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 17, 2016

WELL WORK PERMIT

Re-Work

This permit, API Well Number: 47-7700097, 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: 7504
Farm Name: BOWMAN, MARGAUX & MEAG]
API Well Number: 47-7700097
Permit Type: Re-Work
Date Issued: 05/17/2016

Promoting a healthy environment.

7700097W

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 with 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.

8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

7700097W Ck# 5120058 $600.00

WW - 2B
(Rev. 8/10)

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	Terra Alta, WV
Operator ID	County	District	Quadrangle

2) Operator's Well Number: Terra Alta S 7504 3) Elevation: 2195.7 ft

4) Well Type: (a) Oil_____ or Gas X

(b) If Gas: Production ____ / Underground Storage X

Deep X / Shallow _____

5) Proposed Target Formation(s): Chert & Oriskany Proposed Target Depth: 5394 & 5553
6) Proposed Total Depth: 5694 (existing) Feet Formation at Proposed Total Depth: Helderberg
7) Approximate fresh water strata depths: none reported by driller in 1962
8) Approximate salt water depths: none reported by driller in 1962

9) Approximate coal seam depths: none reported by driller in 1962

10) Approximate void depths,(coal, Karst, other): none reported by driller in 1962

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)
Log. Perform coiled tubing clean-out. Acid stimulate.

13) **CASING AND TUBING PROGRAM** * existing tubulars

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	11.75		47	62	62	17 sx
Fresh Water	8.625	J-55	24	545	545	140 sx
Coal						
Intermediate						
Production	5.5	J-55	15.5	5405	5405	75 sx
Tubing						
Liners						

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Packers: Kind: _____
Sizes: _____
Depths Set _____

7700097W

WW-2B1
(5-12)

Well No. Terra Alta South 7504

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 * not applicable - existing underground natural gas storage well
Sampling Contractor

Well Operator
Address

Telephone

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Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

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.

7700097 W

SUPPLEMENT TO WV DEP WW-2B PERMIT APPLICATION
Terra Alta South 7504 (API 077-00097)

12) Proposed Acid Treatment

- 5000 – 10,000 gals HCl acid
- 20% nitrogen assist
- 200 - 300 bbls fresh water

7700097W

Map Square 172-129

orm OG-10

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

WELL RECORD
"Drill Deeper"

Rotary [X]
Spudder [ ]
Cable Tools [ ]
Storage [X]

Quadrangle Kingwood

Permit No. Pres. - 97 D.D.

Oil or Gas Well Gas (KIND)

Company Atlantic Seaboard Corporation
Address P. O. Box 1273, Charleston, W. Va. 25325
Farm May M. Wolfe, et.al. Acres 184
Location (waters) Wolfe Run
Well No. X-76-S-7504 Elev. 2206.93
District Union County Preston
The surface of tract is owned in fee by Helen Wolfe Bowman Address Kingwood, W. Va.
Mineral rights are owned by Helen Wolfe Bowman Address Kingwood, W. Va.
Drilling commenced March 10, 1970
Drilling completed March 18, 1970
Date 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 (DETAILS) .....

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
13			
~~10~~ 11 3/4"	62'	62'	Size of
~~8 1/4~~ 8 5/8"	532'	532'	
6⅝			Depth set
~~5 1/16~~ 5 1/2"	5405'	5405'	
4½			
3			Perf. top
~~2~~ 2 3/8"	5678'	5678'	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

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

WELL FRACTURED (DETAILS) .....
RESULT AFTER TREATMENT (Initial open Flow or bbls.) .....
ROCK PRESSURE AFTER TREATMENT ..... HOURS .....
Fresh Water ..... Feet ..... Salt Water ..... Feet .....
Producing Sand ..... Depth .....

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APR 10 2010

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Chert			5394'				
Original Total Depth				5437'			
Chert			5394'	5543'			
Shale			5543'	5553'			
Oriskany			5553'	5685'			
Helderberg			5685'				
Total Depth				5694'			

(over)

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks

NOTE:

2 3/8" 4.6#/ft., J-55 Seal-lok tubing, run to T.D. (1) Baker Model "J" ported seating nipple, (1) Baker BFC Model "L" sliding sleeve. Sliding sleeve is 420' off bottom. May 19, 1970.

Stimulation:

Pumped fresh water to kill well in order to run tubing. May 18, 1970.

Logging:

Cement bond log: (5439' - 4500'), November 19, 20, 1970.

Date December 17, 1970

APPROVED Atlantic Seaboard Corp, Owner

By [signature] Supt
(Title)

APR 1 6 2010
WV Department of
Environmental Protection

7700097W

State of West Virginia

Department of Mines
Oil and Gas Division
Charleston 5

March 6, 1970

Atlantic Seaboard Corporation
P. O. Box 1273
Charleston, West Virginia 25325

In Re: Permit No. PRES-97-DD
Farm May M. Wolfe, etal.
Well No. (A-9137) X-76S-7504
District Union
County Preston

Gentlemen:

Enclosed is the permit for drilling deeperthe above described well.

Please post the permit at the well site and send two copies of the well record to this office, within 90 days, when the well has been completed.

Very truly yours,

Deputy Director
Oil and Gas Division

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Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

RLD/ch
Enclosures:

cc: West Virginia Geological & Economic Survey

cc-Paul Thomas, Box 12, Buckhannon, W.Va. 26201 PH: 472-6418

Form OG-10

7504

7700097W

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Quadrangle Kingwood

Permit No. Pres.-97

Oil or Gas Well Gas (KIND)

Company Atlantic Seaboard Corporation
Address P. O. Box 1273, Charleston 25, W. Va.
Farm May M. Wolfe, et. al. Acres 289
Location (waters) Wolf Run of Salt Lick Creek
Well No. A-9137 Elev. 2206.93
District Union County Preston
The surface of tract is owned in fee by May M. Wolfe, et.al.
Address
Mineral rights are owned by May M. Wolfe, et. al.
Address
Drilling commenced 3-10-62
Drilling completed 4-3-62
Date Shot From To
With
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume 30 #/sq. inch in 4" ID 16,363,776 Cu. Ft.
Rock Pressure 1597.2 lbs. 48 hrs.
Oil bbls., 1st 24 hrs.
WELL ACIDIZED -
WELL FRACTURED -

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
13			
10 11-3/4"	62'	62'	Size of
8 8-5/8"	532'	532'	
6⅝			Depth set
5 5½"	5405'	5405'	
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED SIZE No. Ft. Date

COAL WAS ENCOUNTERED AT FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES

RESULT AFTER TREATMENT -
ROCK PRESSURE AFTER TREATMENT -
Fresh Water None Feet Salt Water None Feet

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Office of Oil and Gas
APR 18 2016

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Siltstone & Shale			0	4541			
Tully			4541	4555			
Shale			4555	5372			
Onondaga Lime			5372	5394			
Chert			5394				
Total Depth			5437				

(over)

77 000977

WW-2A
(Rev. 6-14)

1). Date: 3/25/2016

2.) Operator's Well Number Terra Alta S 7504

3.) API Well No.: State 47- County 077 - Permit 00097

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 Margaux Johnson
Address 500 Dorsey Ave Apt 1
Morgantown, WV 26501
(b) Name Megan Thompson
Address 500 Dorsey Ave Apt 1
Morgantown, WV 26501
(c) Name John Bowman
Address 500 Dorsey Ave Apt 1
Morgantown, WV 26501

6) Inspector Gayne Knitowski
Address PO Box 108
Gormania, WV 26720
Telephone 304-546-8171

5) (a) Coal Operator
Name not operated
Address

(b) Coal Owner(s) with Declaration
Name
Address

Name
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

x 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)
X 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.

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Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

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
Email: jamos@cpg.com

Subscribed and sworn before me this 15th day of April, 2016

Mary Marie Clendenin Notary Public

My Commission Expires 3/22/2020

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

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov

7700097W

WW-2A1
(Rev. 1/11)

Operator's Well Number Terra Alta South 7504

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
Helen Wolfe Bowman, et con	Columbia Gas Transmission, LLC	Storage lease 1090501-000	405 / 321

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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APR 18 2016
WV Department 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 Well Service Engineer

7700097 W

WW-9
(2/15)

API Number 47 - 077 - 00097
Operator's Well No. Terra Alta South 7504

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Columbia Gas Transmission, LLC OP Code 307032

Watershed (HUC 10) Wolf Run of Saltlick Creek Quadrangle Terra Alta, WV

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

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- ____ Land Application
- ■ Underground Injection (UIC Permit Number 34-105-23619, 34-121-22459, 34-059-20965, 34-119-28776)
- ____ Reuse (at API Number _____)
- ____ Off Site Disposal (Supply form WW-9 for disposal location)
- ■ Other (Explain Rumpke Beech Hollow Landfill, Wellston, OH

Will closed loop system be used? If so, describe: yes - steel lines to steel portable tank

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

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

Additives to be used in drilling medium? N/A

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

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

-Landfill or offsite name/permit number? _____

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

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

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

Company Official Signature James E Amos

Company Official (Typed Name) James E. Amos

Company Official Title Senior Well Services Engineer

Subscribed and sworn before me this 15t day of April, 20 16

Mary Marie Clendenin Notary Public

My commission expires 3/22/2020

NOTARY PUBLIC OFFICIAL SEAL
MARY MARIE CLENDENIN
State of West Virginia
My Comm. Expires Mar 22, 2020
Columbia Pipeline Group
48 Columbia Gas Road Sandyville, WV 2527

7700097W

Form WW-9

Operator's Well No. Terra Alta South 7504

Columbia Gas Transmission, LLC

Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH 5 - 6

Lime 2 Tons/acre or to correct to pH 6 - 7

Fertilizer type 10-10-10

Fertilizer amount 600 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass and/or Tall Fescue	29	(if Tall Fescue is used, plant endophyte-free certified seed)	
Birdsfoot Trefoil (Empire)	9	(legumes to be inoculated by manufacturer's recommendation)	
Annual Rye	12		

* seed rate must be doubled for broadcast seeding

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gary J Kinton

Comments: Reclaim any disturbed areas ASAP

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APR 18 2016
WV Department of
Environmental Protection

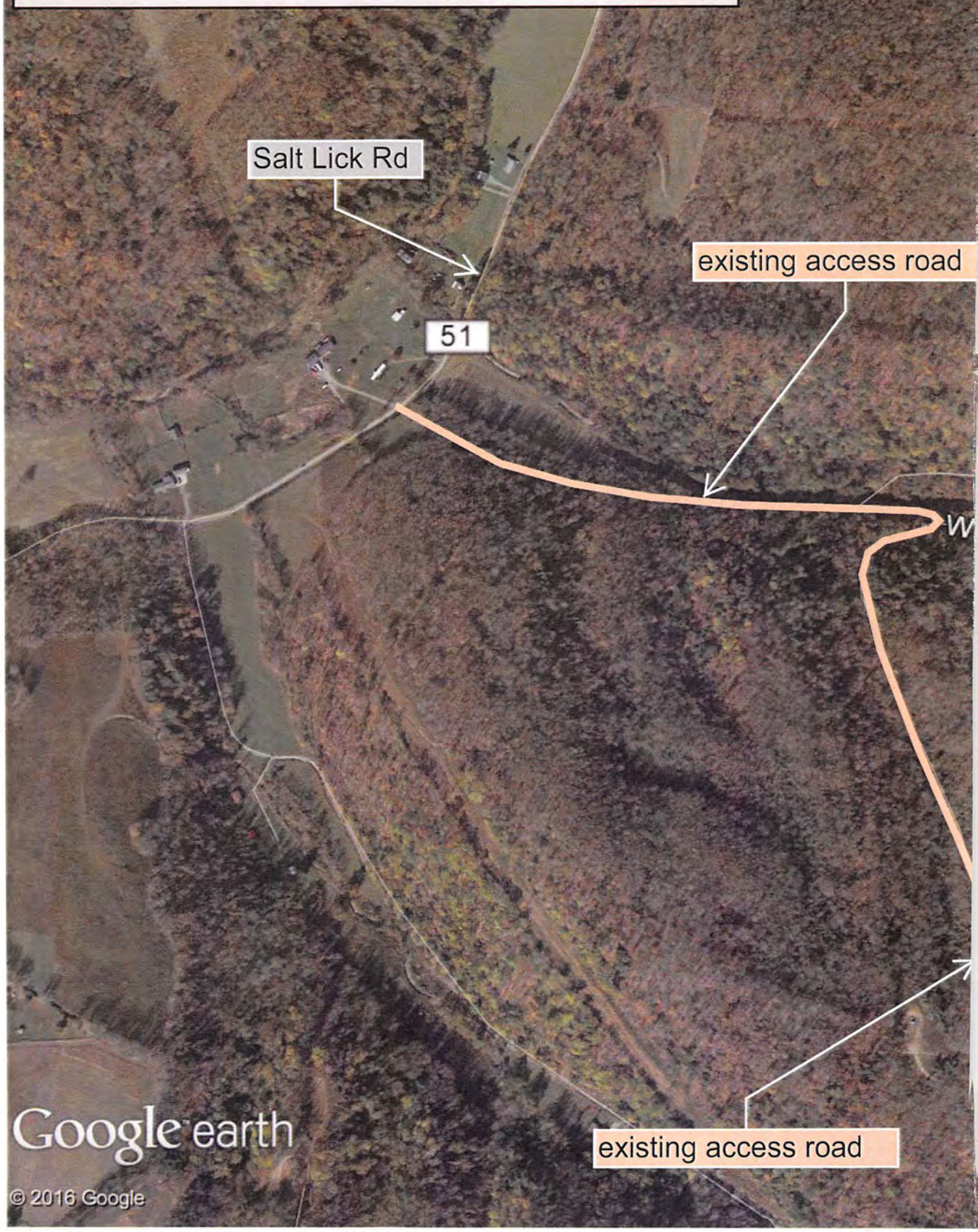
Title: Inspector Date: 4/11/2016

Field Reviewed? (X) Yes ( ) No

Terra Alta South well 7504

WV DEP Reclamation Plan 1 of 2 - Access Road Detail

- BMPs to be utilized per WV DEP guidelines
- Existing drainage, culverts, and road ditches to be maintained
- Minor grading and road surfacing material to be applied as needed



7700097W

Legend
Terra Alta South - 07504
olfe Run Rd
existing well site
Terra Alta South - 07504
N
2000 ft

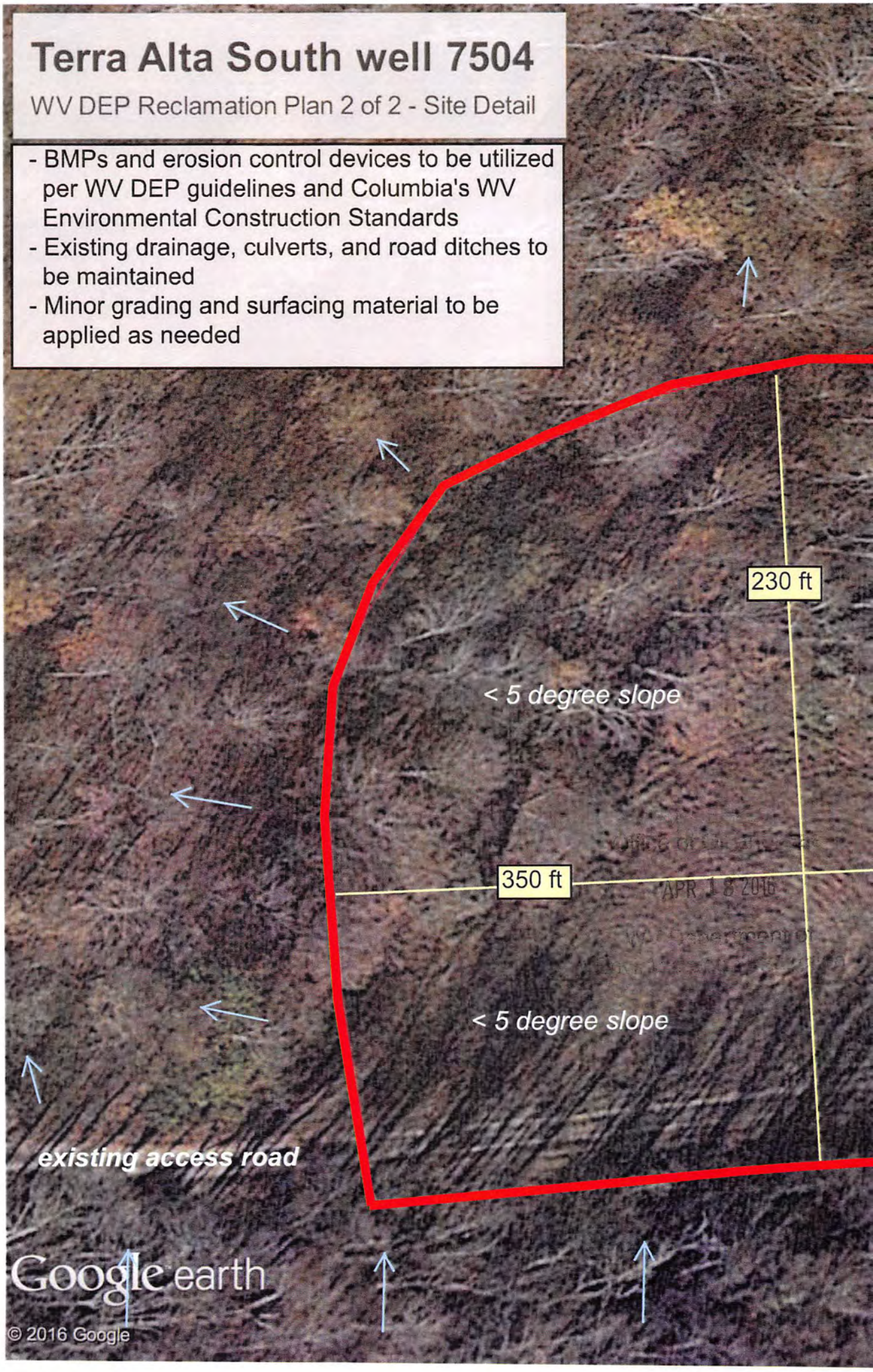
77000097W

Legend
Terra Alta South - 07504
Limit of Proposed Disturbance on existing well site
< 5 degree slope
< 5 degree slope
Terra Alta South - 07504
N
100 ft

Terra Alta South well 7504

WV DEP Reclamation Plan 2 of 2 - Site Detail

- BMPs and erosion control devices to be utilized per WV DEP guidelines and Columbia's WV Environmental Construction Standards
- Existing drainage, culverts, and road ditches to be maintained
- Minor grading and surfacing material to be applied as needed



7700007

TERRA ALTA QUADRANGLE
WEST VIRGINIA
TOPOGRAPHIC SERIES

(VALLEY POINT) (SANG RUN)

079° 36' 54.83" W 079° 33' 49.54" W

039° 24' 42.08" N 039° 24' 42.08" N

(CUZZART)

079° 36' 00.00" W 079° 35' 00.00" W 079° 34' 00.00" W

039° 24' 00.00" N 039° 24' 00.00" N

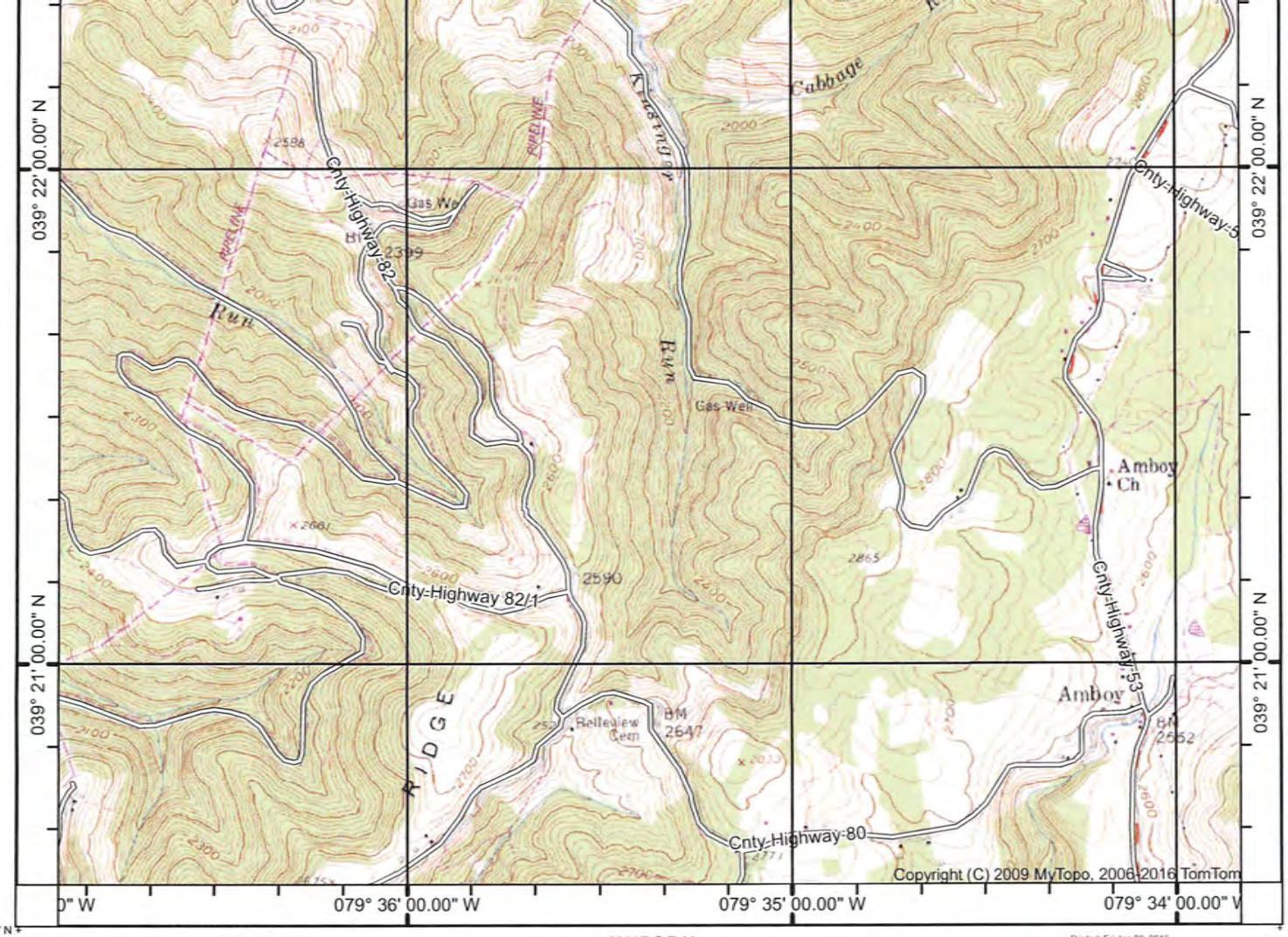
039° 23' 00.00" N 039° 23' 00.00" N

(KINGWOOD) (OAKLAND)

Terra Alta 7420

Terra Alta South 7504

Cnty Highway 86/2
Run
Cnty Highway 51/3
Cnty Highway 51/4
Gas Well
Gas Wells
Cnty Highway 51/6
Creek
Cnty Highway 106/1
Cnty Highway 106
Wesley Chapel
Cem
Cnty Highway 51/8
Buckhick
Road
Saltlick
U N I
Wolf Run
Cnty Highway 51
Cnty Highway 51/9
Grove Ch
Cnty Highway 51/2
Kinsinger Run
Cnty Highway 53/2



039° 20' 32.96" N
079° 36' 54.83" W

Printed: Fri Jan 08, 2016

039° 20' 32.96" N
079° 33' 49.54" W

(ROWLESBURG)

(AURORA)

(TABLE ROCK)

SCALE 1:24000

Declination

MN GN

GN 0.89° E
MN 9.33° W

0 1
MILE

0 1000 2000
YARDS

0 1 2
KILOMETERS

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

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

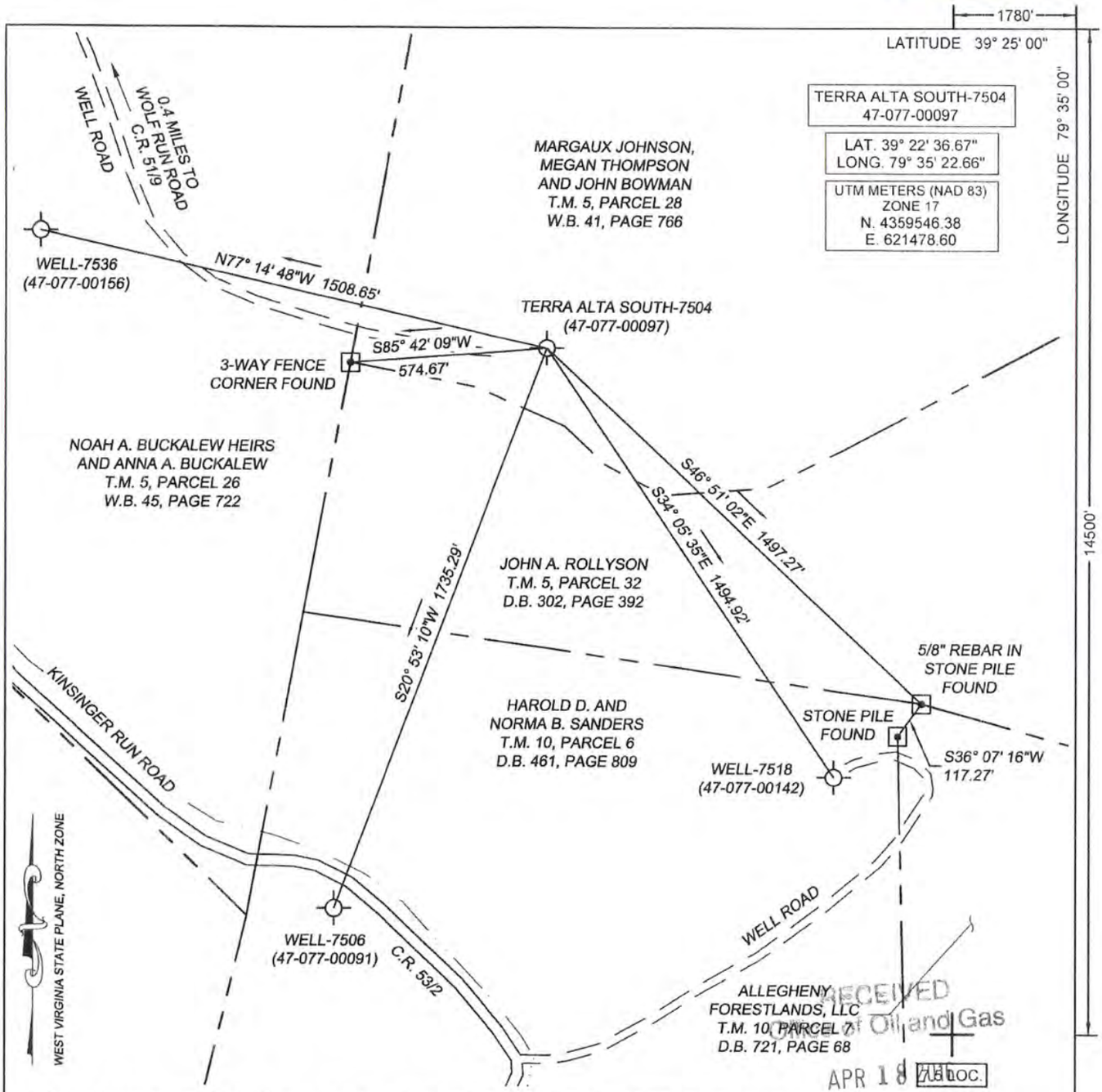
North American 1983 Datum (NAD83)
Lambert Conformal Conic Projection

To place on the predicted North American 1927 move the projection lines 11M N and 19M E

RECEIVED
Office of Oil and Gas
APR 18 2016
WV Department of
Environmental Protection

TERRA ALTA, WV
2000

7700097W



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

FILE No. 1601-2345-001-007
DWG No. TERRA ALTA SOUTH-7504
SCALE 1"=400'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION TRIMBLE R8-3 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) _____
ROBERT F. THAW PS #965

PLACE SEAL HERE

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

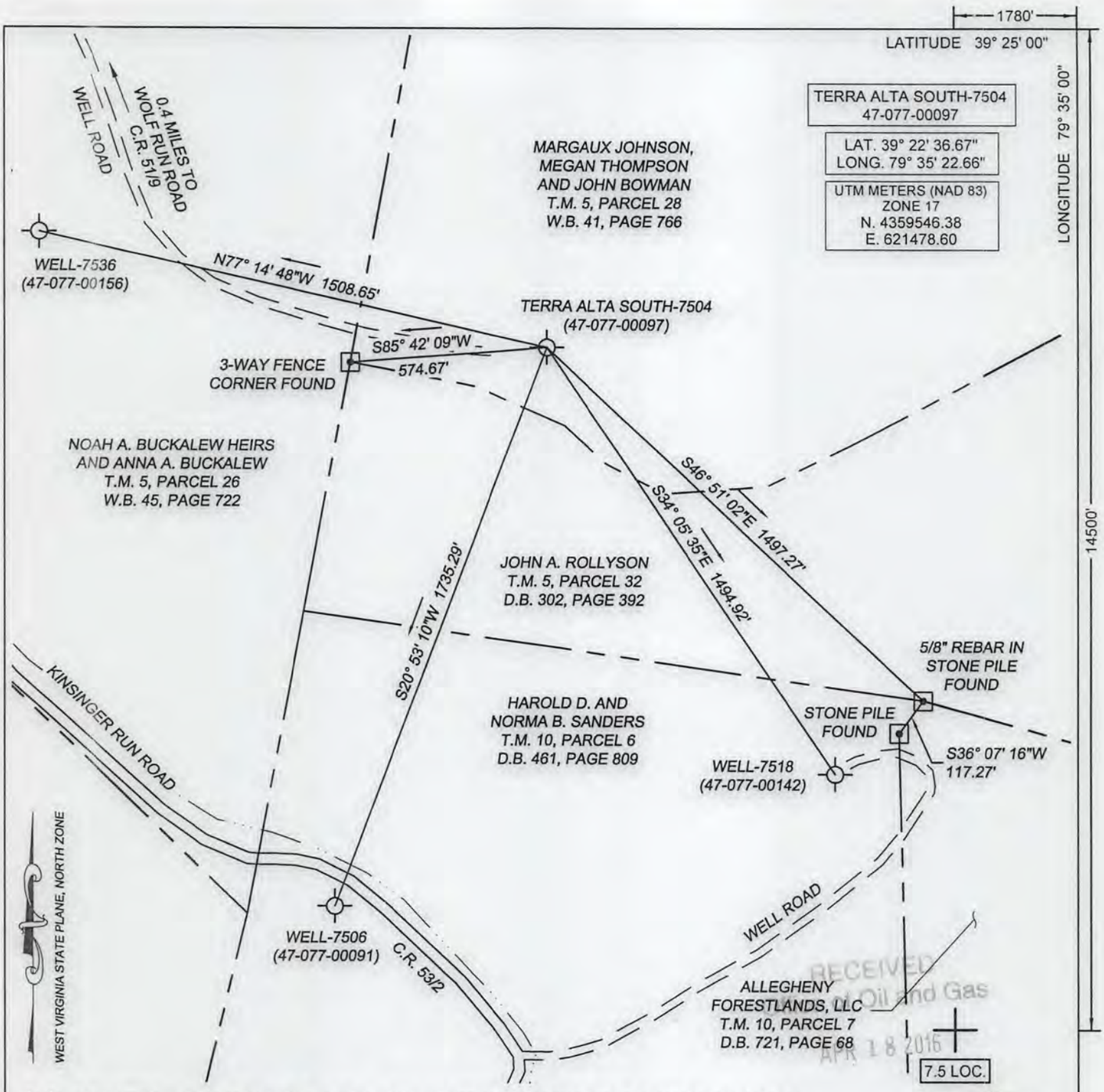
DATE MARCH 14 2016
OPERATOR'S WELL No. 7504
API WELL No.
47 — 077 — 00097W
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION ___ STORAGE X DEEP X SHALLOW ___
LOCATION: ELEVATION 2195.7' WATER SHED WOLF RUN OF SALTLICK CREEK
DISTRICT UNION COUNTY PRESTON
QUADRANGLE TERRA ALTA, WV
SURFACE OWNER MARGAUX JOHNSON, MEGAN THOMPSON AND JOHN BOWMAN ACREAGE 183.6+/-
OIL & GAS ROYALTY OWNER HELEN WOLFE BOWMAN, ET CON LEASE ACREAGE 184
LEASE No. 1090501-000
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION CHERT AND ORISKANY ESTIMATED DEPTH 5694
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)

P:\2016\1601-2345-001-007-COLUMBIA-TERRA ALTA SOUTH-7504\50-SURVEY\DWG\TERRA ALTA SOUTH-7504-WELL-PLAT.DWG



RECEIVED
Office of Oil and Gas
APR 18 2016

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(SIGNED) _____
ROBERT F. THAW PS #965

ROBERT F. THAW LICENSED No. 965 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

PLACE SEAL HERE

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

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WV Department of Environmental Protection