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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)

May 13, 2016

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-8503982, issued to EQT PRODUCTION COMPANY, 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: 4686  
Farm Name: TAYLOR  
**API Well Number: 47-8503982**  
**Permit Type: Plugging**  
Date Issued: 05/13/2016

**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.

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### 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.

8503982A

Form WW-4 (B)  
Permit Copy  
(Rev 2/01)

Date: April 12, 2016  
Operator's Well  
Well No. 604686 (E. R. Taylor #9 4686)  
API Well No.: 47 085 - 03982

OK# 20495  
500.00

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil  Gas  Liquid Injection  Waste Disposal:   
If Gas, Production  Or Underground storage  Deep  Shallow

5) Elevation: 936 ft. Watershed: Long Run  
Location: Clay 81 County: Ritchie Quadrangle: Pennsboro 7.5' 539  
District:

6) Well Operator EQT Production Company  
120 Professional Place  
Address: Bridgeport, WV 26330

7) Designated Agent: Rex C. Ray  
Address: 120 Professional Place  
Bridgeport, WV 26330

8) Oil & Gas Michael Goff  
Name: P. O. Box 134  
Address: Pullman, WV 26421

9) Plugging Contractor:  
Name: HydroCarbon Well Service  
Address: PO BOX 995  
Buckhannon, WV 26201

10) Work Order: The work order for the manner of plugging this well is as follows:  
**See Attachment for details and procedures.**

OK  
9/11/14

OFFICE USE ONLY

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

Work order approved by inspector \_\_\_\_\_

Date Received

Office of Oil & Gas

APR 18 2016

## PLUGGING PROGNOSIS

E.R.Taylor #4686  
 604686  
 District, Clay  
 Ritchie, WV  
 API # 47-085-03982  
 BY: R. Green  
 DATE: 2/10/16

**CURRENT STATUS:**

TD @ 1955'  
 Elevation @ not surveyed yet.

6 5/8" casing @ 1439'  
 5 3/16" casing @ 1804'  
 3" tubing @ 1955' (Set on 3" X 5 3/16" packer @ 1830')

Freshwater, @ None Reported  
 Saltwater @ 1420'  
 Gas shows @ 1935' 1940'  
 Oil shows @ none reported  
 Coal @ 555'

1. Notify state inspector, Michael Goff, 304-549-9823, 24 hrs. prior to commencing operations.
2. RIH wireline, check TD and find packer, try to release packer and TOO 3" tubing, if unable to release packer, RIH wireline, cut 3" tubing off at top of packer, establish circulation, set 300' C1A cement plug 1830' to 1530'. WOC 8hrs, Tag TOC, add additional C1A cement if necessary. Gel hole to next plug, TOO 3" tubing.
3. Free point 5 3/16" casing, cut casing at free point, TOO casing.
4. Set 100' C1A cement plug 50' in/out of casing cut, perforate all fresh water, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
5. Gel hole from casing cut plug to 1550'.
6. TOO 3" tubing to 1550' set 200' C1A cement, 1550' to 1350' (6 5/8" casing seat). TOO 3" tubing.
7. TIH wireline, perforate 6 5/8" casing with 3 holes each @ 1300', 1200', 1100'.
8. TIH 3" tubing to 1350', set 400' C1A cement plug, 1350' to 950', (1<sup>st</sup> Salt Sand). TOO 3" tubing.
9. Free point 6 5/8" casing, cut casing at free point, TOO casing. Set 100' C1A cement plug 50' in/out of casing cut. Perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs. Gel hole to next plug.
10. \* Note if unable to cut and pull 6 5/8" casing, TIH wireline and perforate 6 5/8" casing with 3 holes each @ 850', 650', 450', 250' 150'. TIH 3" tubing to 850', set 850' C1A cement plug, 850' to surface.
11. TOO 3" tubing to 500', set 500' C1A cement plug 500' to surface.
12. Erect monument with API#, date plugged, company name, and company 6 digit ID #.
13. Reclaim location, road to WV-DEP specifications.

GEL HOLE w/ 6% GEL BETWEEN CEMENT PLUGS.

Received  
 Office of Oil & Gas

APR 18 2016



604686

8503982P

47-085-03982

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

WELL RECORD

Permit No. \_\_\_\_\_ Oil or Gas Well "GAS"  
(KIND)

Company Pittsburgh & West Va Gas Company.  
Address Clarksburg, West Va.  
Farm E. R. Taylor Acres \_\_\_\_\_  
Location (waters) West Union S/W. 3-4  
Well No. 4686 Elev. \_\_\_\_\_  
District Clay County Ritchie  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_  
Mineral rights are owned by \_\_\_\_\_  
Address \_\_\_\_\_  
Drilling commenced October 24, 1918  
Drilling completed November 20, 1918  
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.  
Fresh water \_\_\_\_\_ feet \_\_\_\_\_ feet  
Salt water \_\_\_\_\_ feet \_\_\_\_\_ feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
18			
10	341'	None	Size of
8 3/4	1040'	None	
6 3/4	1439'	1439'	Depth set
5 3/16	1804'	1804'	
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
COAL WAS ENCOUNTERED AT 555 FEET 12 INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Lime	White	Hard	0	40			
Slate	"	Soft	40	100			
Red Rock	Red	"	100	165			
Sand	White	Hard	165	200			
Red Rock	Soft		200	300			
Lime	White	Hard	300	340			
Slate	Blue	Soft	340	405			
Lime	"	Hard	405	430			
Slate	"	Soft	430	545			
Sand	"	Soft	545	555			
Coal	Black	"	555	556			
Lime	Dark	Hard	556	576			
Slate	White	Soft	576	650			
Red Rock	Red	Hard&Soft	650	810			
Lime	White	Hard	810	850			
Slate	Black	Soft	850	880			
Red Rock	Red	"	880	930			
Lime	White	Hard	930	955			
Slate	Black	Soft	955	985			
Red Rock	Red	"	985	1000			
Lime	White	Hard	1000	1050			
Slate	Black	Soft	1050	1125			
Lime	White	Hard	1125	1150			
Slate&Shells	Light&Hard	S.&H.	1150	1270			
1st.Salt Sand	White	Hard	1270	1335			
Slate	Dark	Soft	1335	1400			
2nd.Salt Sand	White	Hard	1400	1460	Water	1420'	Hole full.
Slate	Black	Soft	1460	1465			
Lime	White	Hard	1465	1520			
3rd.Salt Sand	"	"	1520	1550			
Lime	Dark	"	1550	1678			
Slate	"	Soft	1678	1685			
Maxon Sand	White	Hard	1685	1725			
Slate	Black	Soft	1725	1750			
Little Lime	Dark	Hard	1750	1773			
Pencil Cave	"	Soft	1773	1780			
Big Lime	White	Hard	1780	1845			
Big Injun	"	"	1845		Gas	1935-1937'	
Total depth				1955	Gas	1940-1948'	

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Office of Oil & Gas  
APR 18 2016



604686

8503982P

# Operating Department

Pittsburgh, Pa.,  
November 29th, 1918.

Mr. John Gates, Jr.,

Land Agent.

Dear Sir:-

Well No. 4686, E. R. Taylor farm, Clay District, Ritchie County, W. Va., was completed on November 20th, 1918, at a total depth of 1955 feet in Big Injun Sand, and same is productive of gas.

Pittsburgh Coal 586 feet.

Sands as follows:-

	<u>Top</u>	<u>Bottom</u>	
Maxon	1686	1725	
Big Lime	1780	1845	
Big Injun	1845		Gas at 1935-1937 1940-1952

Well tubed and packed with 1955 feet of 3" Tubing, and 1 5-3/16 x 3" Anchor Packer. 125 feet of tubing below packer.

Pressure in 3" as follows:-

(Calculated Volume 595,000 Cu.Ft.)

1/2 minute	- - - - -	32 lbs.	
1 "	- - - - -	60 "	
2 "	- - - - -	82 "	
3 "	- - - - -	102 "	
4 "	- - - - -	130 "	
5 "	- - - - -	150 "	
10 "	- - - - -	270 "	
Rock	- - - - -	450 "	- 20 Hours

Yours truly,

PITTSBURGH & WEST VA. GAS CO.

Asst. General Superintendent.

MCS-B

Received  
Office of Oil & Gas

APR 18 2016

1) Date: April 12, 2016  
2) Operator's Well Number  
604686 (E. R. Taylor #9 4686)  
3) API Well No.: 47 085 - 03982  
State County Permit

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT  
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS  
NOTICE AND APPLICATION TO PLUG AND ABANDON WELL**

4) Surface Owner(s) to be served:

(a) Name Richard Barnard Hall ✓  
Address 225 Spring Run Road  
Pennsboro, WV 26415

(b) Name \_\_\_\_\_  
Address \_\_\_\_\_

(c) Name \_\_\_\_\_  
Address \_\_\_\_\_

5) (a) Coal Operator:  
Name None  
Address \_\_\_\_\_

(b) Coal Owner(s) with Declaration  
Name None  
Address \_\_\_\_\_

(c) Coal Lessee with Declaration  
Name None  
Address \_\_\_\_\_

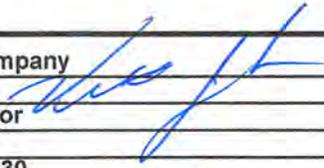
6) Inspector Michael Goff  
Address P. O. Box 134  
Pullman, WV 26421  
Telephone (304) 549-9823

**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.

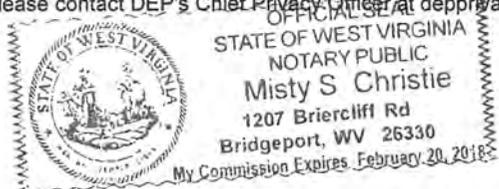
The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

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 Division 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: EQT Production Company  
By: Victoria J. Roark   
Its: Permitting Supervisor  
Address: PO Box 280  
Bridgeport, WV 26330  
Telephone: (304) 848-0076

Subscribed and sworn before me this 14th day of April, 2016  
Misty S. Christie Notary Public  
My Commission Expires: 2/20/18

The Office of Oil & 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).



Office of Oil & Gas

APR 18 2016

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS**  
**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM**  
**GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name: EQT PRODUCTION COMPANY OP ID: \_\_\_\_\_  
Watershed: Long Run Quadrangle: Pennsboro 7.5'  
Elevation: 936 ft. County: Ritchie District: Clay

Description of anticipated Pit Waste: Formation Fluids

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes\_\_\_ No X  
Will synthetic liner be used in the pit? Yes Is so, what ml.? 20 10-ml

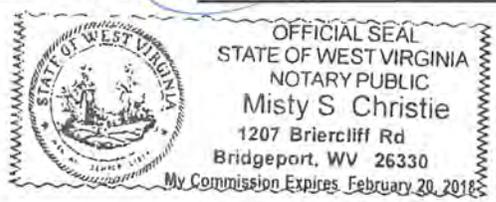
Proposed Disposal Method for Treated Pit Wastes:  
 Land Application  
 Underground Injection - UIC Permit Number \_\_\_\_\_  
 Reuse (at API Number) - Various \_\_\_\_\_  
 Offsite Disposal Permit #. See attached. \_\_\_\_\_  
 Other: Explain \_\_\_\_\_

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. \_\_\_\_\_  
If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_  
Additives to be used? \_\_\_\_\_

Will closed loop system be used? \_\_\_\_\_  
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. \_\_\_\_\_  
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 Division of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any terms 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 *Victoria Roark*  
Company Official (Typed or Printed) Victoria Roark  
Company Official Title Permitting Supervisor-WV  
Subscribed and sworn before me this 2nd day of May, 2016  
*Misty S. Christie* Notary Public  
My Commission Expires 2/20/18





**EQT Production Water plan**  
**Offsite disposals**

**Waste Management - Meadowfill Landfill**

Rt. 2, Box 68 Dawson Drive  
Bridgeport, WV 26330  
304-326-6027  
Permit #SWF-1032-98  
Approval #100785WV

**Waste Management - Northwestern Landfill**

512 E. Dry Road  
Parkersburg, WV 26104  
304-428-0602  
Permit #SWF-1025 WV-0109400  
Approval #100833WV

8503982P

Topo Quad: Pennsboro 7.5'

Scale: 1" = 2000'

County: Ritchie

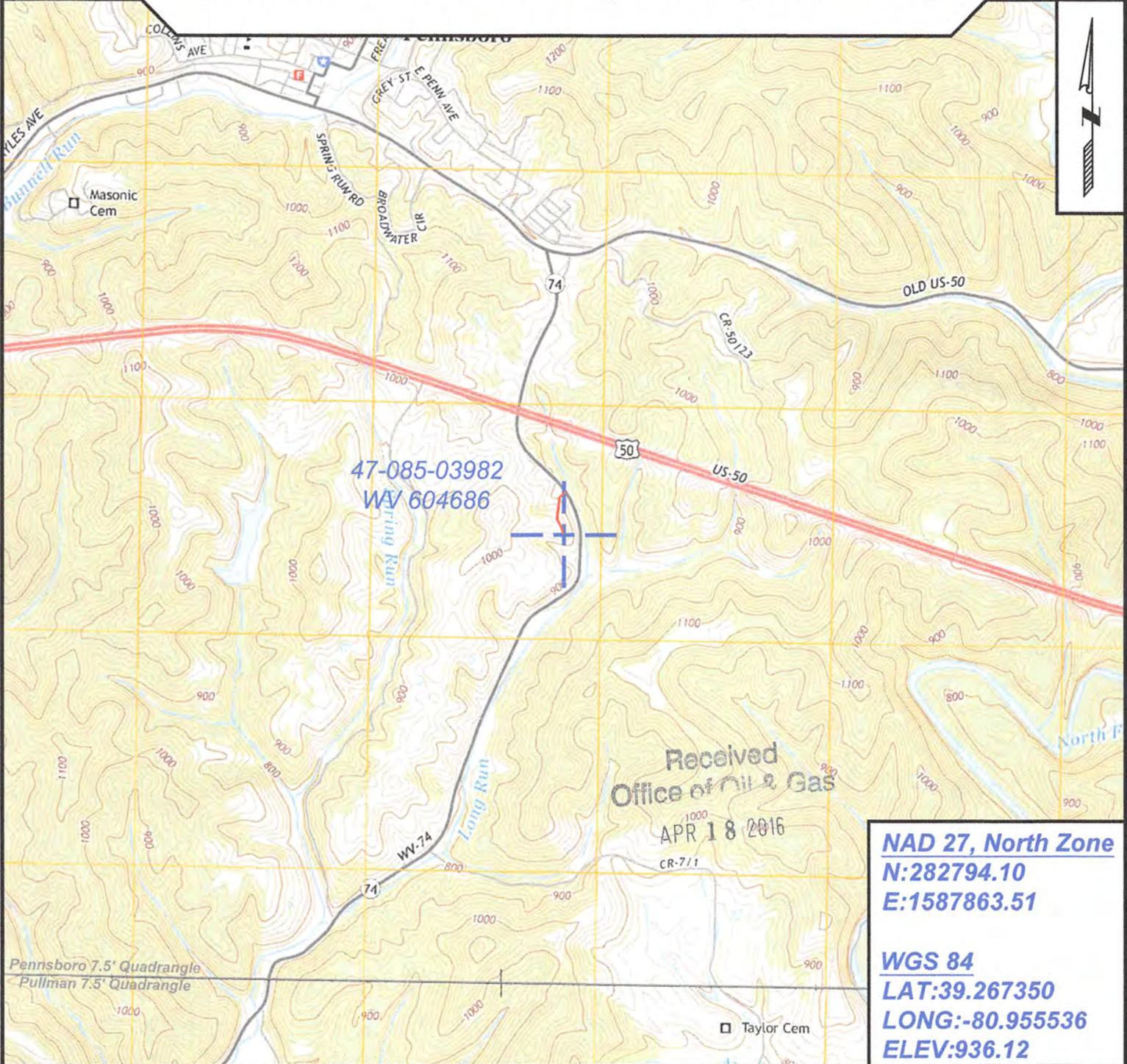
Date: February 26, 2016

District: Clay

Project No: 68-38-00-08

# 47-085-03982 WV 604686 (E. R. Taylor #9 4686)

Topo



**NAD 27, North Zone**  
**N:282794.10**  
**E:1587863.51**

**WGS 84**  
**LAT:39.267350**  
**LONG:-80.955536**  
**ELEV:936.12**

47-085-03982  
 WV 604686

Received  
 Office of Oil & Gas  
 APR 18 2016  
 CR-7/1



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:  
**EQT Production Company**  
 P.O. Box 280  
 Bridgeport, WV 26330

WW-7  
8-30-06



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

API: 47-085-03982 WELL NO.: WV 604686 (E. R. Taylor #9 4686)

FARM NAME: Taylor

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Ritchie DISTRICT: Clay

QUADRANGLE: Pennsboro 7.5'

SURFACE OWNER: Richard Hall Bernard

ROYALTY OWNER: Helen Simonton, et al.

UTM GPS NORTHING: 4346446

UTM GPS EASTING: 503836 GPS ELEVATION: 285 m (936 ft)

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:  
Survey grade GPS     : Post Processed Differential       
Real-Time Differential       
Mapping Grade GPS X: Post Processed Differential X  
Real-Time Differential
- 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.

Received  
Office of Oil & Gas

*Steve Olson*  
Signature

PS #2180  
Title

3/3/16  
Date

APR 18 2016



## POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY  
 LEASE NAME AND WELL No. E. R. Taylor #9 4686 - WV 604686 - API No. 47-085-03982

### POTENTIAL SAMPLE LOCATIONS

Site: 1 Spacing: 850 +/- Owner: Stephen Walker  
 Address: 69 South Ridge Drive, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
 Comments: Water well

Site: 2 Spacing: 753 +/- Owner: Dan Meeks  
 Address: 21 Woodland Drive, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
 Comments: \_\_\_\_\_

Site: 3 Spacing: 695 +/- Owner: Neil Jackson  
 Address: 72 Woodland Drive, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
 Comments: \_\_\_\_\_

Site: 4 Spacing: 560 +/- Owner: Barbra Devericks  
 Address: 54 South Ridge Drive, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
 Comments: \_\_\_\_\_

Site: 5 Spacing: 444 +/- Owner: Marilyn Cottrill  
 Address: 13428 Pullman Road, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
 Comments: \_\_\_\_\_

Site: 6 Spacing: 368 +/- Owner: Kevin Minor and Jennifer Nutter  
 Address: PO Box 125, 13423 Pullman Road, Pullman, WV 26421 Phone No. \_\_\_\_\_  
 Comments: House currently for sale and unoccupied

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Office of Oil & Gas

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**BIRCH RIVER OFFICE**  
 237 Birch River Road  
 Birch River, WV 26610  
 phone: 304-649-8606  
 fax: 304-649-8608

**BRIDGEPORT OFFICE**  
 172 Thompson Drive  
 Bridgeport, WV 26330  
 phone: 304-848-5035  
 fax: 304-848-5037

**ALUM CREEK OFFICE**  
 P.O. Box 108 • 1413 Childress Rd  
 Alum Creek, WV 25003  
 phone: 304-756-2949  
 fax: 304-756-2948

**MARTINSBURG OFFICE**  
 25 Lights Addition Drive  
 Martinsburg, WV 25404  
 phone: 304-901-2162  
 fax: 304-901-2182

Site: 7 Spacing: 510 +/- Owner: Ken Harms  
Address: 13368 Pullman Road, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
Comments: \_\_\_\_\_

Site: 8 Spacing: 964 +/- Owner: William Collins  
Address: 13276 Pullman Road, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
Comments: \_\_\_\_\_

Site: 9 Spacing: 560 +/- Owner: Jody Devericks  
Address: 13129 Pullman Road, Pennsboro, WV 26415 Phone No. \_\_\_\_\_  
Comments: \_\_\_\_\_

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Topo Quad: Pennsboro 7.5'

Scale: 1" = 2000' 8503982P

County: Ritchie

Date: February 26, 2016

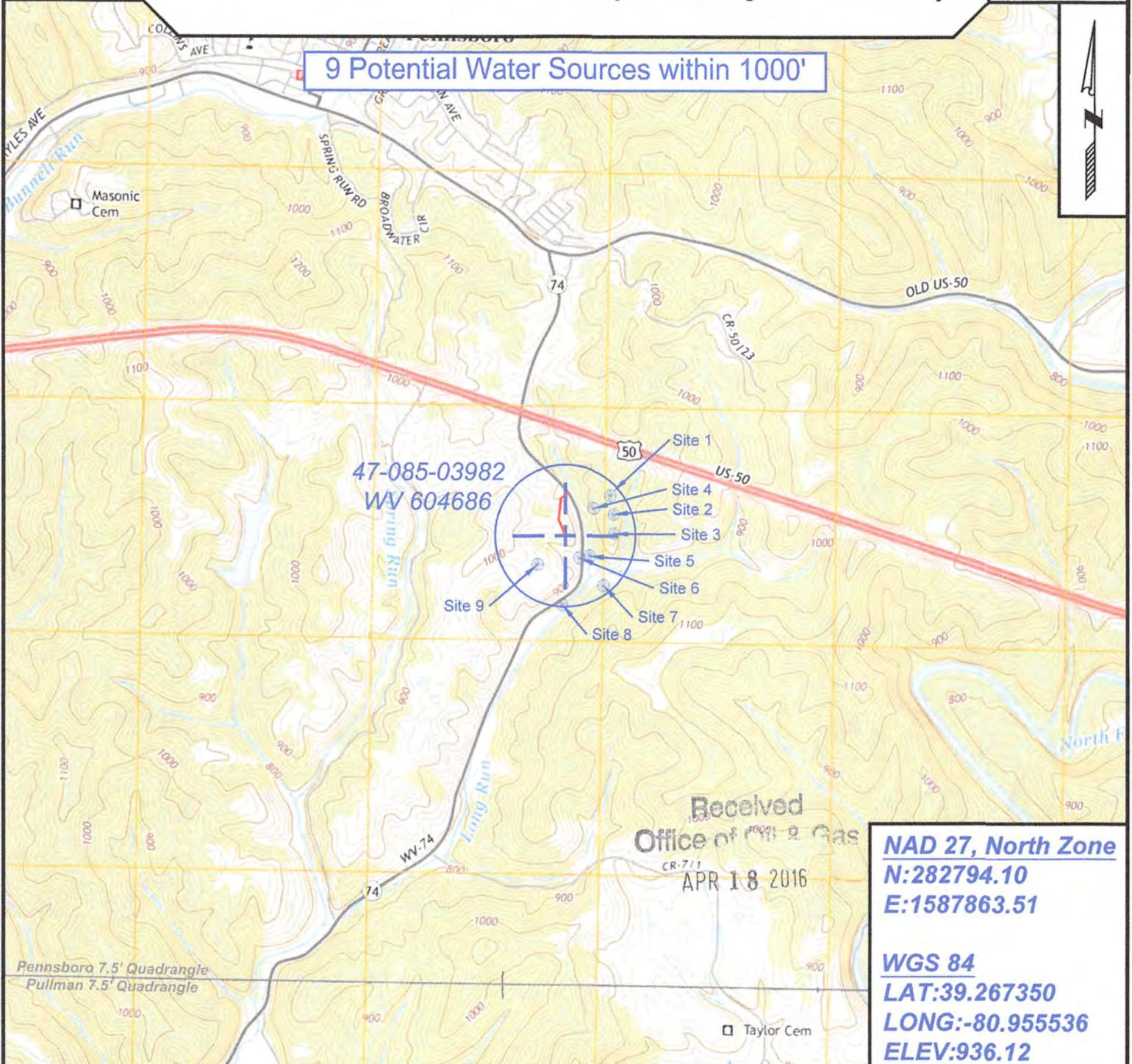
District: Clay

Project No: 68-38-00-08

Water

# 47-085-03982 WV 604686 (E. R. Taylor #9 4686)

9 Potential Water Sources within 1000'



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:  
**EQT Production Company**  
 P.O. Box 280  
 Bridgeport, WV 26330