



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

May 15, 2014

WELL WORK PERMIT

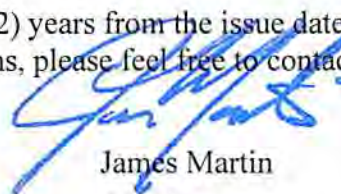
Re-Work

This permit, API Well Number: 47-7700164, 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: 7535 (Terra Alta South 7535)
Farm Name: FLEMING, ANITA

API Well Number: 47-7700164

Permit Type: Re-Work

Date Issued: 05/15/2014

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. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. 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.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.

4707700164

TERRA ALTA SOUTH 7535 – DRIVING DIRECTIONS

In Aurora, WV - US 50 W to CR 53/3 (Donna Jean's restaurant), N on CR 53/3 (Fox Rd), bear left on CR 53 (Aurora Pike), go @1 mile to CR 80 (Manheim Lantz Ridge Rd), left on CR 80, go to church, turn left on Madison Rd (no sign). Follow Madison road to well location on left side of public road.

05/16/2014

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

1) Well Operator: Columbia Gas Transmission, LLC 307032 Preston Union Aurora
Operator ID County District Quadrangle

2) Operator's Well Number: Terra Alta South 7535 (existing well) 3) Elevation: 2607

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

[Handwritten Signature]
4/14/14

5) Proposed Target Formation(s): Oriskany Proposed Target Depth: 6408

6) Proposed Total Depth: 6582 (existing) Feet Formation at Proposed Total Depth: Helderberg

7) Approximate fresh water strata depths: none reported by driller in 1971

8) Approximate salt water depths: none reported by driller in 1971

9) Approximate coal seam depths: none reported by driller in 1971

10) Approximate void depths,(coal, Karst, other): none reported by driller in 1971

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 well. Pull tubing. Obtain casing inspection logs. Install new wellhead. Acid stimulate (if deemed necessary).

* Casing and tubing listed below are existing.

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	13.375	H-40	48.0	29	29	cmt'd to surf with 25 sx
Fresh Water						
Coal						
Intermediate	9.625	K-55	36.0	2584	2584	cmt'd to surf with 740 sx
Production	7.0	K-55/N-80	23.0	6247	6247	220
Tubing	2.325	J-55	4.7		6293	none
Liners						

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Office of Oil and Gas
WV Dept. of Environmental Protection

Packers: Kind: _____
Sizes: _____
Depths Set _____

05/16/2014



4707700164^w

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

Rotary
Spudder
Cable Tools
Storage

Quadrangle Kingwood

Permit No. Pres. 164

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company Columbia Gas Transmission Corporation
Address P. O. Box 1067, Elkins, West Virginia
Farm Robert P. Wiles Acres 150
Location (waters) Madison Run
Well No. X-76-S 7535 Elev. 2604
District Union County Preston
The surface of tract is owned in fee by _____
Address _____
Mineral rights are owned by _____
Address _____
Drilling commenced September 26, 1971
Drilling completed October 11, 1971
Date Shot _____ From _____ To _____

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size	Ground	Level	Kind of Packer
16			
13 3/8"	29'	29'	
10			Size of
8 5/8"	2584'	2584'	
7"	6247'	6247'	Depth set
5 3/16			
4 1/2			
3			Perf. top (See
2 3/8"	6571'	6571'	Perf. bottom Reverse
Liners Used			Perf. top Side)
			Perf. bottom

Open Flow 12 /10ths Water in 2 Inch
/10ths Merc. in _____ Inch
Volume 146 M Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED (DETAILS) (See Reverse Side)
WELL FRACTURED (DETAILS)

Attach copy of cementing record.
CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
Amount of cement used (bags) (See Reverse Side) _____
Name of Service Co. Dowell
COAL WAS ENCOUNTERED AT None FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 7.2 M
ROCK PRESSURE AFTER TREATMENT 2285# HOURS 1
Fresh Water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Oriskany and Chert Depth _____

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Tully			5757'	5794'	Measured	from K.B.	
Shale			5794'	6230'			
Onondaga			6230'	6255'			
Chert			6255'	6391'	Gas		
Shale			6391'	6408'			
Oriskany			6408'	6541'			
Helderberg			6541'		Gas		
Total	Depth			6582'			

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WV Dept. of Environmental Protection

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Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
NOTE:							
13 3/8"	48#/ft.,	K-40 casing	cemented to surface with	25 sacks cement plus 2% CaCl			September 26, 1971. 29' ground level, 46' kelly bushing.
9 5/8"	36#/ft.,	K-55, casing	cemented to surface with	740 sacks of Kolite plus 2% CaCl.			October 3, 1971. Casing Set at 2584' ground level, 2601' kelly bushing, 2580' threads off, 2599' threads on.
7"	23#/ft.,	K-55, plus 13 joints of 23#/ft., N-80,	Seal-lok casing cemented in 1000' with 220 cu. ft. of Dowells RFC cement plus kolite,				October 8, 1971. Gel drilling mud to surface with 1 drum Baroids B-33. Casing set at 6247' ground level, 6261' kelly bushing, 6247' threads off, 6300' threads on.
2 3/8"	4.6#/ft.,	J-55, Seal-lok tubing run to total depth, (1) Baker Model "J" ported seating nipple, (1) Baker BFC Model "L" sliding sleeve. Sliding sleeve is 425' off bottom.					October 11, 1971. 6571' ground level, 6581' kelly bushing, 6566' threads off, 6615' threads on.
Perforations:							
Chert and Oriskany open hole							
Logging:							
Gamma Ray- Collar log and temperature (5600' - 6586') October 11, 1971							
Stimulation:							
<u>October 19, 1971</u>							
2150# rock pressure, unloaded. Added 5 gallons of soap plus 25 barrels of fresh water and unloaded. After 1 hour well gauged "21/10" water in 2" or 176 M.							
<u>October 26, 1971</u>							
2150# rock pressure. Halliburton treated well using 1000 gallons 20% HCL acid, 800 barrels of fresh water, 40 BPM, 2800# average pressure, plus N ₂ .							
<u>October 27, 1971</u>							
"94/10" mercury in 4", 6.003 M wet.							
<u>October 29, 1971</u>							
Final open flow, 2285# rock pressure, 7.2 M, mist.							

Received
 APR 9 2014
 Office of Oil and Gas
 WY Dept. of Environmental Protection

05/16/2014

Date January 20, 19 72

APPROVED Columbia Gas Transmission Corporation, Owner

By [Signature]
 Production and Storage Superintendent

1.) Date: 3/31/14
2.) Operator's Well Number Terra Alta South 7535
State County Permit
3.) API Well No.: 47- 077 - 00164

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

4) Surface Owner(s) to be served:
(a) Name Anita Wiles Fleming
Address 789 Kermit Pl
Morgantown, WV 26505
(b) Name
Address
(c) Name
Address
6) Inspector John Shockey
Address 1550 Cost Ave Apt 31
Stonewood, WV 26301
Telephone 304-380-2773

5) (a) Coal Operator
Name not operated
Address
(b) Coal Owner(s) with Declaration
Name not operated
Address
(c) Coal Lessee with Declaration
Name
Address

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas
OR

Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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.

Well Operator Columbia Gas Transmission, LLC
By: James E. Amos
Its: Senior Engineer
Address 1700 MacCorkle Ave. SE
Charleston, WV 25325-1273
Telephone 304-373-2412

Subscribed and sworn before me this 31st day of March

Mary Marie Clendenin
My Commission Expires 3/22/2015
Oil and Gas Privacy Notice



4707700164W

7009 2250 0002 3101 6396

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

MORGANTOWN WV 26505
OFFICIAL USE

Postage	\$ 1.61	0271
Certified Fee	\$3.30	03
Return Receipt Fee (Endorsement Required)	\$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 7.61	04/07/2014

Sent To Anita Wiles Fleming

Street, Apt. No.,
or PO Box No. 789 Kermit PL

City, State, ZIP+4 Morgantown, WV 26505

PS Form 3800, August 2006 See Reverse for Instructions

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Office of Oil and Gas
WV Dept. of Environmental Protection

05/16/2014

**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
Robert P. Wiles, et al	Columbia Gas Transmission, LLC	Storage Lease 1091115	408 / 389-391

**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

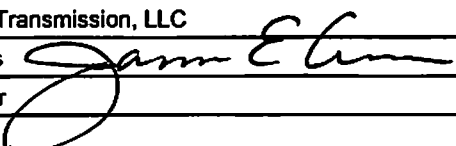
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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired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

Office of Oil and Gas
WV Dept. of Environmental Protection

Well Operator:
By: Its:

Columbia Gas Transmission, LLC
 James E. Amos 
 Senior Engineer

05/16/2014

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 Madison Run Quadrangle Aurora

Elevation 2607 County Preston District Union

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. If so, what mil.? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 34-155-2-3794, 34-155-2-3795, 34-119-2-8776)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Enviro-Tank Clean treatment facility, Belpre, OH)

[Handwritten Signature]
4/4/14

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. freshwater based

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

Additives to be used? polymer viscosifier, 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. landfill

-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust

-Landfill or offsite name/permit number? Enviro-Tank Clean (Belpre, OH)

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.

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Company Official Signature *James E. Amos*

Company Official (Typed Name) James E. Amos

APR 9 2014

Company Official Title Senior Engineer

Office of Oil and Gas
WV Dept. of Environmental Protection

Subscribed and sworn before me this 3/1st day of March, 20 14

Mary Marie Clendenin

Notary Public



OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
MARY MARIE CLENDENIN
COLUMBIA GAS TRANSMISSION CORPORATION
RR 2 BOX 138
SANDYVILLE, WV 25275
My commission expires March 22, 2015

My commission expires 3/22/2015

05/15/2014

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 < 0.5 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	Seed Type	Area II	lbs/acre
Orchard Grass		20	Orchard Grass		20
Ledino Clover		10	Ledino Clover		10
Annual Rye		20	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: [Signature]

Comments: Seed mixture may be modified at landowners request

Received

Seed & mulch as soon as possible.

APR 9 2014

Title: Inspector

Date: 4/4/14

Office of Oil and Gas
WV Dept. of Environmental Protection

Field Reviewed? () Yes () No

A707700164W



Google earth



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WV DEP Reclamation Plan

Existing Terra Alta South storage well 7535

- minor grading
- surface material (ie. stone) to be utilized as needed for equipment stability
- Best Management Practices to be utilized per WV DEP

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Office of Oil and Gas
WV Dept. of Environmental Protection

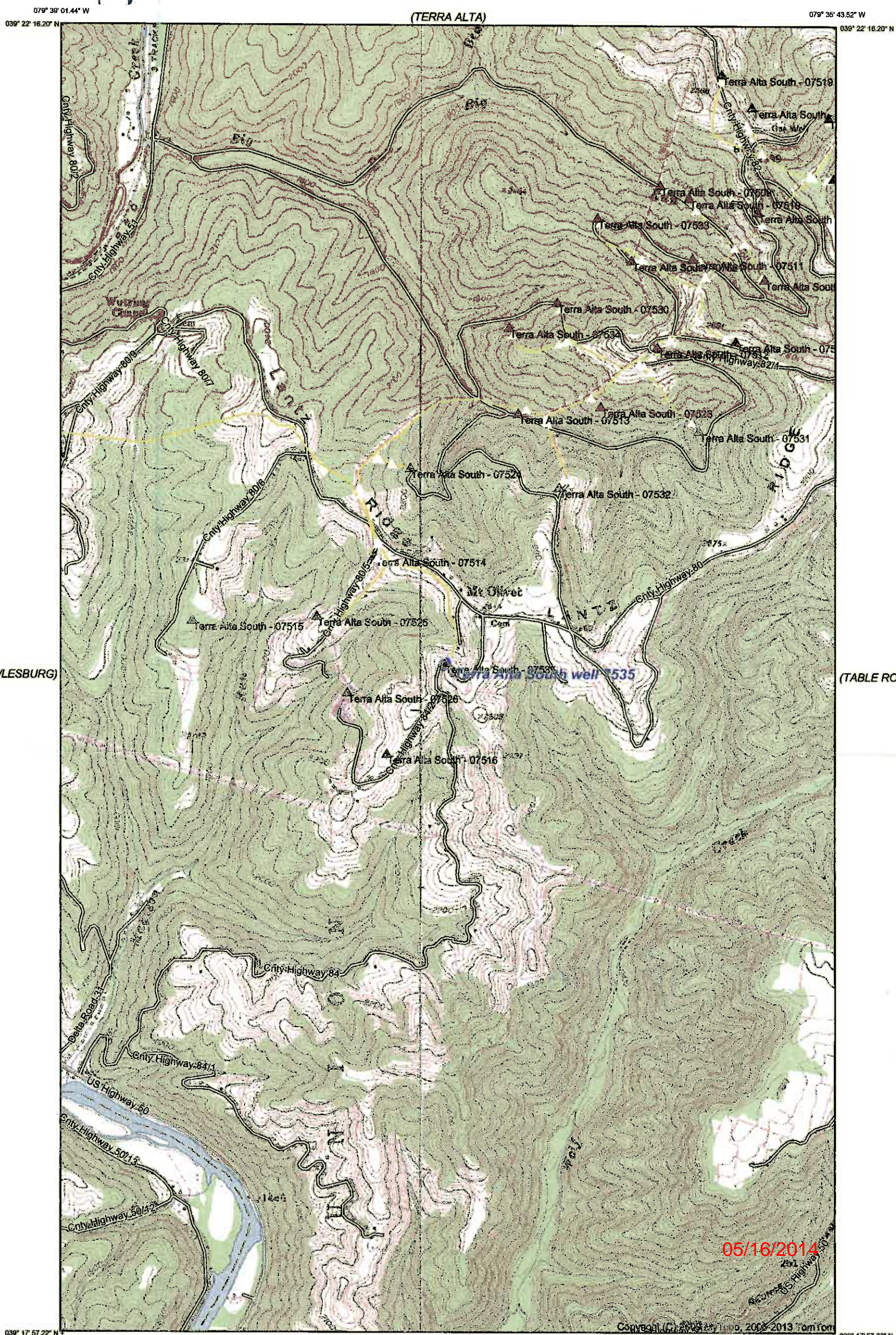
05/16/2014

(KINGWOOD)



AURORA QUADRANGLE
WEST VIRGINIA
TOPOGRAPHIC SERIES

(OAKLAND)



(ROWLESBURG)

(TABLE ROCK)

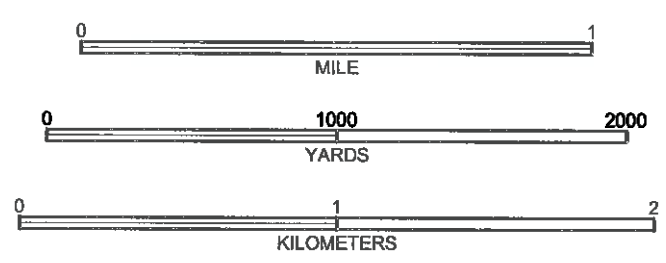
(ST GEORGE)

(DAVIS)

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 12M N and 19M E



(LEAD MINE)
SCALE 1:24000

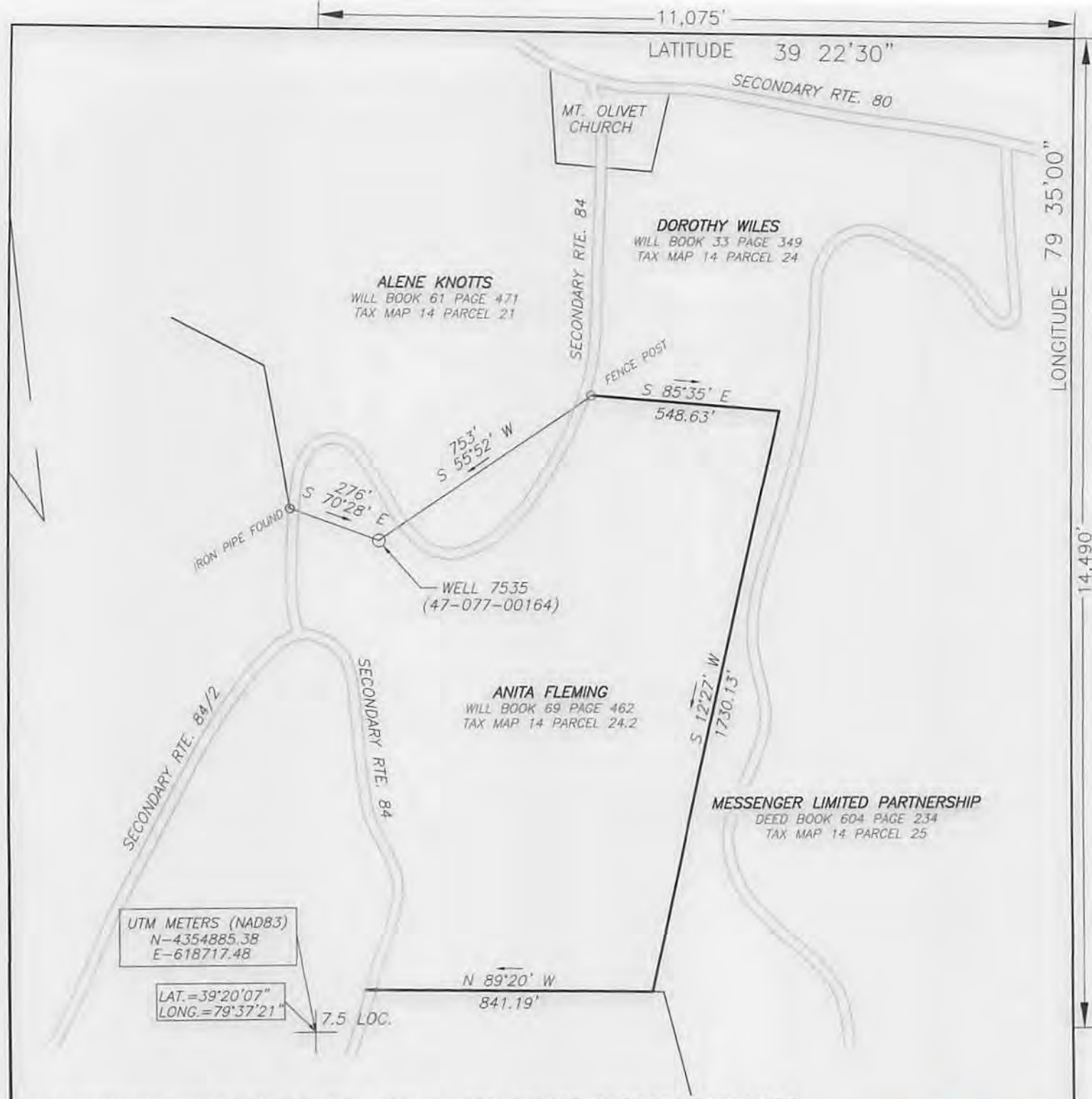


AURORA, WV
1959

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

05/16/2014

Copyright © 2008 by MyTopo, 2008-2013 TomTom
Printed: Mon Jan 07, 2013



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

FILE No 14-100-005
 DRAWING No. 14-100-005
 SCALE 1"=400'
 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]
 RICHARD J. PRINE PS #851



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

DATE MARCH 28 20 14
 OPERATOR'S WELL No. 7535
 API WELL No. 47 077 - 00164

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 077 PERMIT 00164
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 2607 WATER SHED MADISON RUN
 DISTRICT UNION COUNTY PRESTON
 QUADRANGLE AURORA

SURFACE OWNER ANITA FLEMING ACREAGE 36.84
 OIL & GAS ROYALTY OWNER ROBERT P. WILES, et al LEASE ACREAGE 150
 LEASE No. 1091115

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

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION ORISKANY ESTIMATED DEPTH 6582'
 WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT PAUL AMICK
 ADDRESS PO BOX 1273, CHARLESTON, WV 25325-1273 ADDRESS P.O. BOX 1273, CHARLESTON W.V. 25325-1273

FORM IV-6 (8-78)

05/16/2014