shells	1180	1194	14	
Lime - Gritty	1194	1223	29	8" Pipe run at 1217'6" S. L. M.
Slate	1223	1245	22	Steel Line run at 1230'
Sand	1245	1325	80	
Slate & Shells	1325	1465	40	
Lime - Gritty	1465	1516	51	
Salt Sand	1516	1590	74	
Slate	1590	1620	30	
Lime	1620	1640	20	
Slate	1640	1685	45	
Sand	1685	1694	9	
Slate	1694	1702	8	

Examined above information and measurement and found to be correct by 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.

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FORM 109 C S D

THE MANUFACTURERS LIGHT & HEAT CO.
Company

PAGE 3

Division 5

Record of well No. 3992 on Ida M. Steele Farm 80 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
Big Injun Sand	1702	1910	208	6 5/8" Pipe run 1718' S. L. M.
Slate & Shells	1910	1985	75	Break in Injun 1806'
Sand	1985	2010	25	
Slate & Shells	2010	2017	7	
Sand	2017	2035	18	
Slate & Shells	2035	2240	205	
Sand - Hard	2240	2263	23	
Slate & Shells	2263	2355	92	
Red Rock	2355	2380	25	
Sand Shell	2380	2384	4	
Slate & Shells	2384	2447	63	
Sand 50-foot	2447	2458	11	Gas 2449' to 2453' 64/10 in 2"=250,865
Slate & Shells	2458	2512	54	
Lime	2512	2518	6	
Slate & Shells	2518	2557	39	
Total depth		2557		S. L. M.

Examined above information and measurements and found to be correct by Bernard B. Mulvaney Contractor

Examined and Approved by Chas. Olsen 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.

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FORM 109 C S E

The Manufacturers Light & Heat Co. #4
Company

Division 5

Record of well No. 3992 on Ida Steele Farm 80 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
				Tubing Record (Thds. off)
				Perforation 23' 1"
				Tubing 3 Jts. 74' 9"
				Pefforation 24' 10"
				Tubing 8 Jts. 179' 8"
				Anchor 302' 4"
				6-5/8" x 4" Packer
				Tubing 82 Jts. 260' 6"
				Add for Threads 21' 0"
				Total 2583' 10"

Open flow after Tubing 14/10 Water 2" = 117,302 cu. ft.

Minute Test in 4" Tubing

1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 15 - 30 - 45 - 60 - 24Hr. 48Hr.

10 - 20 - 25 - 35 - 40 - 47 - 55 - 60 - 67 - 75 - 105 - 175 - 225 - 250 - 322 - 325

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

Examined and Approved by Chas. Chase 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.

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Majorsville Deep well 3992
(prior to P&A)

7/2/15

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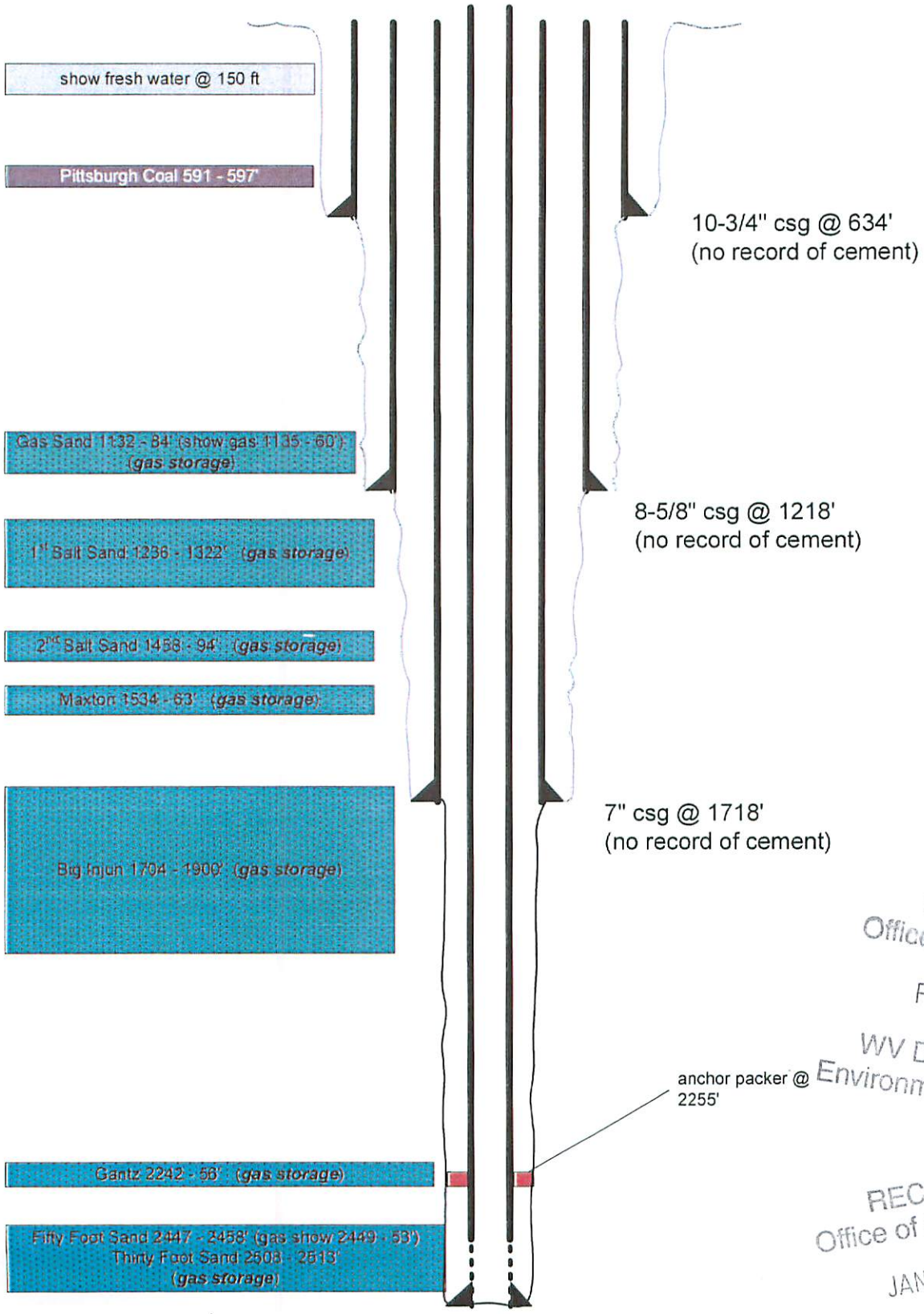

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WW-4A
Revised 6-07

1) Date: 7/29/15
2) Operator's Well Number
Majorsville Deep 3992

3) API Well No.: 47 - 051 - 00188

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:

(a) Name: MarkWest Liberty Midstream & Resources, LLC
Address: 4600 J. Barry Ct., Suite 500
Canonsburg, PA 15317

(b) Name: Att: Tim Miller
Address:

(c) Name:
Address:

5) (a) Coal Operator

Name: The Ohio County Coal Company (aka Shoemaker Mine)
Address: 46226 National Rd W
St Clairsville, OH 43950

(b) Coal Owner(s) with Declaration

Name: Murray American Energy
Address: 46226 National Rd W
St Clairsville, OH 43950

Name:
Address:

6) Inspector: James Nicholson
Address: PO Box 44
Moundsville, WV 26041
Telephone: 304-552-3874

(c) Coal Lessee with Declaration

Name: N/A
Address:

TO THE PERSONS NAMED ABOVE: **You should have received this Form and the following documents:**

(1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
(2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

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Well Operator: Columbia Gas Transmission
By: James E Amos
Its: Senior Well Services Engineer
Address: 1700 MacCorkle Ave SE
Charleston, WV 25325-1273
Telephone: 304-483-0073

Subscribed and sworn before me this 29th day of July 2015
Mary Marie Clendenin
Notary Public
My Commission Expires 3/22/2020

NOTARY PUBLIC OFFICIAL SEAL
MARY MARIE CLENDENIN
State of West Virginia
My Comm. Expires Mar 22, 2020
Columbia Pipeline Group
48 Columbia Gas Road Sandyville, WV 25275

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 depprivacyoffier@wv.gov.

5100188P

Columbia Pipeline Group

1700 MacCorkle Ave SE
P.O. Box 1273
Charleston, WV 25325

February 2, 2016

MarkWest Liberty Midstream & Resources
4600 J. Barry Ct., Suite 500
Canonsburg, PA 15317
Att: Tim Miller

Tim, enclosed is a copy of the WV DEP Office of Oil & Gas permit application to plug and abandon Columbia's Majorsville Deep well 4272. This is provided to MarkWest to comply with WV DEP permit application requirements.

To expedite the permit approval process, if MarkWest has no objection to the proposed abandonment, please sign, date, and return the Surface Owner Waiver to:

Columbia Gas
48 Columbia Gas Rd
Sandyville, WV 25275
Att: Jim Amos

If MarkWest wants to file comments or object to the permit application, instructions are outlined on the Surface Owner Waiver form.

If you have questions, feel free to call.

Regards,

Jim Amos
Senior Well Services Engineer
Columbia Gas Transmission, LLC
jamos@cpg.com
off: 304-373-2412
cell: 304-483-0073

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WV Department of
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SURFACE OWNER WAIVER

Operator's Well Number Majorsville Deep 3992

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

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VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a surveyor's plat.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

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FOR EXECUTION BY A NATURAL PERSON ETC.

_____ Date _____
Signature

FOR EXECUTION BY A CORPORATION,

Name _____
By _____
Its _____ Date _____

Signature Date

5100188P

Columbia Pipeline Group

1700 MacCorkle Ave SE
P.O. Box 1273
Charleston, WV 25325

February 2, 2016

The Ohio County Coal Company (aka Shoemaker Mine)
46226 National Rd W
St. Clairsville, OH 43950

Columbia Pipeline Group, an underground natural gas storage operator, is planning to plug and abandon their Majorsville Deep storage well 4272. The well is located in Marshall County, WV, and records indicate that The Ohio County Coal Company (aka Shoemaker Mine) is the coal operator on subject property.

To comply with WV DEP Office of Oil & Gas permit application requirements, Columbia is required to provide the coal operator a copy of the permit application enclosed.

Please refer to form WW-4B Instructions to Coal Operators for an explanation of your rights to be present during plugging operations and to decide whether to follow up with a request that the well be plugged according to 22-6-24(d).

If The Ohio County Coal Company has no objection to the abandonment, please sign, date, and return the Instructions to Coal Operators form to:

Columbia Gas
48 Columbia Gas Rd
Sandyville, WV 25275
Att: Jim Amos

If you have questions, feel free to call.

Regards,

Jim Amos
Senior Well Services Engineer
Columbia Gas Transmission, LLC
jamos@cpg.com
off: 304-373-2412
cell: 304-483-0073

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Columbia
Pipeline Group

1700 MacCorkle Ave SE
P.O. Box 1273
Charleston, WV 25325

February 2, 2016

Murray American Energy
46226 National Rd W
St. Clairsville, OH 43950

Columbia Pipeline Group, an underground natural gas storage operator, is planning to plug and abandon their Majorsville Deep storage well 4272. The well is located in Marshall County, WV, and records indicate that Murray American Energy owns the coal on subject property.

To comply with WV DEP Office of Oil & Gas permit application requirements, Columbia is required to provide the coal owner a copy of the permit application enclosed.

Please refer to form WW-4B Instructions to Coal Operators for an explanation of your rights to be present during plugging operations and to decide whether to follow up with a request that the well be plugged according to 22-6-24(d).

If Murray American Energy has no objection to the abandonment, please sign, date, and return the Instructions to Coal Operators form to:

Columbia Gas
48 Columbia Gas Rd
Sandyville, WV 25275
Att: Jim Amos

If you have questions, feel free to call.

Regards,

Jim Amos
Senior Well Services Engineer
Columbia Gas Transmission, LLC
jamos@cpg.com
off: 304-373-2412
cell: 304-483-0073

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WW-4B

API No. 47-051-00188 ?
Farm Name Steele, Ida (WV DEP records)
Well No. Majorsville Deep 3992

INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator _____/ owner _____/ lessee _____/ of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____

_____

By: _____

Its _____

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51001888

WW-9
(2/15)

API Number 47 - 051 - 00188
Operator's Well No. Majorsville Deep 3992

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Columbia Gas Transmission OP Code 307032

Watershed (HUC 10) Wheeling Creek Quadrangle Majorsville, WV

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

Will a pit be used? Yes ☐ No ☑

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. gwm

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- ____ Land Application
- ■ Underground Injection (UIC Permit Number 34-121-02459, 34-059-20965)
- ____ Reuse (at API Number _____)
- ____ Off Site Disposal (Supply form WW-9 for disposal location)
- ■ Other (Explain Rumpke Beech Hollow Landfill Wellston, OH

Will closed loop system be used? If so, describe: yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. N/A

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

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

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

-Landfill or offsite name/permit number? _____

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on 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.

RECEIVED Office of Oil and Gas FEB 04 2016 WV Department of Environmental Protection

Company Official Signature James E Amos

Company Official (Typed Name) James E Amos

Company Official Title Senior Well Services Engineer

RECEIVED Office of Oil and Gas JAN 25 2016 WV Department of Environmental Protection

Subscribed and sworn before me this 29th day of July, 20 15

Mary Marie Clendenin Notary Public

My commission expires 3/22/2020

NOTARY PUBLIC OFFICIAL SEAL
MARY MARIE CLENDENIN
State of West Virginia
My Comm. Expires Mar 22, 2020
Columbia Pipeline Group
48 Columbia Gas Road Sandyville, WV 252

5100188P

Form WW-9

Operator's Well No. Majorsville Deep 3992

Columbia Gas Transmission

Proposed Revegetation Treatment: Acres Disturbed < 0.7 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 7.0

Fertilizer type 10-10-10

Fertilizer amount 600 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent Upland	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Rye	40	Orchard Grass and/or Tall Fescue	29
Mulch		Birdsfoot Trefoil (empire)	9
Straw	6000	Annual Rye	12

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: James Wilson

Comments:

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Title: Oil & Gas Inspector Date: 8/3/15

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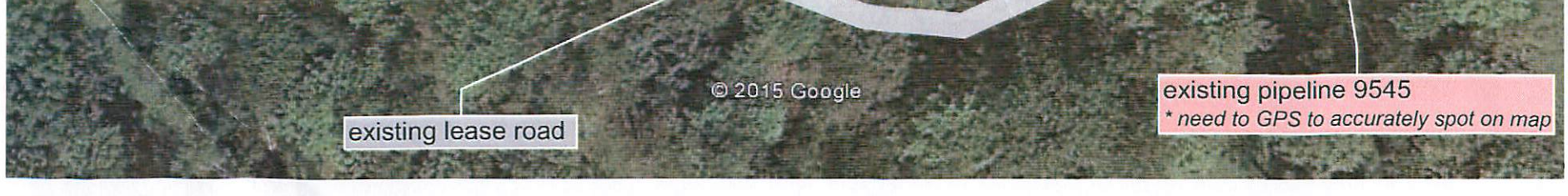
Field Reviewed? (✓) Yes ( ) No

5100188P



Google earth

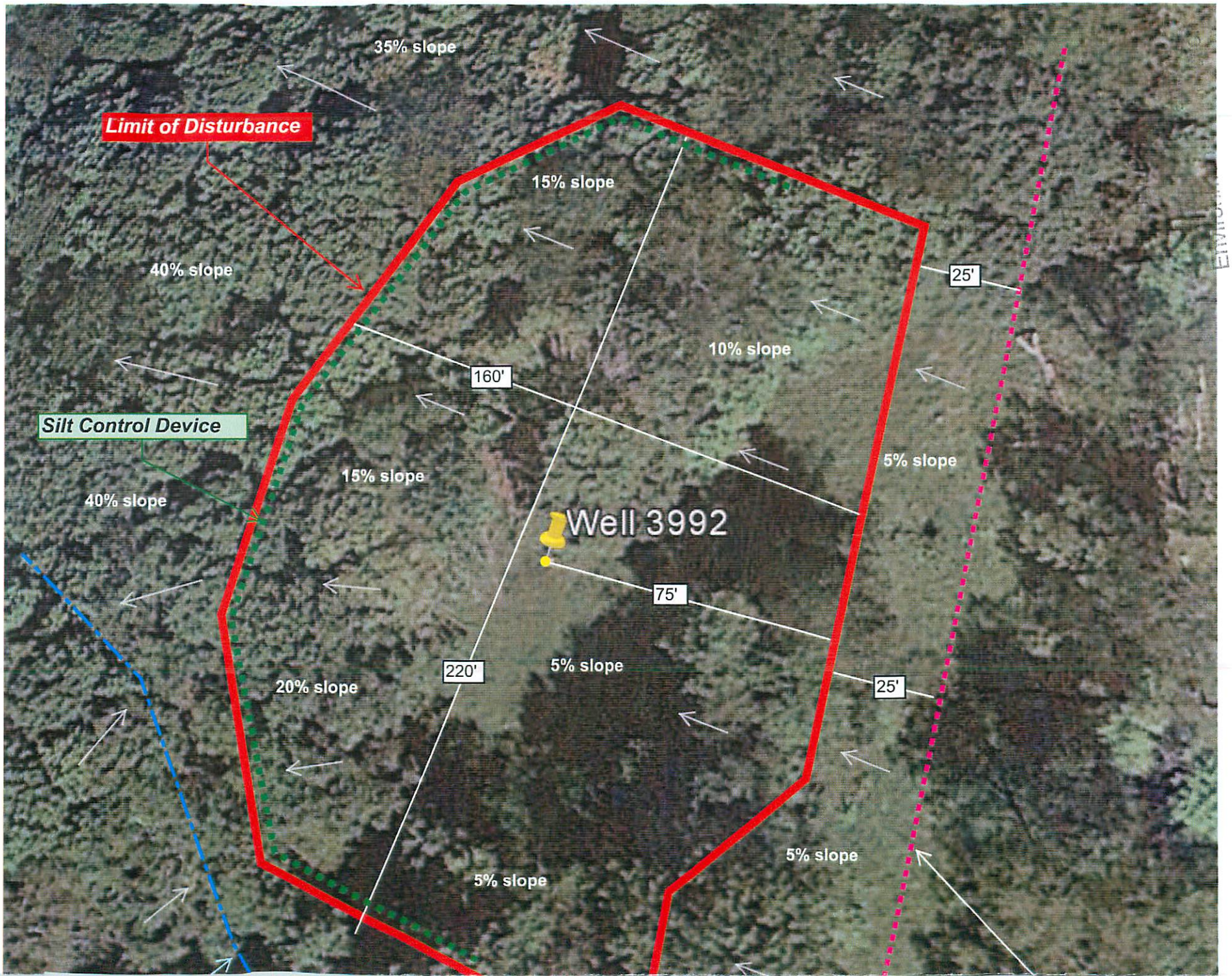
feet 400
meters 100

Majorsville Deep storage well 3992 Plug & Abandonment

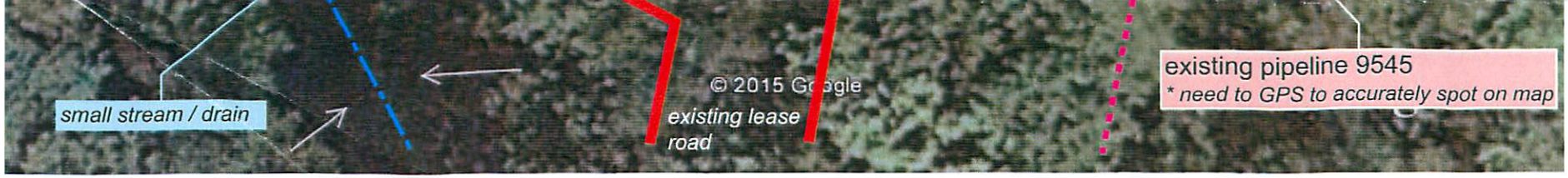
WV DEP Reclamation Plan 1 of 2 - *Overview*

- BMPs to be utilized per CPG WV Environmental Construction Standards, site specific CPG Environmental Management & Construction Plan, and WV DEP guidelines
- Drainage, diversions, etc. to be maintained on existing lease road
- crushed limestone to be applied to existing lease road as needed to maintain integrity

5/00188P



35% slope
Limit of Disturbance
15% slope
40% slope
25'
10% slope
160'
Silt Control Device
5% slope
15% slope
40% slope
Well 3992
75'
220'
5% slope
20% slope
25'
5% slope
5% slope



Google earth

feet 100

meters 40

Majorsville Deep storage well 3992 Plug & Abandonment

WV DEP Reclamation Plan 2 of 2 - *Site Detail*

- BMPs to be utilized per CPG WV Environmental Construction Standards, site specific CPG Environmental Management & Construction Plan, and WV DEP guidelines
- Drainage, diversions, etc. to be maintained on existing lease road
- crushed limestone to be applied to existing lease road as needed to maintain integrity

5100188 P

(WHEELING)

mytopo

MAJORSVILLE QUADRANGLE
WEST VIRGINIA
TOPOGRAPHIC SERIES

(CLAYSVILLE)

080° 32' 48.38" W
039° 59' 28.54" N

(VALLEY GROVE)

080° 29' 41.66" W
039° 59' 28.54" N

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JAN 25 2016
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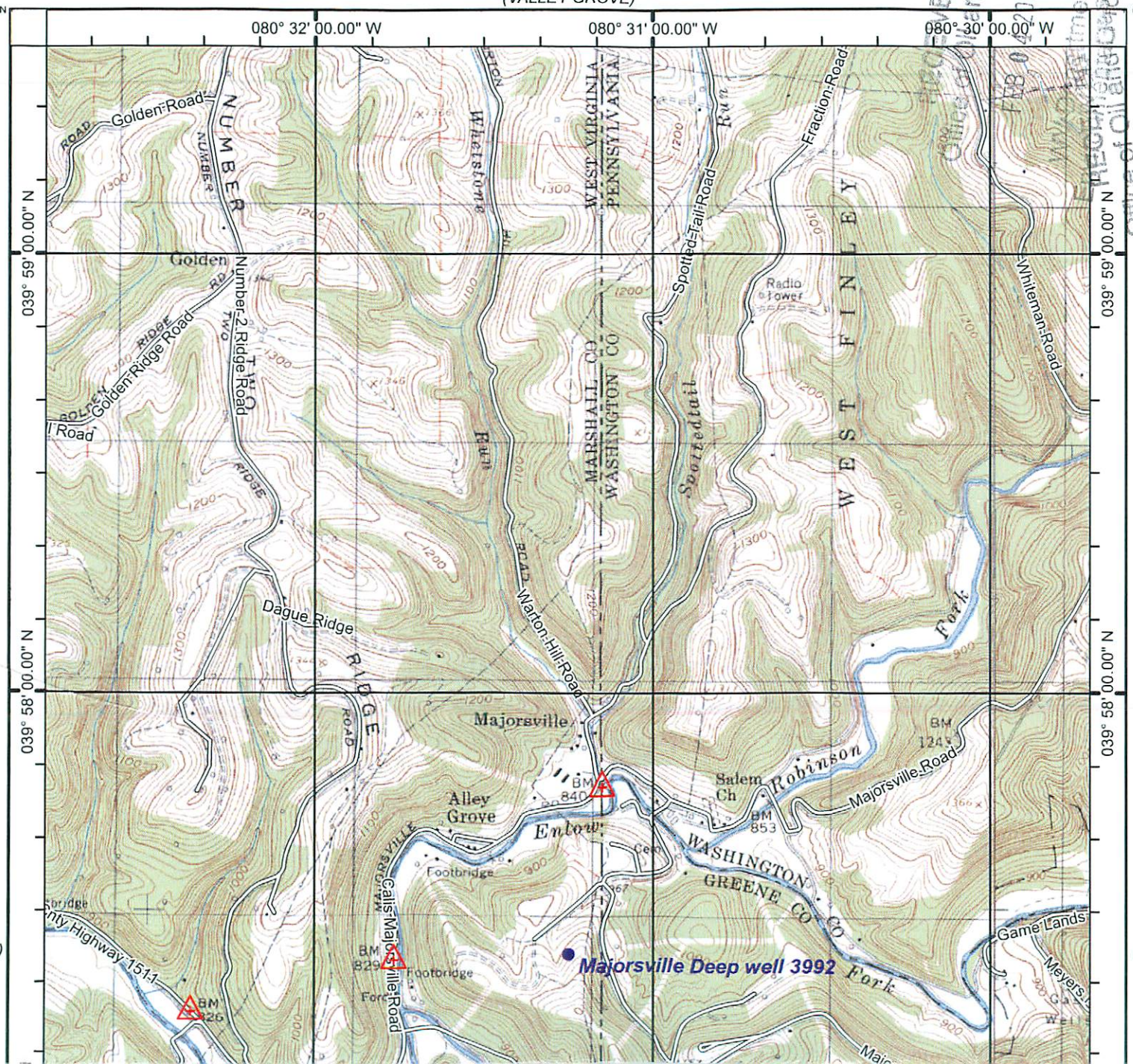
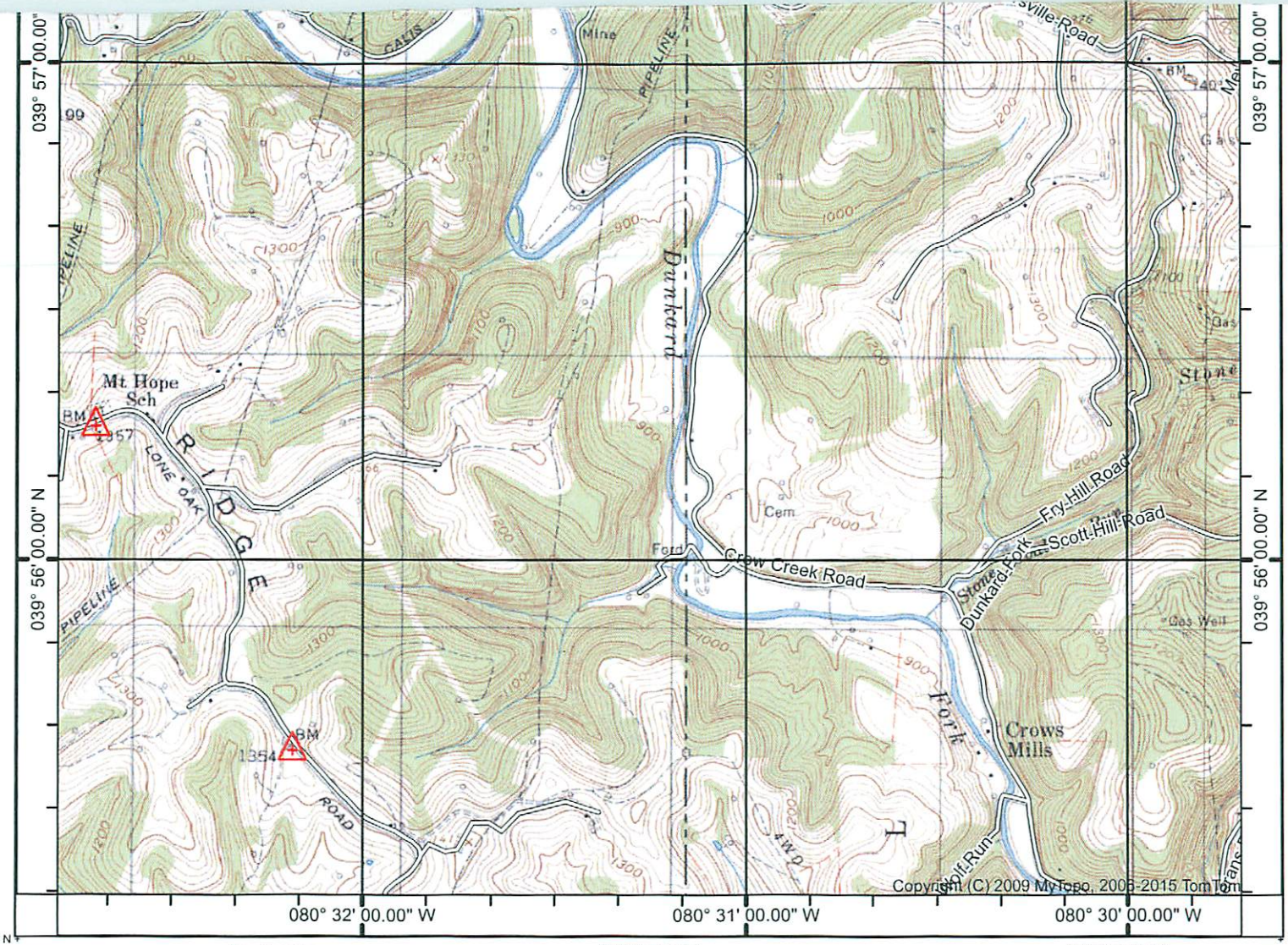


(MOUNDSVILLE)

(WIND RIDGE)



039° 55' 19.35" N
080° 32' 48.38" W

Printed: Wed Jul 01, 2015

039° 55' 19.35" N
080° 29' 41.66" W

(CAMERON)

SCALE 1:24000

(GLEN EASTON)

(NEW FREEPORT)

Declination

MN GN

GN 0.31° E
MN 8.83° W

0 1
MILE

0 1000 2000
YARDS

0 1 2
KILOMETERS

Produced by MyTopo Terrain Navigator
Topography based on USGS 1:24,000 Maps

World Geodetic System 1984 Datum (WGS84)
Lambert Conformal Conic Projection

To place on the predicted North American 1927 move the projection lines 9M N and 17M E

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

MAJORSVILLE, WV
1997

5100188P

WW-7
8-30-06

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

API: 47-051-00188 **WELL NO.:** 3992

FARM NAME: Steele, Ida (WV DEP records)

RESPONSIBLE PARTY NAME: Columbia Gas Transmission

COUNTY: Marshall **DISTRICT:** Webster

QUADRANGLE: Majorsville, WV

SURFACE OWNER: MarkWest Liberty Midstream & Resources, LLC

ROYALTY OWNER: Emily Santee et al (storage lease 3019407-001)

UTM GPS NORTHING: 4423063.13 m

1153.7 ft

UTM GPS EASTING: 540928.28 m **GPS ELEVATION:** 351.65 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.

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* 0.1 m accuracy horizontal & vertical
FEB 04 2016

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JAN 25 2016
WV Department of Environmental Protection

Senior Well Services Engineer

Signature | Title | 7/28/15 Date

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