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**west virginia** department of environmental protection

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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](http://www.dep.wv.gov)

April 28, 2015

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-7500017, 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 penalties 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: 7474  
Farm Name: U.S.A.  
**API Well Number: 47-7500017**  
**Permit Type: Plugging**  
Date Issued: 04/28/2015

**Promoting a healthy environment.**

## PERMIT CONDITIONS

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

### CONDITIONS

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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.

The Office of Oil and Gas is considering granting a general variance to the requirements under 35CSR4-5.5b of erecting a monument upon the plugging of certain wells. If granted, the following conditions will be met:

- 1) the well will be surveyed and a plat constructed as required under 22-6 of the WV Code and 35CSR4,
- 2) a readily visible, permanent offset marker, in as close proximity as reasonably possible, will be erected and will provide distance and bearing information to the plugged well,
- 3) the plugging affidavit (form WR-38), will document the absence of a monument at the well location and document the existence and location of the offset marker,
- 4) a steel plate no smaller than one square foot shall be affixed to the well casing no deeper than three feet below the ground surface and be inscribed with the api number of the well.

To qualify under the general variance, an operator may make a variance request to the Chief of the Office of Oil and Gas for a specific well(s) in conjunction with a showing of good cause by the surface owner.

- PLACE OFFSET MARKER AT BASE OF A SLOPE, IF POSSIBLE, TO BE MORE PROTECTIVE.
- PAINT MARKER GREEN TO FIT IN WITH ENVIRONMENT.

7500017P

WW-4B  
Rev. 2/01

1) Date 2/5, 20 15  
2) Operator's  
Well No. Glady 7474  
3) API Well No. 47-075 - 00017

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 X / Shallow \_\_\_
- 5) Location: Elevation 1012.3 m (3321.2 ft) Watershed Mountain Lick Creek of West Fork of East Fork Greenbrier  
District Greenbank County Pocahontas Quadrangle Durbin, WV
- 6) Well Operator Columbia Gas Transmission, LLC 7) Designated Agent Paul Amick  
Address 1700 MacCorkle Ave SE Address 1700 MacCorkle Ave SE  
Charleston, WV 25325-1273 Charleston, WV 25325-1273
- 8) Oil and Gas Inspector to be notified Name Bryan Harris 9) Plugging Contractor Name Contractor Services Inc (CSI)  
Address PO Box 157 Address 929 Charleston Rd  
Volga, WV 26238 Spencer, WV 25276

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. Pull tubing. Obtain cement bond log to determine cemented interval(s). Clean to TD and install bottom cement plug across storage perms/zones. Install mechanical bridge plug above bottom cement plug. Cut and pull all casing that is free. If casing is not removed, and CBL indicates casing is not cemented, perforate and squeeze cement across driller shows and any intervals known to contain oil, gas, or water. If casing is removed exposing borehole, install cement plugs across subject intervals based on same criteria. Install cement plugs across all casing top stubs and casing shoes. Install top/surface plug. Grout conductor annulus. Cut off all remaining casing 24" below GL (requested by the US Forestry Service since wells are located in Monongahela National Forest and install steel cap with API no. tack-welded on top. Note that 6% bentonite gel will be spotted between all cement plugs.

- SET 200' OF CLASS A CEMENT PLUG FROM 3200' - 3000'.
- TAG ALL CEMENT PLUGS, ADD CEMENT IF NEEDED.
- MUST SET AN OFFSET MARKER.

JMM

RECEIVED  
Office of Oil and Gas  
MAR 19 2015

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

Work order approved by inspector

Bryan O'Han

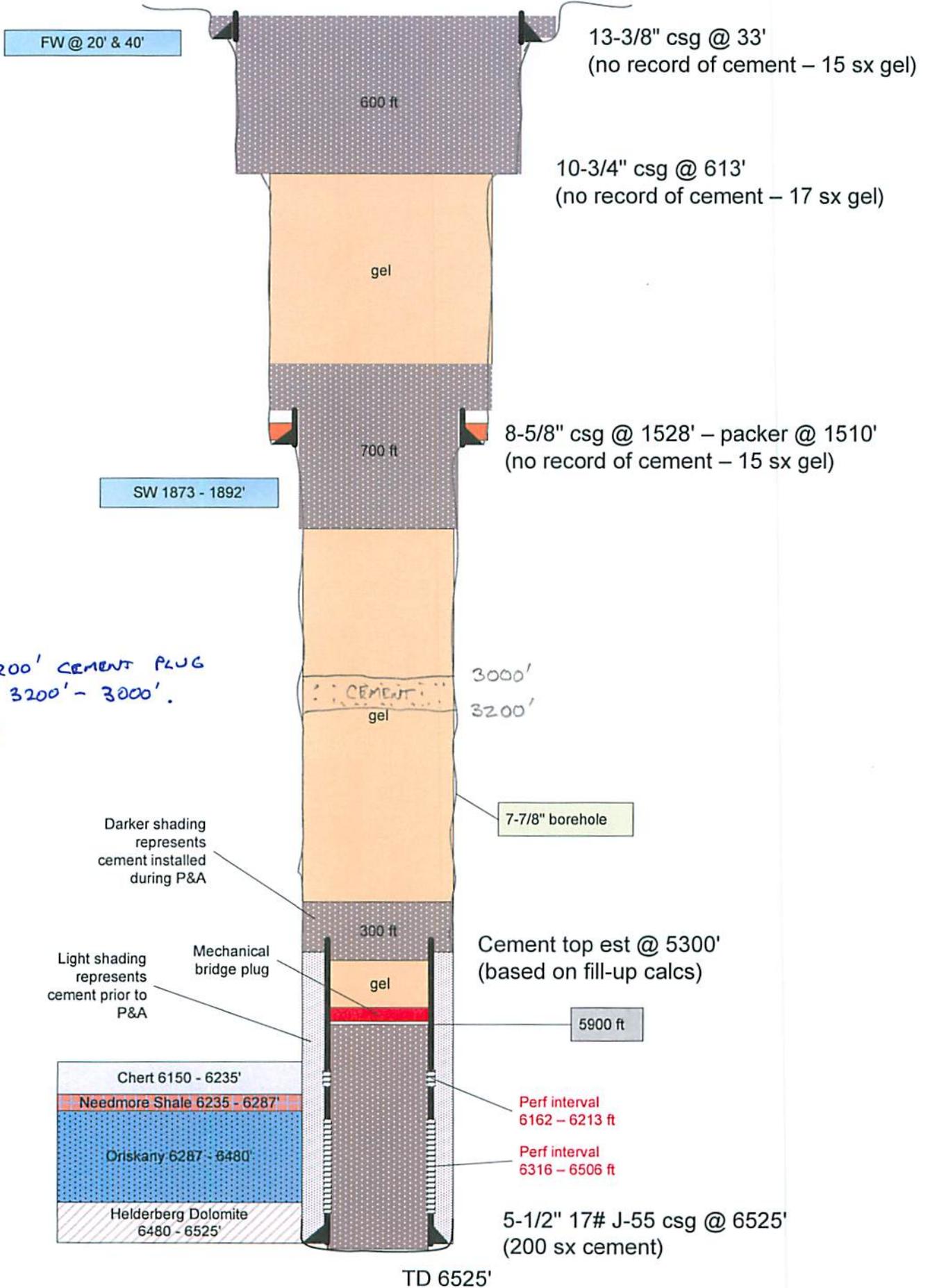
WV Department of  
Environmental Protection  
3/2-15

7500017 P

GLADY 7474

2/4/15

(Proposed post P&A)



SET 200' CEMENT PLUG FROM 3200' - 3000'.  
YMM



7500017P

**GLADY 7474**

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

Quadrangle Durbin SE

Permit No. Poca-17

**WELL RECORD**

Oil or Gas Well gas  
(KIND)

Company Columbian Carbon Company  
Address Box 873, Charleston 23, W. Va.  
United States of America  
Farm Mary Putnam Frisbie Acres 567.78  
Location (waters) \_\_\_\_\_  
Well No. 1 - GW-1308 Elev. 3343.82'G  
District Greenbank County Pocahontas  
The surface of tract is owned in fee by Director, Bureau of Land Mgmt.  
Address Washington, D. C.  
Mineral rights are owned by Director, Bureau of Land Management, et al  
(for further add. contact C.C.C.)  
Address \_\_\_\_\_  
Drilling commenced 8-27-59  
Drilling completed 3-12-60  
Date Shot not shot From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_  
Open Flow /10ths Water in \_\_\_\_\_ Inch  
/10ths Merc. in \_\_\_\_\_ Inch  
Volume \_\_\_\_\_ Cu. Ft.  
Rock Pressure \_\_\_\_\_ lbs. \_\_\_\_\_ hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.  
WELL ACIDIZED not acidized  
WELL FRACTURED see reverse side

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer _____
16 3/8" 48#	33'8"	33'8"	M. B. H.
13 3/4" 32#	613'10"	613'10"	Size of <u>8-5/8"</u>
10 3/4" 24#	1528'1"	1528'1"	Depth set <u>1515' SLM</u>
8 3/4" 24#	1528'1"	1528'1"	
6 5/8" 17#	6574'1"	6574'1"	
5 3/16" 17#	6574'1"	6574'1"	
3 3/8" 4#	6559'11"	6559'11"	Perf. top _____
	w/ 2" cage		Perf. bottom _____
			Perf. top _____
			Perf. bottom _____

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_

see reverse side

COAL WAS ENCOUNTERED AT none FEET \_\_\_\_\_ INCHES \_\_\_\_\_

FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_

FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_

RESULT AFTER TREATMENT 90,000 cubic feet (Chert and Oriskany)

ROCK PRESSURE AFTER TREATMENT 72 hours on B.H. 1375# Tubing 1000#

Fresh Water 20' 40' Feet \_\_\_\_\_ Salt Water 1873-92' Feet \_\_\_\_\_

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top soil			0	10			
Slate and Shells			10	360	F. water	20'	
Sand			360	495	F. water	40'	hole full
Slate and Shells			495	2635	F. water	1873-92'	20 gal/hr.
Brown Shale			2635	2748			
Slate and Shells			2748	3940			
Shale and Shells			3940	4400			
Lime and Shale			4400	4780			
Shale			4780	4870			
Lime and Shale			4870	4975			
Shale			4975	5215			
Lime			5215	5305			
Shale			5305	5670			
Black Shale			5670	5830			
Grey Shale			5830	6140			
Lime and Shale			6140	6150			
Chert			6150	6235			
Shale			6235	6287			
Oriskany Sand			6287	6480			
Heldersburg Lime			6480	6525			
Total depth				6525'			

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>Casing Record</u>							
							13-3/8" drive pipe - ran 15 sacks Aquagel.
							10-3/4" ran with shoe at 605'DLM- 17 sacks Aquagel.
							8-5/8" ran with Midget bottom hole packer 1515'SLM-15 sacks Aquagel-Circulation & returns.
							5-1/2" ran at total depth with guide shoe on bottom and five centralizers cemented with 200 sacks.
<u>FRACTURING RECORD</u>							
							7-19-60 Perforated the Chert 6162-6213' with 72 shots.
							7-21-60 Fractured the Chert. Pumped in 1,000 gallons MCA-50 bbls. water with Tergitol. Started sand 1/2#/gallon-increased to 1#. Held during treatment. During treatment pressure gradually built up to 2850# at end of sand. Used 500 barrels water and 35,000# 20-40 sand with 4 drums TMN and 3 drums T-08 Tergitol. Flushed with 160 barrels water and Tergitol. Pressure started at 2850#. Finished at 3250# Used 720 barrels water total.
							Cleaned out sand.
							7-27-60 Perforated the Oriskany.
							Before perforating Oriskany, Chert gas gauged 14,900 cu. ft. After perforating Oriskany, Chert and Oriskany gas gauged 21,060 cubic feet. Bailed hole dry and cleaned out to bottom before fracturing the Oriskany. No gas in Oriskany when tubed.
							8-2-60 Fractured Chert and Oriskany. Pumped in 1,000 barrels water, 30,000# 20-40 sand and 300 perf balls. Started perf balls in first water. Started sand 1/2#/gallon-put 150 perf balls in quick to seal check. Increased sand to 1-1/2#/gallon. Maximum pressure 3300#.
							Tubed with 2-3/8" tubing. Final open flow 10-17-60 90 MCF

RECEIVED  
Office of Oil and Gas  
MAR 19 2015  
WV Department of Environmental Protection  
Circulation & returns.

Date..... October 31, 19 60

APPROVED Columbian Carbon Company, Owner

By W. S. Moore, Mgr. of Prod.  
(Title)

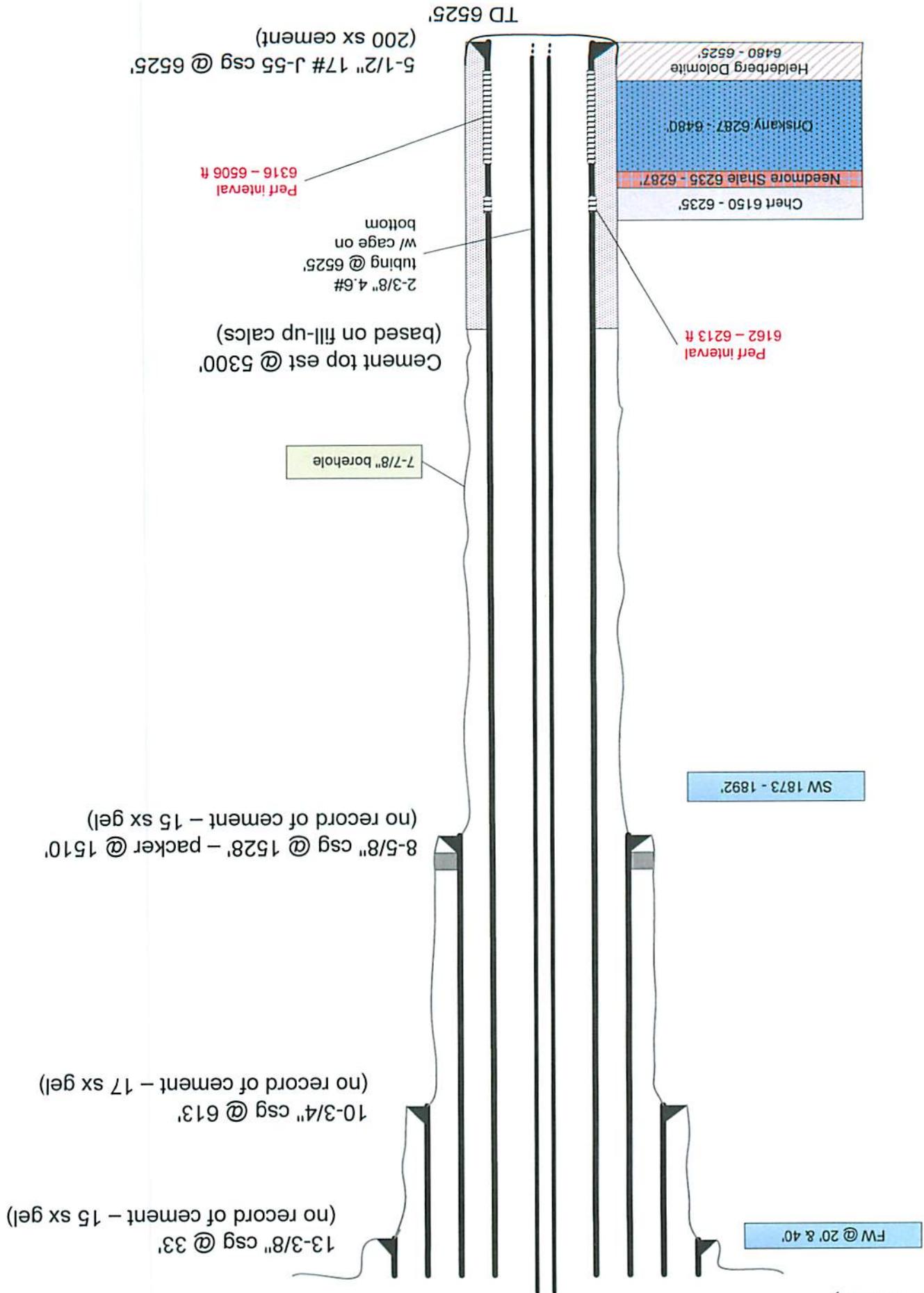
Formation	Color	Hard or Soft	Top 19	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>Casing Record</u>							
13-3/8" drive pipe - ran 15 sacks Aquagel							
10-3/4" ran with shoe at 605'DLM - 17 sacks Aquagel							
8-5/8" ran with Midget bottom hole packer 1515'SLM-15 sacks Aquagel-Circulation and returns							
5-1/2" ran at total depth with guide shoe on bottom and five centralizers-cemented with 200 sacks.							
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Tubed with 2-3/8" tubing. Final optn flow 10-17-60 90MCF.							

Date October 31, 19 60

APPROVED Columbian Carbon Company, Owner  
 By W. S. Moore, Mgr. of Prod.  
 (Title)

7500017P

GLADY 7474  
2/4/15  
(Prior to P&A)



7500017P

WW-4A  
Revised 6-07

1) Date: 2/5/15  
2) Operator's Well Number  
Glady 7474  
3) API Well No.: 47 - 075 - 00017

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

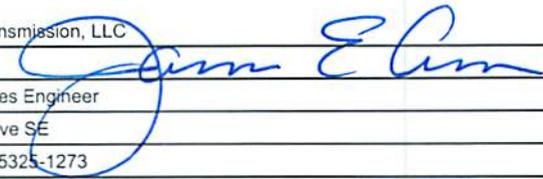
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>US Dept of Interior (managed by BLM)</u>	Name <u>not operated</u>
Address <u>626 East Wisconsin Ave Suite 200</u>	Address _____
<u>Milwaukee, WI 53202-4617</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Bryan Harris</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 157</u>	Name _____
<u>Volga, WV 26238</u>	Address _____
Telephone <u>304-553-6087</u>	_____

**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, LLC  
 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 9th day of March 2015  
Mary Marie Clendenin  
My Commission Expires 3/22/2015



**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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

WV Department of  
Environmental Protection

7500017P

Note that this well is located in the Monongahela National Forest. The surface owner is the US Dept of Interior, and is managed by the BLM and US Forestry Service. Both parties have already approved the proposed well work per the enclosed BLM Sundry Notices and Reports on Wells dated 3/6/15, and USFS Condition of Approval dated 2/20/15. Columbia requests that the 15 day comment period be waived, and the well work permit be issued at the DEP's earliest convenience.

**SURFACE OWNER WAIVER**

Operator's Well Number

Glady 7474

**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 57<sup>th</sup> 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.

**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 survey 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.

FOR EXECUTION BY A NATURAL PERSON  
ETC.

RECEIVED  
Office of Oil and Gas  
FOR EXECUTION BY A CORPORATION,

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name  
By  
Its

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

MAR 19 2015  
WV Department of Environmental Protection

Revisions to Operator-Submitted EC Data for Sundry Notice #293248

	<b>Operator Submitted</b>	<b>BLM Revised (AFMSS)</b>
Sundry Type:	ABD NOI	VARI NOI
Lease:	WVBLMA023190A	WVBLMA022927
Agreement:	WVES39982	WVES39982 (WVES39982)
Operator:	COLUMBIA GAS TRANSMISSION, LLC 1700 MACCORKLE AVE SE CHARLESTON, WV 25325-1273 Ph: 304-357-3445	COLUMBIA GAS TRANSMISSION LLC 1700 MACCORKLE AVE SE CHARLESTON, WV 25325-1273 Ph: 304.373.2412 Fx: 304-373-2438
Admin Contact:	JAMES E AMOS SENIOR ENGINEER E-Mail: jamos@nisource.com Cell: 304-483-0073 Ph: 304-373-2412 Fx: 304-373-2438	JAMES E AMOS SENIOR ENGINEER E-Mail: jamos@nisource.com Cell: 304-483-0073 Ph: 304-373-2412 Fx: 304-373-2438
Tech Contact:	JAMES E AMOS SENIOR ENGINEER E-Mail: jamos@nisource.com Cell: 304-483-0073 Ph: 304-373-2412 Fx: 304-373-2438	JAMES E AMOS SENIOR ENGINEER E-Mail: jamos@nisource.com Cell: 304-483-0073 Ph: 304-373-2412 Fx: 304-373-2438
Location:		
State:	WV	WV
County:	POCAHONTAS	POCAHONTAS
Field/Pool:	GLADY STORAGE FIELD	GLADY
Well/Facility:	GLADY 7474 38.600608 N Lat, 79.784344 W Lon	7474 Tract US-20 38.600400 N Lat, 79.784500 W Lon

RECEIVED  
Office of Oil and Gas  
MAR 19 2015  
WV Department of  
Environmental Protection

7500017P

Form 3160-5  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
WVBLMA022927

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.  
WVES39982

8. Well Name and No.  
7474

9. API Well No.  
47-075-00017-00-S1

10. Field and Pool, or Exploratory  
GLADY

11. County or Parish, and State  
POCAHONTAS COUNTY, WV

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well  
 Oil Well  Gas Well  Other: UNKNOWN OTH

2. Name of Operator Contact: JAMES E AMOS  
COLUMBIA GAS TRANSMISSION LLC-Mail: jamos@nisource.com

3a. Address 1700 MACCORKLE AVE SE  
CHARLESTON, WV 25325-1273  
3b. Phone No. (include area code)  
Ph: 304-373-2412  
Fx: 304-373-2438

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
Tract US-20  
38.600400 N Lat, 79.784500 W Lon

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Onshore Order Variance
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Project to be performed between 4/1/15 - 11/15/15.  
Duration: +/- 45 days.

P&A Procedure:  
\* refer to "before P&A" and "proposed post P&A" wellbore schematics  
\* method of P&A to comply with WV DEP Office of Oil & Gas regulations/code

1. Kill well.
2. Pull tubing.
3. Obtain cement bond log to determine cemented interval(s).
4. Clean to TD and install bottom cement plug across storage perms/zone(s).
5. Install mechanical bridge plug above bottom cement plug.

14. I hereby certify that the foregoing is true and correct.  
Electronic Submission #293248 verified by the BLM Well Information System  
For COLUMBIA GAS TRANSMISSION LLC, sent to the Milwaukee  
Committed to AFMSS for processing by CAROL VAN RYZIN on 02/27/2015 (15CVR0025SE)

Name (Printed/Typed) JAMES E AMOS Title SENIOR ENGINEER

Signature (Electronic Submission) Date 02/26/2015

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By TREY MITCHELL Title PETROLEUM ENGINEER Date 03/06/2015

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Milwaukee

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

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**Additional data for EC transaction #293248 that would not fit on the form**

**32. Additional remarks, continued**

- 6. Cut and pull all casing that is free.
- 7. Perforate and squeeze cement any casing that can't be pulled across driller shows.
- 8. Install cement plugs across all driller shows, casing stub tops, and casing shoes.
- 9. Install top/surface cement plug.
- 10. Grout conductor annulus.
- 11. Cut off all remaining casing 24" below GL (per US Forestry Service).

\* Note that 8.6 ppg 6% bentonite gel will be spotted between all cement plugs. See request for waiver below.

---

COLUMBIA IS RESUBMITTING THIS SUNDRY NOTICE PER DIRECTION FROM MR. TREY MITCHELL (BLM ENGINEER) SEEKING RE-APPROVAL WITH THE FOLLOWING WAIVER.

THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION - OFFICE OF OIL & GAS, REQUIRES THAT ALL SPACERS BETWEEN CEMENT PLUGS BE FRESH WATER BASED. ONSHORE OIL & GAS ORDER(S) REQUIRE SPACERS TO HAVE A MINIMUM DENSITY OF 9.0 PPG. BASED ON TYPICAL DRILLING AND WELL SERVICING FLUIDS RHEOLOGY, IN ORDER TO ATTAIN A SPACER FLUID WITH A DENSITY OF 9.0 PPG (OR GREATER) THAT WILL MAINTAIN DENSITY OVER AN EXTENDED PERIOD OF TIME, A SALT COMPONENT IS REQUIRED. PER AN EXPLANATION PROVIDED BY THE WV DEP, SALT (NaCl, KCl, CaCl, etc) IS NOT PERMITTED IN THE SPACER BECAUSE OF THE POSSIBILITY FOR CONTAMINATION OF FRESH WATER STRATA.

DUE TO THE CONFLICTING REGULATORY REQUIREMENTS DESCRIBED ABOVE, COLUMBIA IS REQUESTING A WAIVER FROM THE BLM TO UTILIZE 8.6 PPG 6% BENTONITE GEL SPACERS BASED ON THE FOLLOWING JUSTIFICATION. ACCORDING TO WELL RECORDS AND A +50 YEAR HISTORY OF OPERATING IN THE GLADY STORAGE FIELD, COLUMBIA HAS NO DATA TO SUGGEST THAT PORE PRESSURE GRADIENTS EXCEED 0.447 PSI/FT (8.6 PPG EQUIVALENT). THIS INFO WAS PRESENTED TO MR. MITCHELL VIA TELEPHONE CONVERSATION ON 2/26/15, AND AFTER DISCUSSIONS, WAS DETERMINED SHOULD BE ADEQUATE SUPPORT TO GRANT THE WAIVER AND RE-APPROVE THE SUNDRY NOTICE.

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7474  
47-075-00017  
Columbia Gas Transmission, LLC  
WVES 39982  
February 20, 2015  
Conditions of Approval

1. Contact Jim Wood or Julie King, BLM inspectors, a minimum of 72 hours prior to starting abandoning operations.
2. \*\*Variance to Onshore Order 2 III.G.9. A minimum of a 8.6 ppg fluid shall be pumped in between plugs.
3. BLM may direct you to test critical/questionable plugs by tagging with the working pipe string.
4. Within 30 days after you finish plugging the well, send BLM a final Sundry Notice Form 3160-5 summarizing the actual downhole work performed, the dates the work was started and completed, and the status of reclamation activities.

**USFS Final Reclamation Requirements**

- 1) Removal of all surface structures, tanks, fence and signs.
- 2) Collection and storage of all drill and produced fluids into tanks.
- 3) Proper disposal of all fluids off National Forest System Lands. Land application is not permitted.
- 4) All pipe/wellhead casing removed down to ground level or below ground as applicable.
- 5) Re-contour the well pad/site to original contour line as practicable or as directed by responsible Forest official.
- 6) The contractor shall provide portable toilets for use during plugging/abandonment and reclamation activities.
- 7) Gathering line(s) to be left in place and welded closed.
- 8) All access roads will be maintained as necessary during the reclamation. After reclamation activities at the well sites have been completed, any Forest Service System road into the well site, for which the operator has been responsible for maintenance activities, shall be reshaped to remove potholes and ruts and to establish proper crowning. All drainage structures including culverts, ditches and dips shall be cleaned, reshaped or repaired as necessary for proper drainage. Stone or other suitable materials shall be provided as necessary to complete the reshaping and repair activities, as determined by the U.S. Forest Service.
- 9) Prior to commencement of activities, the operator shall provide site specific erosion control plans, for the area of disturbance associated with each activity, to the U.S. Forest Service for review and acceptance. The erosion control plan shall show all silt-fence,

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straw bales and other erosion control devices to be used to prevent erosion and to prevent sediment from escaping the work area, and shall show their respective locations. All trapped sediment shall be properly disposed of and all erosion control devices shall be removed from National Forest System Lands upon completion of the reclamation process.

- 10) Earth disturbing/re-contouring activities are to be completed by the end of the normal operating season which is November 15.
- 11) Contact the FS at least 48 hours prior to commencing reclamation measures.
- 12) No trees over 5" DBH shall be cut between March 31<sup>st</sup> and November 15<sup>th</sup> without prior Forest Service Approval.
- 13) Addition of organics to the soil and break up of ground compaction may be required to obtain satisfactory re-vegetation. All organics, to be used in the reclamation process, must be approved prior to being brought onto Forest property.
- 14) All non-system Forest Service roads associated with the well site shall be de-compacted and reshaped to match existing ground contours as part of the reclamation process.
- 15) The well site monument will be surveyed, placed at least 2-3 feet below the final ground surface, and located using GPS.
- 16) Use the following enclosed seed mix, lime, fertilizer and straw mulch rates and amounts listed below.

### **SEEDMIX**

Winter Wheat (June 15-Nov. 15) or Spring Wheat (Feb15 – June 15) – 40 lbs./acre  
 Alfalfa (pre inoculated) – 10 lbs./acre  
 Durana Clover (pre inoculated) – 2 lbs./acre  
 Mammoth Red Cover (pre inoculated) – 5 lbs./acre  
 Chicory – 3 lbs./acre

**Total seeding will be 60 lbs./acre.**

### **MULCH-**

Weed free straw

### **FERTILIZER-**

Use 10-20-10, at 500 lbs./acre

### **LIME**

Lime pellets at 3 tons/acre

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**Re: Glady Well 7468****William Timmermeyer** to: Arbogast, Chad H -FS

Cc: Jim Amos, Jason Chambers

02/20/2015 10:18 AM

Follow-up Normal Priority.

History This message has been replied to and forwarded.

Thank you for the clarification.

Sent from my iPhone

On Feb 20, 2015, at 10:17 AM, Arbogast, Chad H -FS <[charbogast@fs.fed.us](mailto:charbogast@fs.fed.us)> wrote:

The washing of the equipment is geared more toward earth moving equipment such as dozers, excavators, rubber-tired hoes etc. The vehicles should be washed prior to the initial entrance, and rewashed if they are used elsewhere and get coated in heavy soil such as mud in the fender wells, around the bumper, in the undercarriage, etc.

Also, the equipment should be washed when changing areas within the Forest, such as moving from one well pad to another which is not in an adjacent location.

The vehicles that are mainly road vehicles are not as great a concern so long as there is no build-up of soil underneath or on the vehicle.

Chad

<M2.png> **Chad Arbogast**  
**Forest Minerals Technician/Greenbrier District Range Manager**  
**Forest Service**  
Monongahela National Forest  
p: 304-456-3335 x121  
f: 304-456-3441  
[charbogast@fs.fed.us](mailto:charbogast@fs.fed.us)  
P.O. box 67 Route 250/92  
Bartow, WV 24920  
[www.fs.fed.us](http://www.fs.fed.us)  
<M3.png><M4.png><M5.png>  
Caring for the land and serving people

**From:** [wimmermeyer@nisource.com](mailto:wimmermeyer@nisource.com) [mailto:[wimmermeyer@nisource.com](mailto:wimmermeyer@nisource.com)]

**Sent:** Thursday, February 19, 2015 12:53 PM

**To:** Arbogast, Chad H -FS

**Cc:** [jamos@nisource.com](mailto:jamos@nisource.com); [jchambers@nisource.com](mailto:jchambers@nisource.com)

**Subject:** RE: Glady Well 7468

Chad,

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7500017P

**GOVERNMENT CONTACTS**

Bureau of Land Management (BLM)  
Northeastern States Field Office  
626 East Wisconsin Ave., Suite 200  
Milwaukee, Wisconsin 53202-4617

<b>Name</b>	<b>Agency/Title</b>	<b>Office Phone</b>	<b>Mobile Phone</b>
Jim Wood	BLM/Engineering Technician	(740) 373-5029	(414) 573-4548
Julie King	BLM/Engineering Technician		(985)-856-6296
Will Wilson	FS/Minerals Administrator	(304) 636-1800 Ext 275	-

**TAM 022015**

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API No.	075-00017 <sup>P</sup>
Farm Name	US Dept of Interior
Well No.	Glady 7474

\* Coal not operated

### 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 than 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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7500017A

WW-9  
Rev. 5/08

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 075 - 00017  
Operator's Well No. Gladly 7474

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

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

Operator Name Columbia Gas Transmission, LLC OP Code 307032

Watershed Mountain Lick Creek of West Fork of East Fork Greenbrier Quadrangle Durbin, WV

Elevation 1012.3 m (3321.2 ft) County Pocahontas District Greenback

Description of anticipated Pit Waste: fresh water, starch, polymer, bentonite, cement returns

Will a synthetic liner be used in the pit? yes - 30 mil

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 34-119-28776, 34-167-23862, 34-121-2459 )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Pinegrove Landfill - Amanda, OH)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain \_\_\_\_\_)
- Swabbing
- Plugging

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 James E Amos

MAR 19 2015

Company Official (Typed Name) James E Amos  
Company Official Title Senior Well Services Engineer

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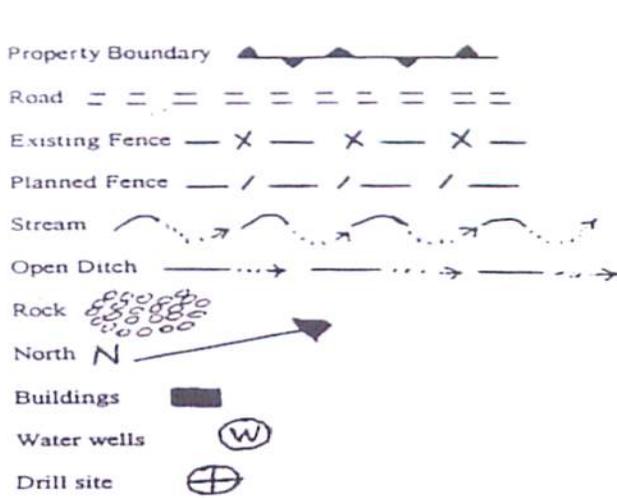
Subscribed and sworn before me this 9<sup>th</sup> day of March, 20 15

Mary Marie Clendenen

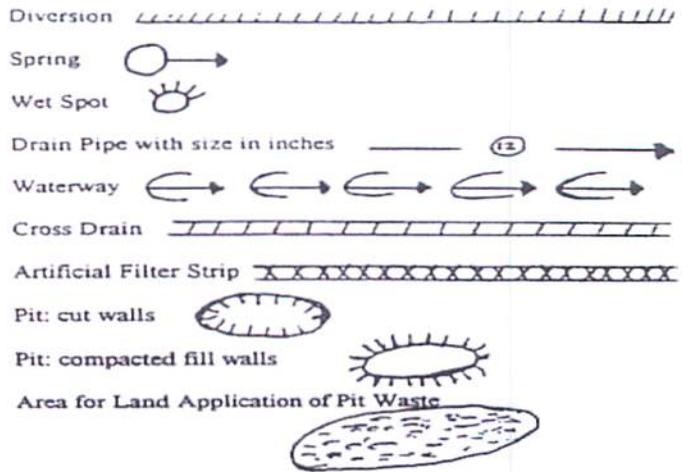
Notary Public

My commission expires 3/22/2015





LEGEND



Proposed Revegetation Treatment: Acres Disturbed < 0.5 acre Prevegetation pH 6.0

Lime pellets @ 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-10 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch weed free straw @ 2 Tons/acre

*\* Note that fertilizer, lime, mulch, seed mix, and application rates determined by US Forestry Service.*

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Winter Wheat (6/15 - 11/15)	40	Durana Clover (pre-inoculated)	2
Spring Wheat (2/15 - 6/15)	40	Mammoth Red Clover (pre-inoculated)	5
Alfalfa (pre-inoculated)	10	Chicory	3

\* total seeding will be @ 60 lb/acre

Attach: Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Susan O'Hara

Comments: \_\_\_\_\_

Title: \_\_\_\_\_

Date: 3-12-15

Field Reviewed? ( ) Yes ( X ) No

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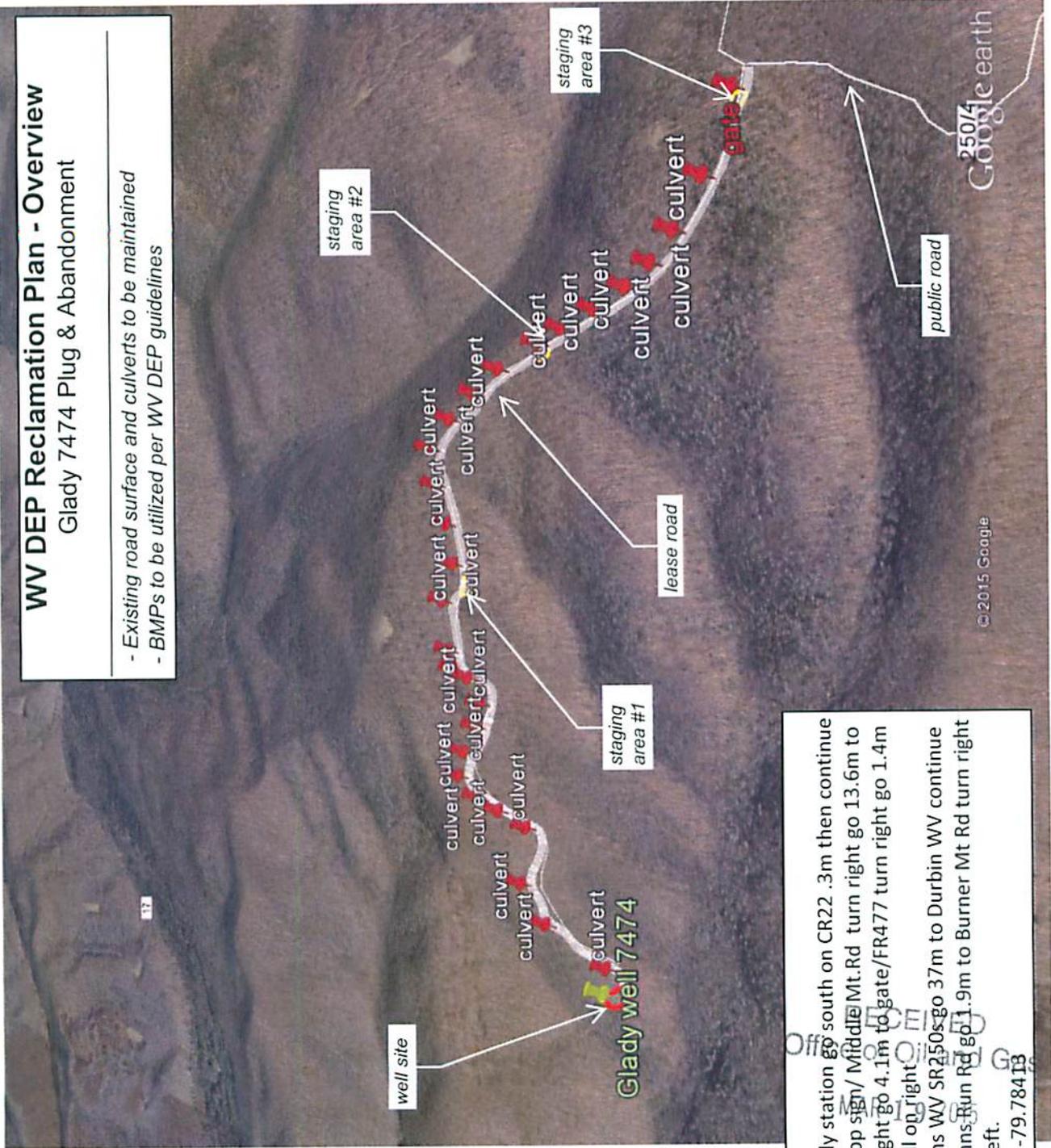
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# WV DEP Reclamation Plan - Overview

## Glady 7474 Plug & Abandonment

- Existing road surface and culverts to be maintained
- BMPs to be utilized per WV DEP guidelines



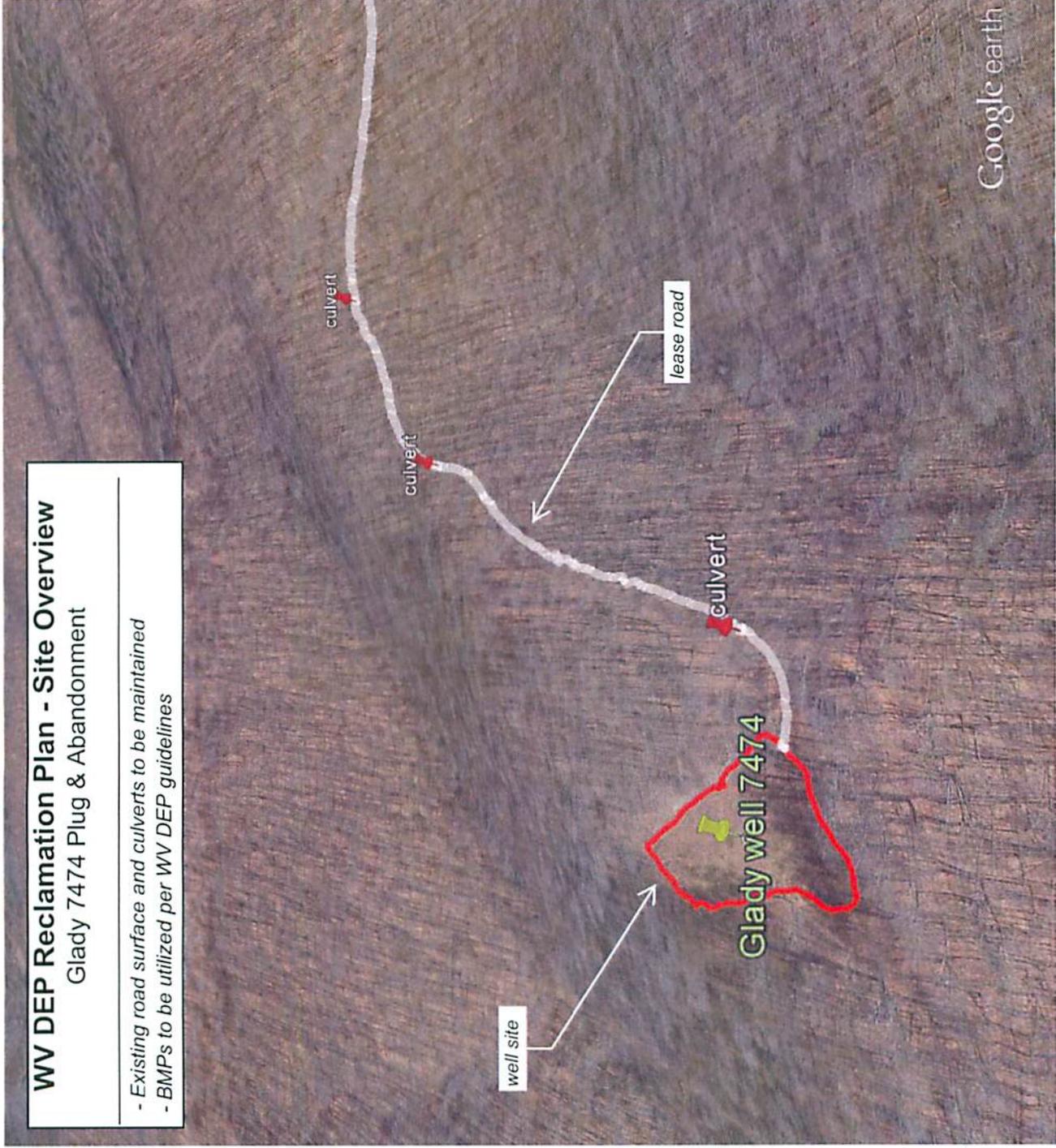
**Directions**

Option 1 - From Glady station go south on CR22 .3m then continue on FR422 2.5m to stop sign/ Middle Mt.Rd turn right go 13.6m to Burner Mt Rd turn right go 4.1m to gate/FR477 turn right go 1.4m bear left go .4 to well on right

Option 2 - From Elkins WV SR250s go 37m to Durbin WV continue 1.3m turn left on Johns Run Rd go 1.9m to Burner Mt Rd turn right go 3.5m to gate on left.  
GPS well 38.69075/ -79.78418



7500017P



**WV DEP Reclamation Plan - Site Overview**  
 Glady 7474 Plug & Abandonment

---

- Existing road surface and culverts to be maintained
- BMPs to be utilized per WV DEP guidelines

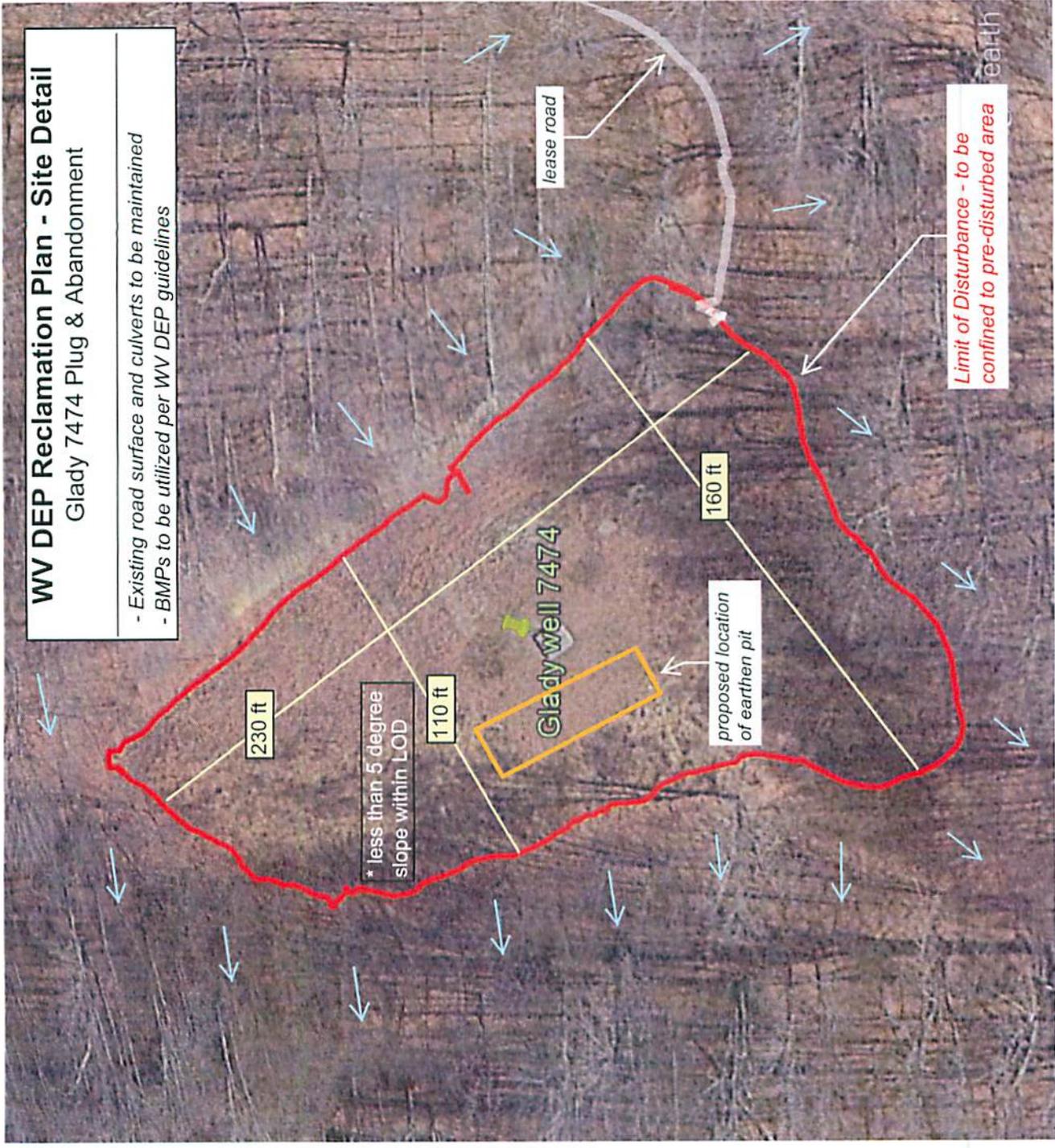


feet  
meters



**WV DEP Reclamation Plan - Site Detail**  
 Glady 7474 Plug & Abandonment

- Existing road surface and culverts to be maintained  
 - BMPs to be utilized per WV DEP guidelines



# WV DEP Reclamation Plan - Staging Area 1

Glady 7474 Plug & Abandonment

- Existing road surface and culverts to be maintained
- BMPs to be utilized per WV DEP guidelines

Limit of Disturbance - to be confined to pre-disturbed area

lease road

public road

70 ft

110 ft

gate

Google earth

feet  
meters



Google earth

7500017P



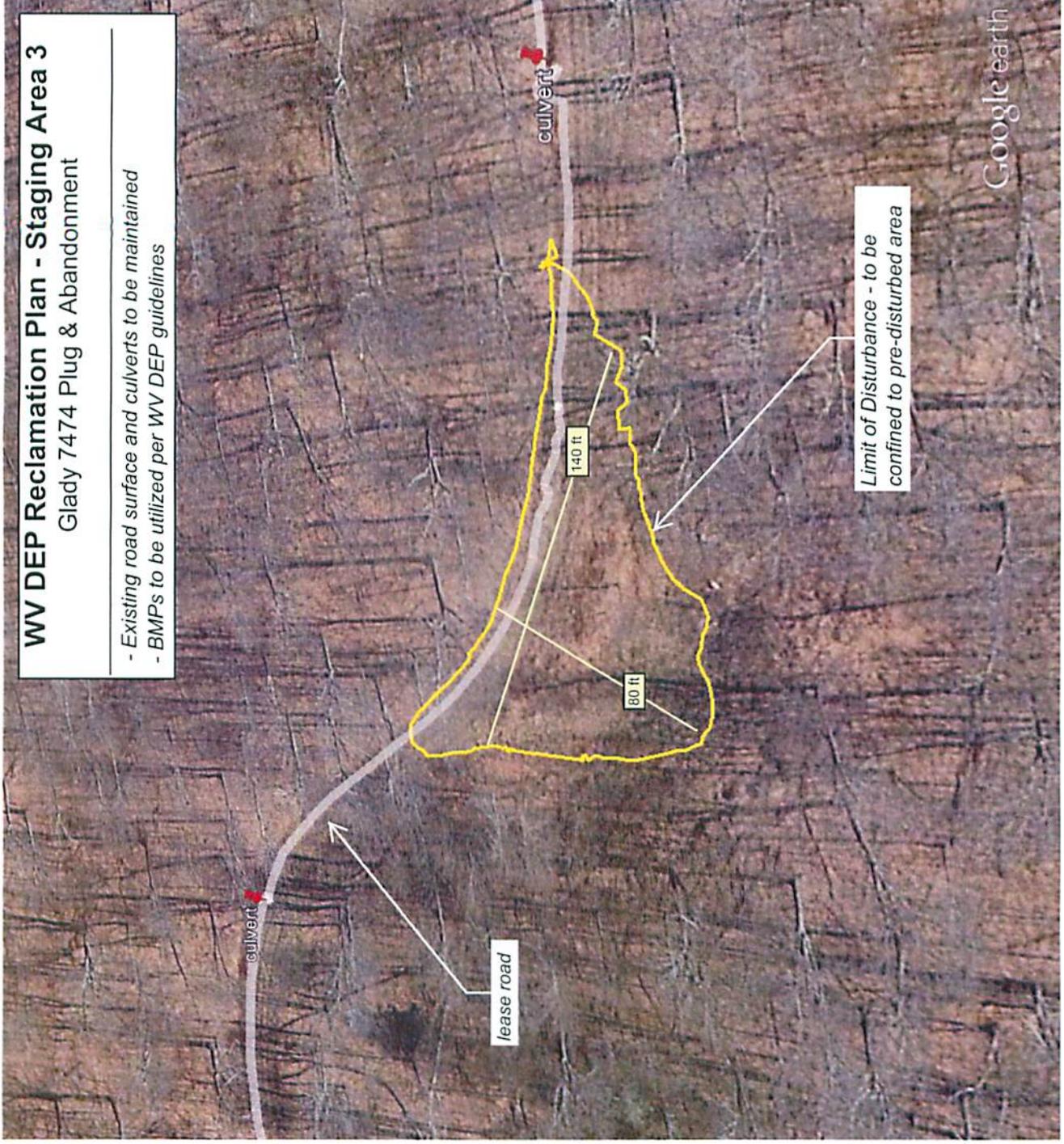


**WV DEP Reclamation Plan - Staging Area 2**  
 Glady 7474 Plug & Abandonment

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- Existing road surface and culverts to be maintained  
 - BMPs to be utilized per WV DEP guidelines





**WV DEP Reclamation Plan - Staging Area 3**  
 Glady 7474 Plug & Abandonment

---

- Existing road surface and culverts to be maintained  
 - BMPs to be utilized per WV DEP guidelines



WW-7  
8-30-06



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

API: 47-075-00017 WELL NO.: 7474

FARM NAME: US Dept of Interior

RESPONSIBLE PARTY NAME: Columbia Gas Transmission, LLC

COUNTY: Pocahontas DISTRICT: Greenbank

QUADRANGLE: Durbin, WV

SURFACE OWNER: US Dept of Interior

ROYALTY OWNER: US Dept of Interior (storage lease)

UTM GPS NORTHING: 4273157.8 m

UTM GPS EASTING: 605856.7 m GPS ELEVATION: 1012.3 m (3320')

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

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

Survey grade GPS  : Post Processed Differential

Real-Time Differential

Mapping Grade GPS  : Post Processed Differential

Real-Time Differential

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

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

Signature

Senior Engineer  
Title

1/27/15  
Date

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