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 26, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-5100270, 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: 2-4272
Farm Name: STEELE, IDA
API Well Number: 47-5100270
Permit Type: Plugging
Date Issued: 02/26/2016

Promoting a healthy environment.

5100270P

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.

CK#514035 $100.00
51002709

WW-4B
Rev. 2/01

1) Date 7/29, 2015
2) Operator's Well No. Majorsville Deep 4272
3) API Well No. 47- 051 - 00270

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 1060.4 ft (323.21 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 Hagen Well Services
Address 2285 Eagle Pass Blvd
Wooster, OH 44691

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

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

Kill well. Obtain CBL. Clean to TD. Spot bottom cement plug from TD to 50' above 5-1/2" csg shoe. Install mechanical bridge plug above cement plug. Based on CBL, perforate and squeeze cement all zones that (based on CBL) are not sealed and have potential for containing fluid or gas (these include all formations from Gas Sand down to the Fifty Foot). Cut and fish all free casing except for 10-3/4", 13-3/8", and 16": removing these casing strings may result in loss of wellbore due to formation instability (ie. Red Rock). Cover all perforations, cuts, and casing stubs with minimum 100' cement plugs. Perforate and squeeze cement 10-3/4" csg below Pittsburgh Coal if CBL does not indicate that coal is sealed. Repeat as needed above Pittsburgh Coal and across fresh water zones.

ALL CASINGS APPEAR TO BE CEMENTED TO SURFACE. IF YOU ARE ABLE TO PULL ~~ANY~~ CASING TO EXPOSE THE 13 3/8" IT WOULD BE POSSIBLE TO SQUEEZE CEMENT TO MAKE SURE THE PITTSBURGH COAL IS COVERED WITH CEMENT.

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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 Date 8/3/15

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Majorsville Deep Well 4272
Well and Well Line Abandonment Prognosis

Drilled in 1953 by ML&H
Marshall Co, WV

Casing Info

16" conductor set @ 6'	(no record of cement)
13-3/8" surface csg set @ 164'	(125 sx cmt – calc fillup 75' – cmt top should be +/-90') (MAY BE CTS)
10-3/4" coal csg set @ 528'	(170 sx cmt – calc fillup 700' – cmt top should be at surface with 30% excess)
8-5/8" csg set @ 845'	(150 sx cmt – calc fillup 1400' – cmt top should be at surface with 65% excess)
7" csg set @ 1204'	(130 sx cmt – calc fillup 1700' – cmt top should be at surface with 40% excess)
5-1/2" csg set @ 1660'	(125 sx cmt – calc fillup 2200' – cmt top should be at surface with 30% excess)

Formation Tops

Pittsburgh Coal	501 – 507'	elog	
Big Dunkard	1043 – 1091'	elog	no show rpt'd by driller
Gas Sand	1138 – 1185'	elog	no show rpt'd by driller
Salt Sand 1	1280 – 1301'	elog	no show rpt'd by driller
Salt Sand 2	1373 – 1396'	elog	no show rpt'd by driller
Maxton	1514 – 1563'	elog	no show rpt'd by driller
Big Lime	1620 – 1645'	elog	no show rpt'd by driller
Loyalhanna Big Injun	1695 – 1800'	1800' is bottom of elog	no show rpt'd by driller
Fifty Foot Sand	2360 - ????'	driller	OF 39 MCFD
TD	2377'	driller	

** 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.
2. Obtain CBL.
3. NU annular BOP and clean to TD (if necessary).
4. Spot bottom cement plug from TD to 1610'. WOC and tag.
5. Install mechanical bridge plug.
6. Based on CBL, perforate and squeeze cement all zones that are not cemented and have potential for containing water, gas, or oil (Gas Sand down to Fifty Foot).
7. Free pt, cut, and remove all free casing EXCEPT FOR 10-3/4", 13-3/8" and 16" – REMOVING THESE CASING STRINGS MAY RESULT IN LOSS OF WELLBORE DUE TO FORMATION INSTABILITY, AND SERVES TO FACILITATE RE-ENTRY OF WELLBORE IF NEEDED.
8. Cover all perforations, cuts, casing stubs, with minimum 100' cement plugs.
9. If CBL indicates possibility of no cement across the Pittsburgh Coal, perforate below coal and perform injection test. If injection or circulation established, squeeze cement. Repeat as necessary up-hole to surface.

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~~**DISCUSS WITH STATE INSPECTOR TO DETERMINE NEXT OPTIONS (10A or 10B below) FOR COMPLETING P&A. Option 10A is the preferred method due to Markwest's plans to excavate and possibly build structures above wellbore.~~

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

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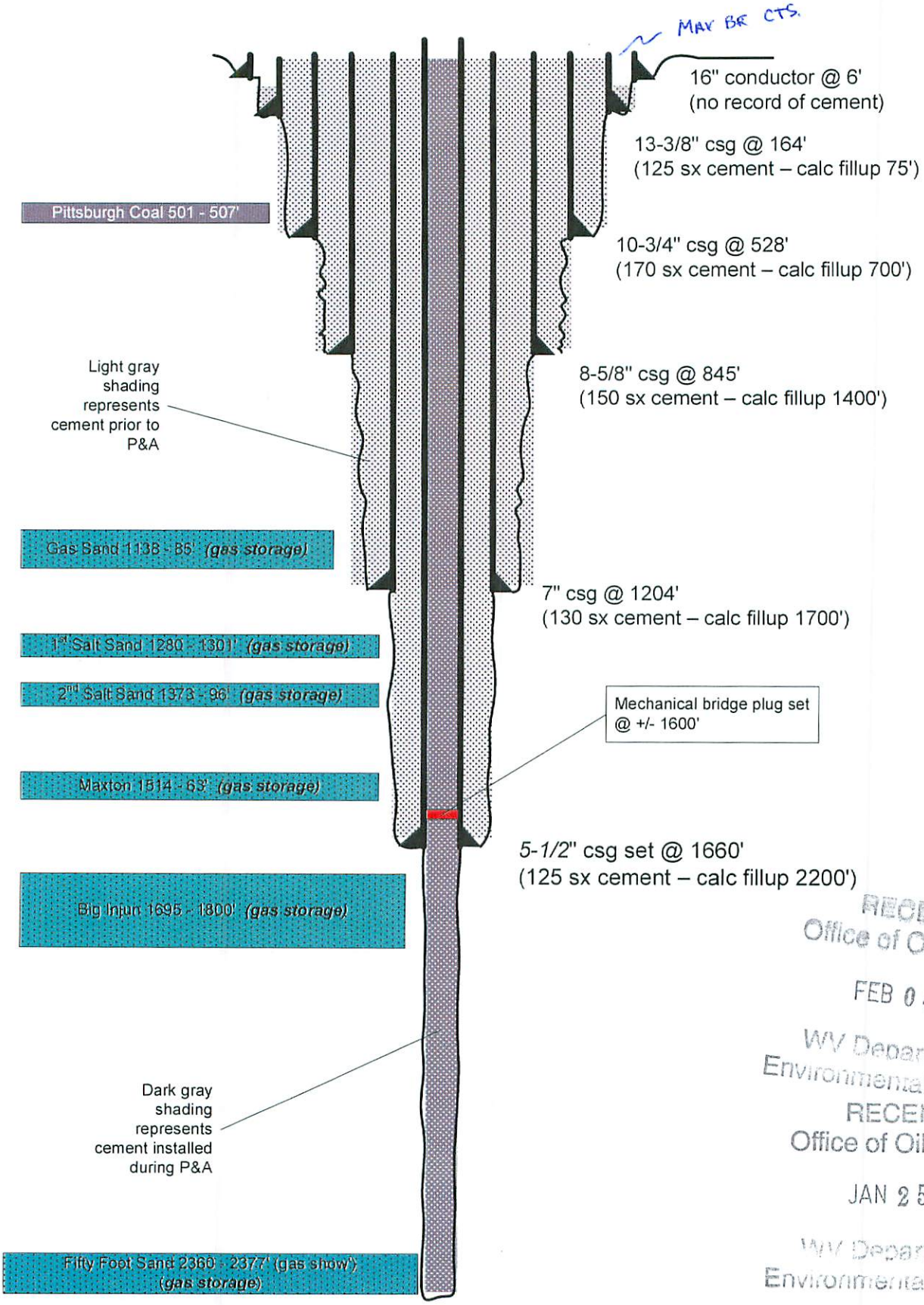
5100276P

Majorsville Deep well 4272
(proposed post P&A)

1/19/16

~ not to scale ~



TD 2377'

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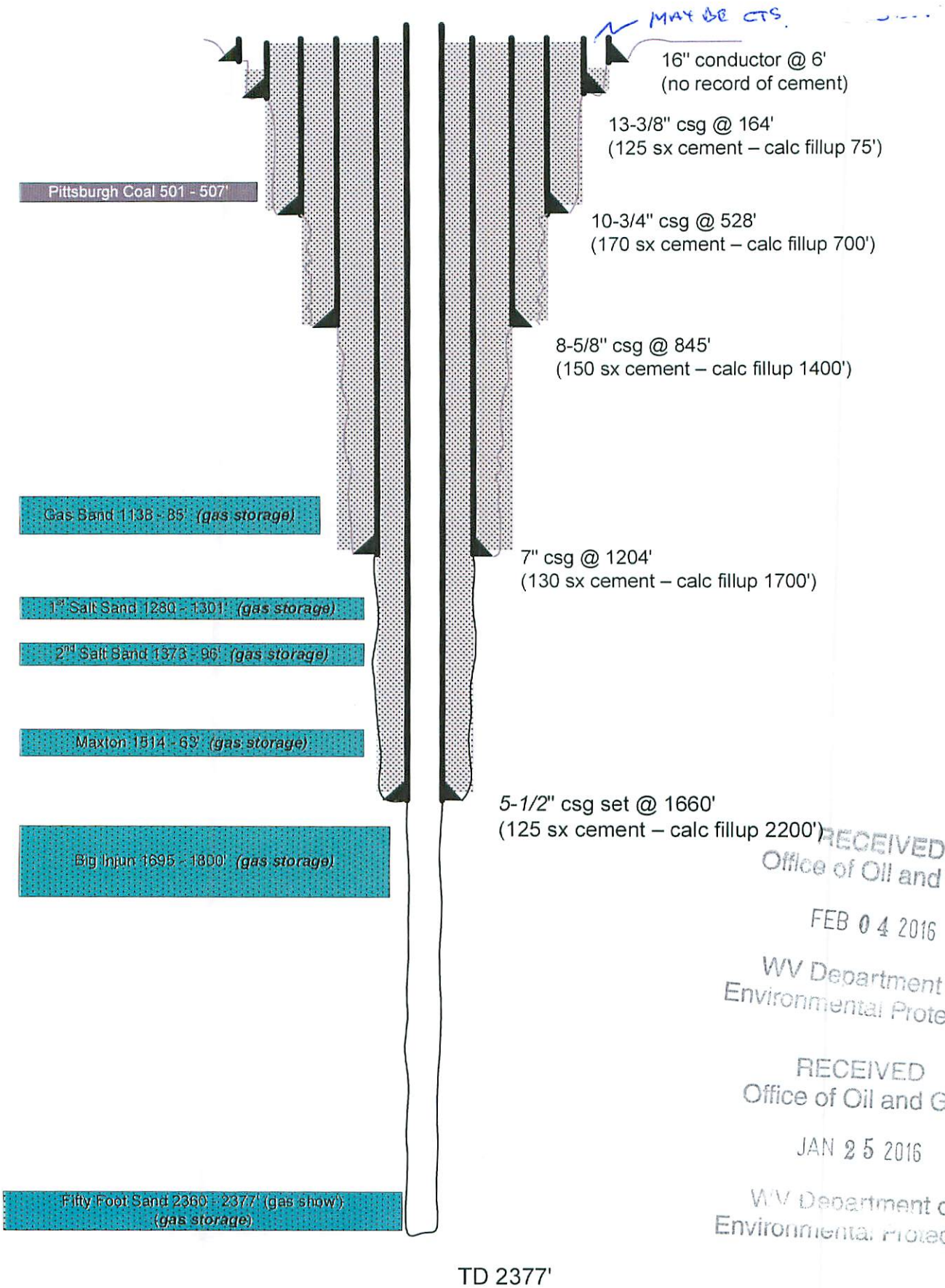
5100270P

Majorsville Deep well 4272
(prior to P&A)

7/2/15

~ not to scale ~



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FORM 10-C&D

The Manufacturers Light & Heat Company
Company

Division 5

Record of well No. L-4272 on Ida M. Steele Farm 36 Acres

Mademsville Stor. Field Webster Township District Marshall County W.Va. State

Rig Commenced 19 . Completed 19

Drilling Commenced May 21, 1953 . Completed May 11, 1954

Contractor McC. Drummage & Sons Address Waynesburg, Pennsylvania

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	6	164	528	845		1204	1660				
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
5-11-54	26/10	Water	1"	39,960	Fifty Foot	0	6				550		

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
ittsburg Coal	501	507		13" Cemented in with 125 Bag Cement [redacted]
Stele Dunkard	824			10" " " " 170 " " [redacted]
ig Dunkard	1042			8" " " " 150 " " [redacted]
ee Sand	1137			7" " " " 130 " " [redacted]
alt Sand	1279			5" " " " 125 " " [redacted]
nd Gas Sand	1372			
rd " "	1461			
axon "	1513			
ig Injun Sand	1605			
ifty Foot	2360			
otal Depth		2377		

Examined above information and measurements 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 [illegible] depth. Oil, gas or water encountered, the quantity of same, the quality of the sand, and thickness of pay.

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5100270P

CK 5114035 100

WW-4A
Revised 6-07

1) Date: 7/29/15
2) Operator's Well Number
Majorsville Deep 4272

3) API Well No.: 47 - 051 - 00270

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.

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

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JAN 25 2016
WV Department of
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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
1700 Columbia Gas Rd, 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 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.

5100270P

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 3992. 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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FEB 04 2016

WV Department of
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5700270P

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 3992. 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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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 3992. 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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WW-9
(2/15)

API Number 47 - 051 - 00270
Operator's Well No. Majorsville Deep 4272

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 ☑

If so, please describe anticipated pit waste: ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS.

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.

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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 JAN 25 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

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 25275

5100270P

Form WW-9

Operator's Well No. Majorsville Deep 4272

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 Nicholas

Comments:

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

Field Reviewed? (✓) Yes ( ) No

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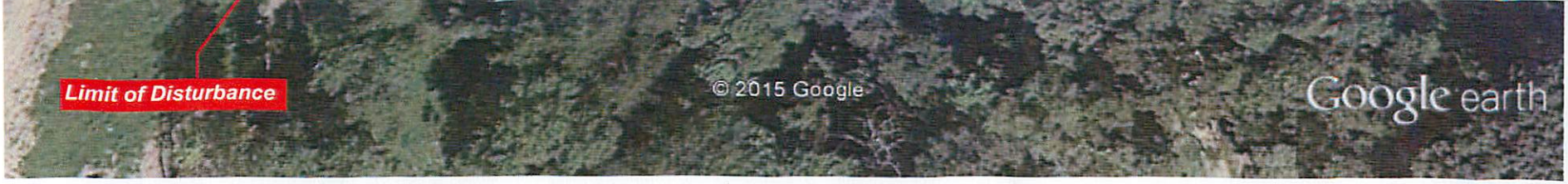
JAN 25 2016
WV Department of Environmental Protection

5100270P



Google earth

feet 300
meters 100

Majorsville Deep storage well 4272 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

51002270P

culvert
existing lease road
50'
50'
0% slope
35% slope
tree outside of LOD needs cut due to overhanging canopy above wellhead - no earth disturbance anticipated
< 5% slope
Well 4272
25% slope
35% slope
wellhead is 10' from stream
< 5% slope
Silt Control Device
120'
230'
20% slope
30% slope
small stream / drain
35% slope

Google earth

feet 100

meters 50

Majorsville Deep storage well 4272 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

5100276P

(WHEELING)

mytopo

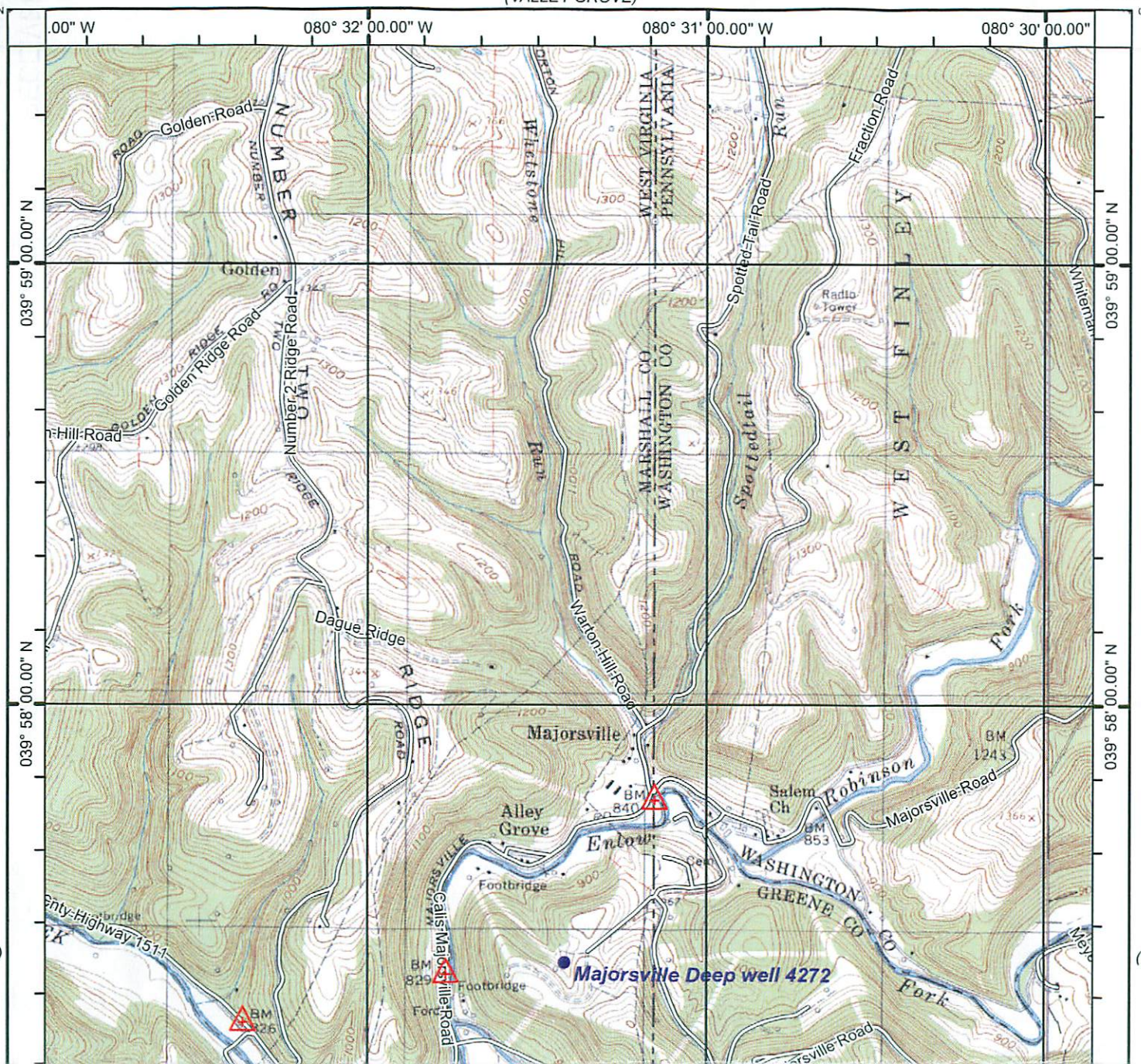
MAJORSVILLE QUADRANGLE
WEST VIRGINIA
TOPOGRAPHIC SERIES

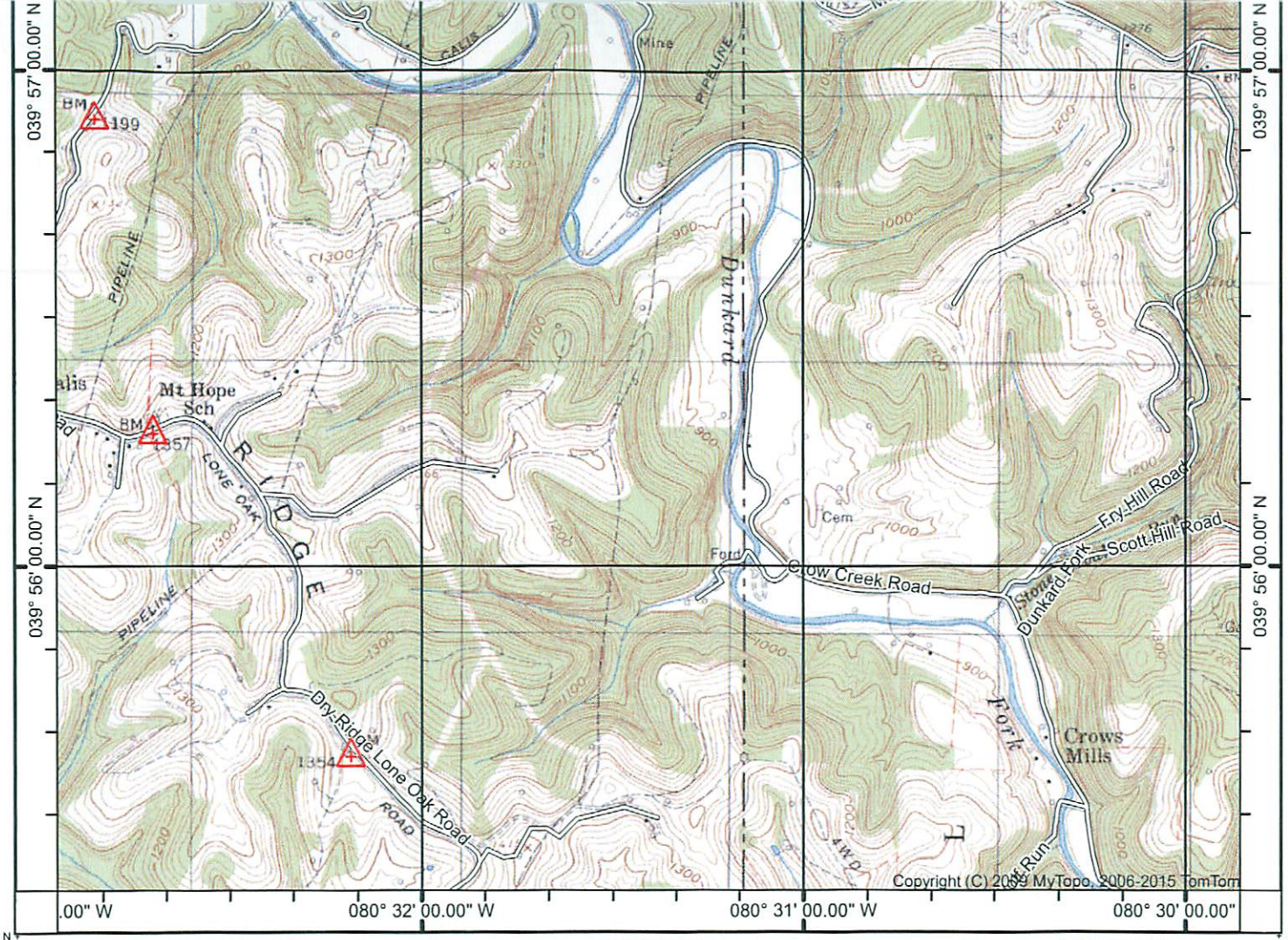
(CLAYSVILLE)

080° 32' 57.61" W
039° 59' 29.77" N

(VALLEY GROVE)

080° 29' 50.89" W
039° 59' 29.77" N





(GLEN EASTON)

(CAMERON)

(NEW FREEPORT)

Declination

MN GN

GN 0.30° E
MN 8.83° W

SCALE 1:24000

0 — 1 MILE

0 — 1000 — 2000 YARDS

0 — 1 — 2 KILOMETERS

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

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

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JUL 5 2016
WV Department of Environmental Protection

MAJORSVILLE, WV
1997

5100270P

WW-7
8-30-06

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

API: 47-051-00270 **WELL NO.:** 4272

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: Richard E. Steele et al (storage lease 3022047-001)

UTM GPS NORTHING: 4423084.53 m 1060.4 ft

UTM GPS EASTING: 540690.14 m **GPS ELEVATION:** 323.21 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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Office of Oil and Gas
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WV Department of Environmental Protection

* 0.1 m accuracy horizontal & vertical

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JAN 25 2016
WV Department of Environmental Protection

Signature | Senior Well Services Engineer (Title) | 7/20/15 (Date)