



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

June 10, 2013

WELL WORK PERMIT

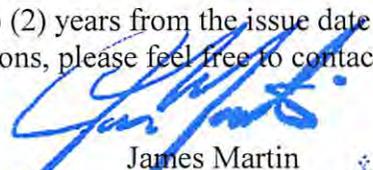
Re-Work

This permit, API Well Number: 47-3502409, 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: RIPLEY 12410
Farm Name: ADAMS, BILLIE & LOCKHART, K
API Well Number: 47-3502409
Permit Type: Re-Work
Date Issued: 06/10/2013

Promoting a healthy environment.

06/14/2013

3502409R

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: Columbia Gas Transmission, LLC
Operator ID: 307032 County: Jackson District: Ripley Quadrangle: Ripley

2) Operator's Well Number: Ripley 12410 (existing well) 3) Elevation: 848

4) Well Type: (a) Oil _____ or Gas _____
(b) If Gas: Production _____ / Underground Storage X
Deep X / Shallow _____

5) Proposed Target Formation(s): Oriskany Proposed Target Depth: 5498 MD (actual)

6) Proposed Total Depth: 5580 MD (actual) Feet Formation at Proposed Total Depth: Oriskany

7) Approximate fresh water strata depths: none reported by driller

8) Approximate salt water depths: none reported by driller

9) Approximate coal seam depths: none reported by driller

10) Approximate void depths,(coal, Karst, other): none reported by driller

11) Does land contain coal seams tributary to active mine? no

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)
Kill. Pull tubing. Install new 4-1/2" casing and cement. Perforate. Fracture stimulate (less than 500 bbls fresh water based viscosified system, nitrogen assist, sand).

James Stewart
5/21/2013

13) **CASING AND TUBING PROGRAM**

	TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor						
Fresh Water	13-3/8	H-40	48	273	273	cmt'd to surface
Coal						
Intermediate	9-5/8			2607	2607	465 sx
Production	7	N-80	23	5416	5416	105 sx
Tubing	2-3/8	J-55	4.6		5396	none
Liners	* 4-1/2	N-80	11.60		5590	300 cu ft

Received
May 15 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

Packers: Kind: none
Sizes: _____

Depths Set * note that casing/tubing listed above is existing except for the 4-1/2" casing

Now
06/14/2013

WW-2B1
(5-12)

Well No. Ripley 12410 (existing well)

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name _____
Sampling Contractor _____

Well Operator Not applicable - existing underground natural gas storage well.
Address _____
Telephone _____

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

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MAY 15 2013
Office of Oil and Gas
WV Dept. of Environmental Protection
06/14/2013

WR-15

DATE:

API #: 47-35-02409 H

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: Adams, Hayward Operator Well No.: Ripley 12410

LOCATION: Elevation: 852.00 Quadrangle: Sandyville

District: Ripley County: Jackson
Latitude: 5160 Feet South of 38 Deg. 52 Min. 30 Sec.
Longitude 7340 Feet West of 81 Deg. 41 Min. 0 Sec.

Company: Columbia Gas Transmission

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
P. O. Box 1273				
Address: Charleston, WV 25325-1273	13-3/8"	48#	283'	250sx neat to surface
	9-5/8"	36#	2604'	365sx lite, 100sx neat to surface
Agent: Richard L. Coty				
Inspector: Homer Dougherty	7"	23#	5437' md	35sx lite, 70sx neat
Date Permit Issued: 04/09/98	2-3/8"	4.7#	5397'	
Date Well Work Commenced: 10/26/98				
Date Well Work Completed: 01/30/99				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 5590md				
Fresh Water Depth (ft): N/A				
Salt Water Depth (ft): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft): N/A				

* See attached for bottom hole location.

OPEN FLOW DATA

Producing formation Oriskany Storage Pay zone depth (ft) 5497'-5590' (MD)
Gas: Initial open flow N/A MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow N/A MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests N/A Hours
Static rock Pressure N/A psig (surface pressure) after N/A Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed:

By: Paul C. Amick Sr. Storage Eng.
Date: May 10, 1999

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WV Dept. of Environmental Protection

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3502409R

WW-2A1
(Rev. 1/11)

Operator's Well Number Ripley 12410 (existing well)

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
May R. Moore	Columbia Gas Transmission, LLC	Storage Lease 52360	83 / 408

Received
Office of Oil & Gas

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:
By: Its:

 6/4/13
 Columbia Gas Transmission, LLC
 James E. Amos, Senior Engineer

06/14/2013

3502409R

WW-9
Rev. 5/10

Page _____ of _____
API Number 47 - 035 - 02409
Operator's Well No. Ripley 12410 (existing well)

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 Left Fork of Sycamore Creek Quadrangle Ripley

Elevation 848 County Jackson District Ripley

Description of anticipated Pit Waste: no earthen pit to be utilized

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

Will a synthetic liner be used in the pit? NA - no pit If so, what mil.? _____

- Proposed Disposal Method For Treated Pit Wastes:
- _____ Land Application
 - X _____ Underground Injection (UIC Permit Number 34-167-2-9395 (WVOG); 34-167-2-3862 (HWR-Nichols well))
 - _____ Reuse (at API Number _____)
 - _____ Off Site Disposal (Supply form WW-9 for disposal location)
 - X _____ Other (Explain additional UIC wells: 34-121-2-3995 (Hunter-Warren well); 34-121-2-4086 (Hunter-Travis well))

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. no drilling planned - kill and frac fluids are water based
-If oil based, what type? Synthetic, petroleum, etc.

Additives to be used? polymer viscosifier, guar, NaCl, KCl, starch, biocide, corrosion inhibitor, pH control

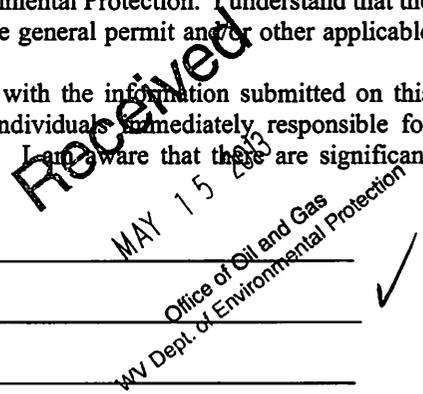
Will closed loop system be used? yes

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A - no drilling planned
-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust
-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature James E Amos
Company Official (Typed Name) James E. Amos
Company Official Title Senior Engineer

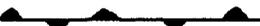


Subscribed and sworn before me this 26th day of April, 2013
Mary Marie Clendenin
My commission expires 3/22/2015



06/14/2013

LEGEND

Property Boundary 

Road 

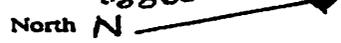
Existing Fence 

Planned Fence 

Stream 

Open Ditch 

Rock 

North 

Buildings 

Water wells 

Drill site 

Diversion 

Spring 

Wet Spot 

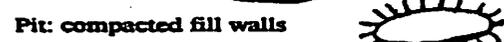
Drain Pipe with size in inches 

Waterway 

Cross Drain 

Artificial Filter Strip 

Pit: cut walls 

Pit: compacted fill walls 

Area for Land Application of Pit Waste 

Proposed Revegetation Treatment: Acres Disturbed < 1 acre Prevegetation pH 6

Lime 2 Tons/acre or to correct to pH 6.5

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

Mulch 2 Tons/acre

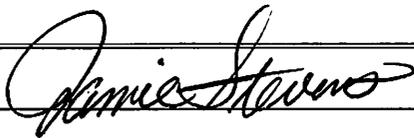
Seed Mixtures

Seed Type	Area I	lbs/acre
Orchard Grass		20
Ledino Clover		10
Annual Rye		20

Seed Type	Area II	lbs/acre
Orchard Grass		20
Ledino Clover		10
Annual Rye		20

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: 

Comments: _____

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 MAY 15 2013
 Office of Oil and Gas
 WW Dept. of Environmental Protection

Title: _____ Date: 5/2/2013

Field Reviewed? Yes No

3502409R

RECLAMATION PLAN 1 of 2 - Overview

- Ripley storage well 12410 (existing well)
- all existing road drains and culverts to be maintained during duration of project
- BMPs to be utilized where applicable
- road material to be applied as needed



Google earth

© 2013 Google
Image USDA Farm Service Agency



feet
meters

Google earth

Received 1/5/2013

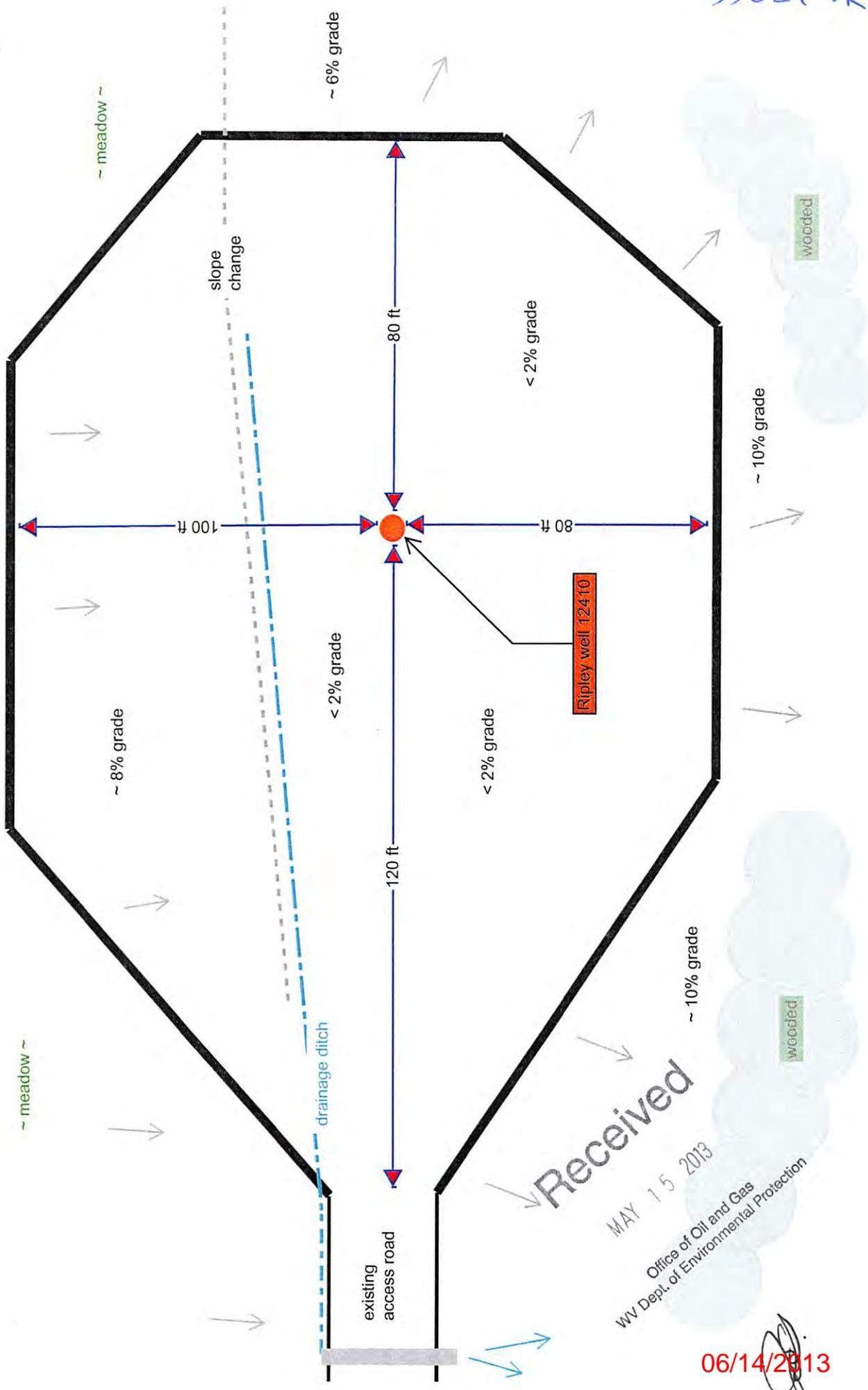
Office of Oil and Gas
NY Dept. of Environmental Conservation

06/14/2013



Reclamation Plan 2 of 2 - well site detail
 Ripley storage well 12410 (existing well)

- minor grading and application of stone to level site
- BMPs to be utilized where applicable per DEP guidelines

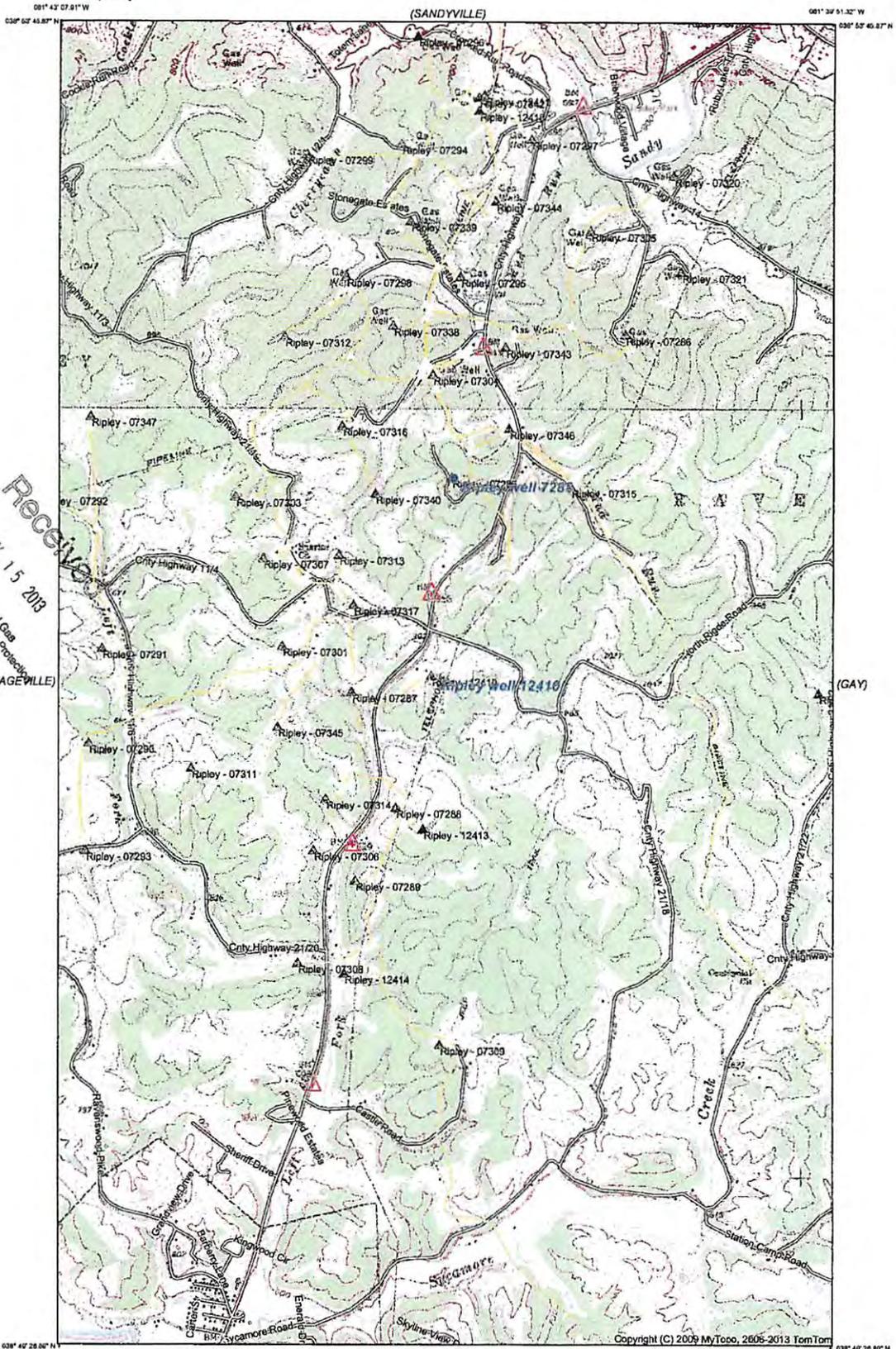


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06/14/2013





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MAY 15 2013
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WV Dept. of Environmental Protection

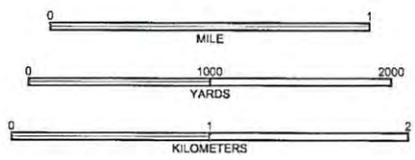
(ELMWOOD)

(KENTUCKY)

Produced by MyTopo Terrain Navigator
Topography based on USGS 1:24,000 Maps
North American 1983 Datum (NAD83)
Polyconic Projection
To place on the predicted North American 1927 move the
projection lines 10M N and 13M E



(KENNA)
SCALE 1:24000

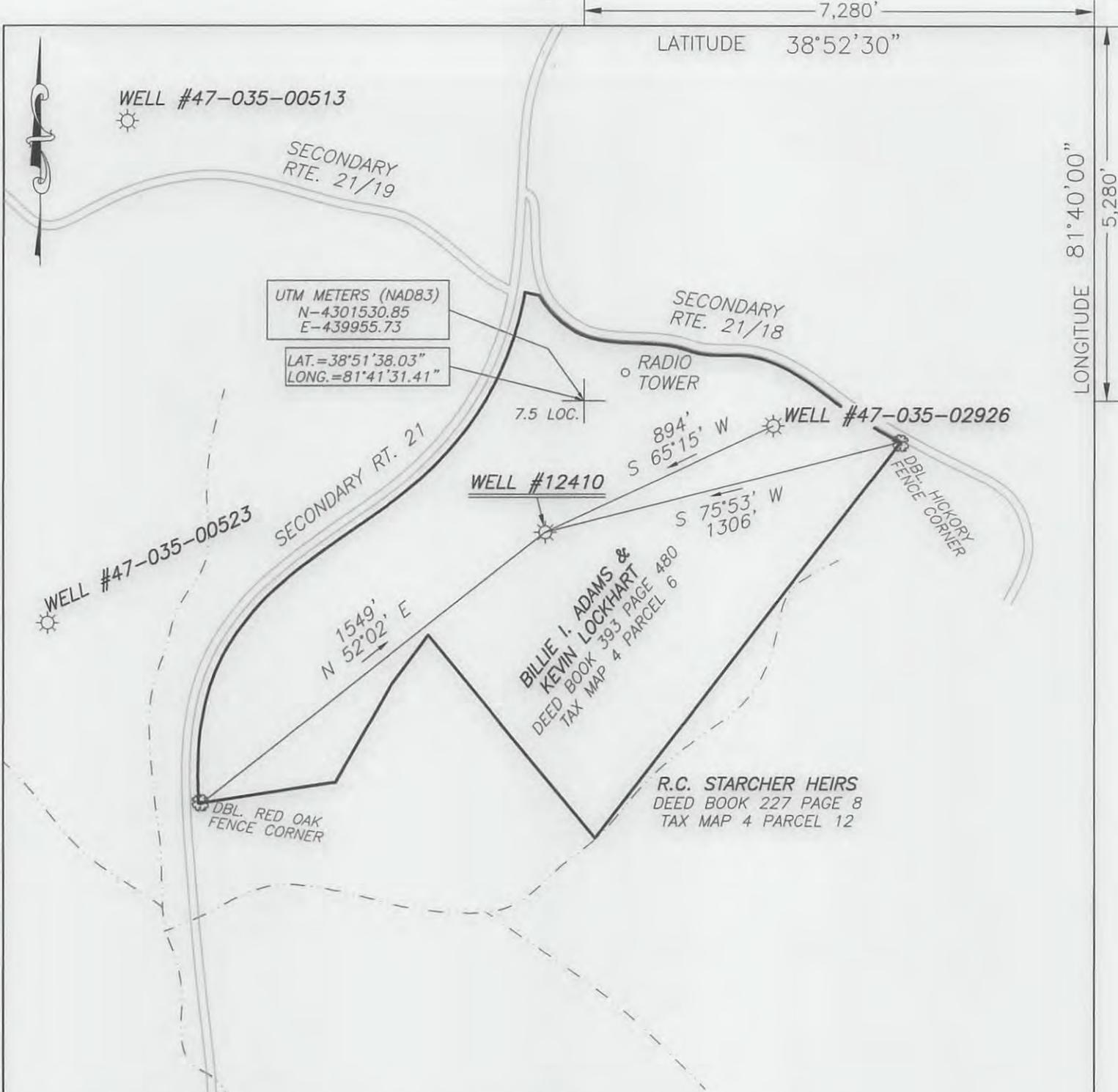


CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

RIPLEY, WV
1960

3502409

06/14/2013

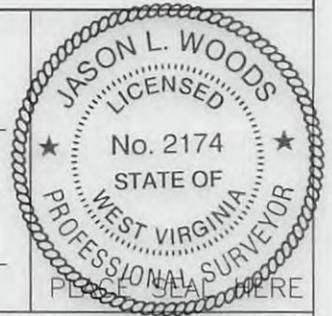


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE No 13-100-014
DRAWING No. 13-100-014
SCALE 1"=500'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION TRIMBLE PRO XH
GPS UNIT

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

(SIGNED) [Signature] 4-18-13
JASON L. WOODS PS #2174



STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
NITRO, WV



DATE APRIL 18 20 13
OPERATOR'S WELL No. 12410
API WELL No.

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 035 PERMIT -02409 R
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 848 WATER SHED LEFT FORK OF SYCAMORE CREEK
DISTRICT RIPLEY COUNTY JACKSON
QUADRANGLE RIPLEY

SURFACE OWNER BILLIE IRENE ADAMS (DOWER) & KEVIN LOCKHART ACREAGE 53.75
OIL & GAS ROYALTY OWNER MAY R. MOORE LEASE ACREAGE 61
LEASE No. 52360

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WORKOVER/FRAC

06/14/2013

PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION ORISKANY ESTIMATED DEPTH 5590
WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT PAUL AMICK
ADDRESS PO BOX 1273, CHARLESTON, WV ADDRESS P.O. BOX 1273, CHARLESTON W.V.
25325-1273 25325-1273

FORM IV-6 (8-78)

VOID

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
May R. Moore	Columbia Gas Transmission, LLC	Storage Lease 52360	83 / 408

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

Received
MAY 15 2013
Office of Oil and Gas
WV Dept. of Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Columbia Gas Transmission, LLC
By: Its: James E. Amos, Senior Engineer

3502409 R

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: COLUMBIA GAS TRANSMISSION CORP.
API 47- 35-02409 H County: JACKSON District: RIPLEY
Farm Name: ADAMS, HAYWARD Well No: Ripley 12410

Discharge Dates/s From: (MMDDYY) 1-29-99 TO: (MMDDYY) 1-29-99
Discharge Times : From 7:30 AM TO 6:00 PM

Disposal Option Utilized: UIC (2): ___ Permit No. _____
Centralized Facility (5): ___ Permit No. _____
Reuse (4): ___ Alternate Permit Number: _____
Offsite Disposal(3): ___ Site Location: _____
Land Application(1): (Include a topographical map of the Area.)
Other method(6): ___ (Include an explanation)

Follow Instructions below to determine your treatment category.

Optional Pretreatment test: 5817 Cl- mg/l 6.0 DO Mg/l

1. Do you have permission to use expedited treatment from the Director or his representative? (Y/N) N If yes who? _____, and place a four (4) on line 7. If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) Y If yes go to line 5 if not go to line 3
3. Do you have a chloride value pretreatment (see above)? (Y/N) ___ If yes go to line 4 if not go to line 5
4. Is that chloride level less than 5000 mg/l? (Y/N) ___ If yes then enter a one (1) on line 7
5. Do you have a pretreatment value for DO? (See above) (Y/N) Y If yes then go to line 6 if not enter a three (3) in line 7.
6. Is that DO greater than 2.5 mg/l? (Y/N) Y If yes then enter a two (2) on line 7 If not enter a three (3) on line 7.
7. 2 is the category of your pit. Use the Appropriate section.

Name of Principle Exec. Officer Paul Anuck
Title of Officer SR. SUPERVISOR
Date Completed: 4-29-99

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments 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 and imprisonment.

Signature of a Principle Exec. Officer or Authorized agent
[Signature]
Signature

Received
MAY 15 2013

Office of Oil and Gas
West Virginia Dept. of Environmental Protection
08/14/2013

3502409R

Category 1
Sampling Results
API NO 47- 35-02409

Parameter	Predischarge		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	.5	_____	.5	_____	mg/l
Cl	5000	_____	5000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Disposal Area		_____	Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results
API NO 47- 35-02409

Parameter	Limit	Predischarge	Limits	Discharge	Units
		Reported		Reported	
pH	6-10	<u>7.5</u>	6-10	<u>7.5</u>	S.U
Settling Time	10	<u>56</u>	N/A	N/A	Days
Fe	6	<u>4.5</u>	6	<u>6.21</u>	mg/l
D.O.	2.5	<u>10.0</u>	2.5	<u>10.0</u>	mg/l
Settleable Sol.	.5	<u>2.1</u>	.5	<u>2.1</u>	mg/l
Cl*	12,500	<u>2908</u>	12500	<u>2320</u>	mg/l
Oil	Trace	<u>None</u>	Trace	<u>None</u>	Obs.
TOC**		_____	Monitor	<u>NA</u>	mg/l
Oil and Grease		_____	Monitor	<u>6.8</u>	mg/l
Al***		_____	Monitor	<u>NA</u>	mg/l
TSS		_____	Monitor	<u>NA</u>	mg/l
Mn	Monitor	<u>1.10</u>	Monitor	<u>1.10</u>	mg/l
Volume		_____	Monitor	<u>125065</u>	Gals.
Flow		_____	Monitor	<u>260</u>	Gals
Disposal Area		_____	Monitor	<u>3.0</u>	Acres

* Can Be 25,000 with inspectors approval,
(Inspector): _____

** Include a description of your aeration technique.

*** Al is only reported if the pH is above 9.0

** Case 3.

Date: _____
Received
MAY 15 2013
Office of Oil and Gas
WV Dept. of Environmental Protection
06/14/2013

Category 3
 Sampling Results
 API NO 47- 35-02409

Parameter	Predischarge		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	.5	_____	.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Grease and Oil		_____	Monitor	_____	mg/l
Disposal Area		_____	Monitor	_____	Acres

* Can Be 25,000 with inspectors approval,
 (Inspector) _____ Date: _____

** Include a description of your aeration technique.

*** Al is only reported if the pH is above 9.0

Category 4
 Sampling Results
 API NO 47- 35-02409

Parameter	Limit	Predischarge		Discharge		Units
		Limit	Reported	Limits	Reported	
pH	6-10	_____	_____	6-10	_____	S.U
Settling Time	1	_____	_____	N/A	N/A	Days
Fe	Monitor	_____	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	_____	Monitor	_____	mg/l
Cl*	12,500	_____	_____	12,500	_____	mg/l
Oil	Trace	_____	_____	Trace	_____	Obs.
TOC		_____	_____	Monitor	_____	mg/l
TSS		_____	_____	Monitor	_____	mg/l
Oil and Grease		_____	_____	Monitor	_____	mg/l
Mn	Monitor	_____	_____	Monitor	_____	mg/l
Volume		_____	_____	Monitor	_____	Gals.
Flow		_____	_____	Monitor	_____	Gals
Activated Carbon	.175	_____	_____	N/A	N/A	lb./bl
Date Site Reclaimed	N/A	_____	N/A	_____	_____	Days from Dis.
Disposal Area		_____	_____	Monitor	_____	Acres

* Can Be 25,000 with inspectors approval,
 (Inspector) _____ Date: _____

Received
 MAY 15 2013
 Office of Oil and Gas
 Department of Natural Resources
 06/14/2013

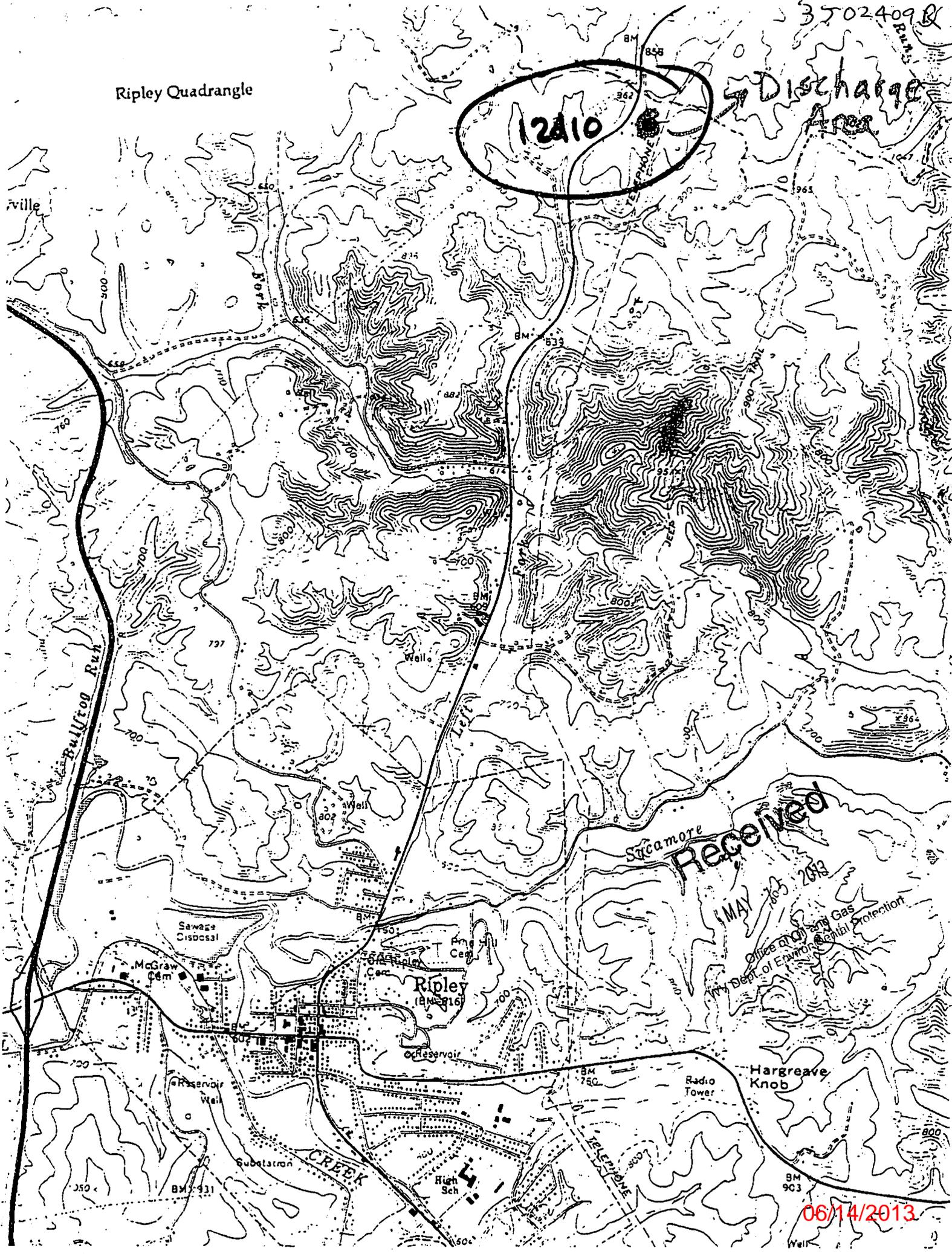
3502409R

Ripley Quadrangle

12410

Discharge Area

ville



Received

MAY 2003

Office of Environmental Protection
U.S. Dept. of Energy

Hargreave Knob

Radio Tower

High Sch

Substation

Reservoir

McGraw Cem

Sewage Disposal

Ripley (MS 16)

06/14/2013

Date: 11-21-98
Time: 00:28:40

3502409R

COLUMBIA GAS TRANSMISSION

RIPLEY #12410
RIPLEY STORAGE FIELD
WARREN RIG #2

GYRO SURVEY
G11219890
ONCOURSE

Survey Reference Point : 200.0
Local Grid Offset : 6.9

Drift Correction Method: Constant Rate from initial to final sighting
Survey Computation Method: Radius of Curvature

Target Direction: 202.00

FINAL DATA (INRUN)

Measured Depth (feet)	Course Inclination	Course Direction	Vertical Depth (feet)	Rectangular Coordinates		Vertical Section	Dogleg Severity (per100)
				N/S	E/W		
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00
100.00	0.19	97.01	100.00	-0.02	0.17	-0.05	0.19
200.00	0.40	6.77	200.00	0.30	0.38	-0.44	0.44
300.00	0.42	354.49	300.00	1.01	0.38	-1.05	0.09
400.00	0.30	15.97	399.99	1.63	0.42	-1.67	0.18
500.00	0.20	118.47	499.99	1.80	0.65	-1.94	0.40
600.00	0.64	155.95	599.99	1.20	1.03	-1.50	0.50
700.00	1.16	146.39	699.98	-0.15	1.82	-0.54	0.53
800.00	1.07	121.21	799.96	-1.49	3.21	0.18	0.49
900.00	1.36	103.25	899.93	-2.29	5.17	0.19	0.48
1000.00	1.63	89.03	999.90	-2.57	7.76	-0.52	0.45
1100.00	1.95	76.96	1099.85	-2.19	10.85	-2.03	0.50
1200.00	1.90	78.93	1199.79	-1.49	14.14	-3.92	0.08
1300.00	2.04	83.62	1299.74	-0.97	17.53	-5.67	0.21
1400.00	2.31	79.99	1399.66	-0.43	21.29	-7.53	0.30
1500.00	1.54	73.39	1499.61	0.34	24.55	-9.51	0.80
1600.00	1.13	47.80	1599.58	1.48	26.56	-11.32	0.71
1700.00	0.52	8.77	1699.57	2.59	27.36	-12.65	0.80
1800.00	0.27	320.70	1799.56	3.22	27.28	-13.29	0.39
1900.00	0.08	55.18	1899.56	3.44	27.19	-13.83	0.29
2000.00	0.61	351.25	1999.56	4.00	27.16	-14.08	0.58
2100.00	0.13	279.82	2099.56	4.55	26.97	-14.32	0.58
2200.00	0.52	26.44	2199.56	4.97	27.00	-14.74	0.57
2300.00	0.14	6.48	2299.55	5.50	27.08	-15.08	0.39
2400.00	0.48	48.75	2399.55	5.90	27.60	-15.81	0.38
2500.00	0.10	244.38	2499.55	6.14	27.84	-16.12	0.57
2600.00	0.37	38.57	2599.55	6.36	27.97	-16.39	0.46
2700.00	0.27	61.57	2699.55	6.73	28.38	-16.87	0.16
2800.00	0.24	260.35	2799.55	6.80	28.39	-16.94	0.50
2900.00	0.35	41.76	2899.55	7.00	28.39	-17.13	0.56
3000.00	0.18	242.39	2999.54	7.16	28.46	-17.39	0.53

Received
MAY 15 2008
Columbia Gas Transmission Corporation

06/14/2013

Measured Depth (feet)	Course Inclination	Course Direction	Vertical Depth (feet)	Rectangular Coordinates N/S E/W		Vertical Section	Dogleg Severity (per100)
3100.00	2.29	140.91	3099.50	5.53	29.58	-16.21	2.33
3200.00	5.15	171.90	3199.28	-0.34	32.14	-11.72	3.40
3300.00	8.08	178.83	3298.61	-11.81	33.07	-1.44	3.03
3400.00	9.73	203.83	3397.40	-26.87	30.06	13.65	4.16
3500.00	14.40	214.78	3495.16	-45.06	19.84	34.35	5.19
3600.00	20.84	215.10	3590.42	-69.87	2.51	63.84	6.44
3700.00	24.84	211.30	3682.56	-102.34	-18.73	101.90	4.27
3800.00	30.56	211.58	3771.06	-141.98	-42.97	147.74	5.71
3900.00	35.81	208.50	3854.72	-189.34	-70.35	201.91	5.52
4000.00	43.27	207.30	3931.78	-245.56	-100.12	265.18	7.50
4100.00	45.96	204.82	4002.96	-308.64	-130.98	335.23	3.20
4200.00	45.43	202.10	4072.81	-374.28	-159.47	406.76	2.02
4300.00	45.63	199.75	4142.87	-440.92	-184.95	478.10	1.69
4400.00	46.24	197.97	4212.42	-508.92	-208.17	549.54	1.42
4500.00	46.17	197.49	4281.63	-577.67	-230.15	621.82	0.36
4600.00	46.86	196.86	4350.46	-646.98	-251.57	694.11	0.83
4700.00	47.57	196.70	4418.38	-717.25	-272.76	767.20	0.73
4800.00	47.30	196.32	4486.02	-787.86	-293.69	840.51	0.40
4900.00	46.99	195.86	4554.04	-858.30	-314.00	913.43	0.46
5000.00	41.14	194.38	4625.87	-925.40	-332.13	982.43	5.94
5100.00	34.47	189.23	4704.83	-985.35	-344.66	1042.71	7.37
5200.00	29.43	186.61	4789.66	-1037.70	-351.95	1093.98	5.23
5300.00	27.93	185.81	4877.39	-1085.40	-357.14	1140.15	1.55
5400.00	28.32	184.12	4965.58	-1132.40	-361.22	1185.26	0.89
5500.00	27.98	186.16	5053.75	-1179.40	-365.45	1230.42	1.02
5575.00	26.07	186.03	5120.56	-1213.20	-369.07	1263.12	2.55

Final Closure - Direction: 196.92 degrees
 - Distance: 1268.10 feet

Received
 MAY 15 2013

06/14/2013