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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

August 05, 2013

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-3903347, 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: (COURTLAND A-12) WV 127461

Farm Name: BAIRE, RUSSELL ., ET AL

**API Well Number: 47-3903347**

**Permit Type: Plugging**

Date Issued: 08/05/2013

**Promoting a healthy environment.**

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

Date: July 15, 2013  
Operator's Well  
Well No. WV 127461 (Courtland A-12)  
API Well No.: 47 039 - 03347

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

ac # 15769  
\$100

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

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

5) Elevation: 1039' Watershed: Davis Creek  
Location: Loudon 06 County: Kanawha 39 Quadrangle: Charleston West 4.5' 290  
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 Terry Urban  
Name: P.O. Box 1207  
Address: Clendenin, WV 25045

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.**

SEE ATTACHED

Received  
Office of Oil & Gas



JUL 25 2013

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 [Signature]

Date 7-19-13

PLUGGING PROGNOSIS

**Courtland Land Co. #12 (127461)**

Kanawha County, West Virginia

API # 47-039-03347

Chas. S.W. Quad

Received  
Office of Oil & Gas

BY: Craig Duckworth

DATE: 2/18/13

JUL 25 2013

**CURRENT STATUS:**

8 5/8" csg @ 433' (128 sks) cts  
4 1/2" csg @ 1871' (325sks) cts  
2" thg @ 1798'

TD @ 1880'

Fresh Water @ none reported

Salt Water @ none reported

Salt Sand @ 802'

Coal @ 254' 385' 452'

Gas shows @ none reported

Oil Shows @ none reported

Stimulation: Fractured Big Injun (1780'-1814') Perforated 1780' to 1796'

1. Notify State Inspector, Terry Urban 304-549-5915, and 24 hrs prior to commencing operations.
2. TOOH w/ 2" thg and check condition.
3. TIH w/ thg @ 1798'; Set 182' CIA Cement Plug @ 1798' to 1598' (Big Injun & Perfs. 1780'-1796')
4. TOOH w/ thg @ 1630'; Gel hole @ 1630' to 802'
5. TOOH w/ tubing, Free point 4.5" csg, cut at Freepoint, Pull 4.5' csg.
6. Set 100' CIA Cement Plug 50' in/50' out of cut. Perf all FW, Coal, Oil, Gas and 1" Salt Sand top below 4.5" csg cut. Do not skip any plugs shown.
7. TIH w/ thg @ 802'; Set 100' CIA Cement Plug @ 802' to 702' (Salt Sand @ 802')
8. TOOH w/ thg @ 702'; Gel hole @ 702' to 502'
5. TOOH w/ thg @ 502'; Set 502' CIA Cement Plug @ 502' to 0' (Bottom of 8 5/8" csg, Coal 452' (60"), 385' (36"), 254' (24"). Perf or Rip all coal shows.
6. Set Monument to WV-DEP Specifications
7. Reclaim Location & Road to WV-DEP Specifications

Some body  
WEEK TO READ PROS  
4.5 CTS - 2 sets of  
Salt Sands

Handwritten signature and notes: "A. W. [unclear] 7/19/13" with a large scribble and a question mark.

Will probably  
change on site

3903347A

OG-10  
Rev. - 9-71



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
Oil and Gas Division  
WELL RECORDS

127461  
RECEIVED  
OCT 27 1978

OIL & GAS DIVISION  
DEPT. OF MINES

Quadrangle Charleston West  
Permit No. KAN-3347

Rotary X Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas \_\_\_\_\_  
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind) \_\_\_\_\_

Company Cities Service Company  
Address Box 873, Charleston, WV 25323  
Farm The Courtland Company Acres 5350  
Location (waters) Davis Creek  
Well No. "A" #12, GW-1782 Elev. 2065.46  
District Loudon County Kanawha  
The surface of tract is owned in fee by Louis F. Mooney  
Address Br 2 Box 291A, Charleston, WV  
Mineral rights are owned by The Courtland Company  
Address 205 Odd Fellow Bldg. Charleston, WV 25301  
Drilling Commenced 9/15/78  
Drilling Completed 10/7/78  
Initial open flow 0 cu. ft. 0 bbls.  
Final production 219,000 cu. ft. per day 0 bbls.  
Well open 80 hrs. before test \_\_\_\_\_ RP.  
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Co. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8			
8 5/8 " 24#	433.86	433.86	128 sk of reg. cement = cement to surface
7			
5 1/2			
4 1/2 " 9.5#	1871'	1871'	325 sk of 50-50 Poz cement to surface
3			
2 - 3/8" 4#	1798'	1798'	
Liners Used			

Attach copy of cementing record.

Perforated Big Injun 1780-96' w/1 shot/ft.  
Fraced with 30,000# 80-100 Sand, 30,000# 20-40 sand and 400 MCF nitrogen and 184 barrels of water.

Coal was encountered at 254', 385', 452' Feet. 60", 36", 24" Inches  
Fresh water \_\_\_\_\_ Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand Big Injun Depth 1780'-1814'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Sand and Rock			0	67		
Sand Rock Shale			67	214		
Rock Sand & Shale			214	254		
Coal			254	259		
Shale and Sand			259	309		
Shale and Sand			309	385		
Coal			385	388		
Shale and Sand			388	452		
Coal			452	459		
Sand and Shale			459	520		
Sand and Shale			520	690		
Sand			690	747		
Shale			747	765		
Sand			765	802		
Salt Sand			802	1005		
Salt Sand			1005	1110		
Sand			1110	1138		
Shale			1138	1203		
Sand			1203	1310		
Salt Sand			1310	1403		
Salt Sand			1403	1453		
Sand			1453	1465		
Sand and Shale			1465	1540		
Little Lime			1540	1551		

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Office of Oil & Gas

JUL 25 2011

(over)

\* Indicates Electric Log tops in the remarks section.

127461

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Lime			1551	1658		
Big Lime			1658	1768		
Lime			1768	1782		
Injun Sand			1782	1880	T.D.	

Received

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Office of Oil and Gas  
 WV Dept. of Environmental Protection

Date October 25, 1978

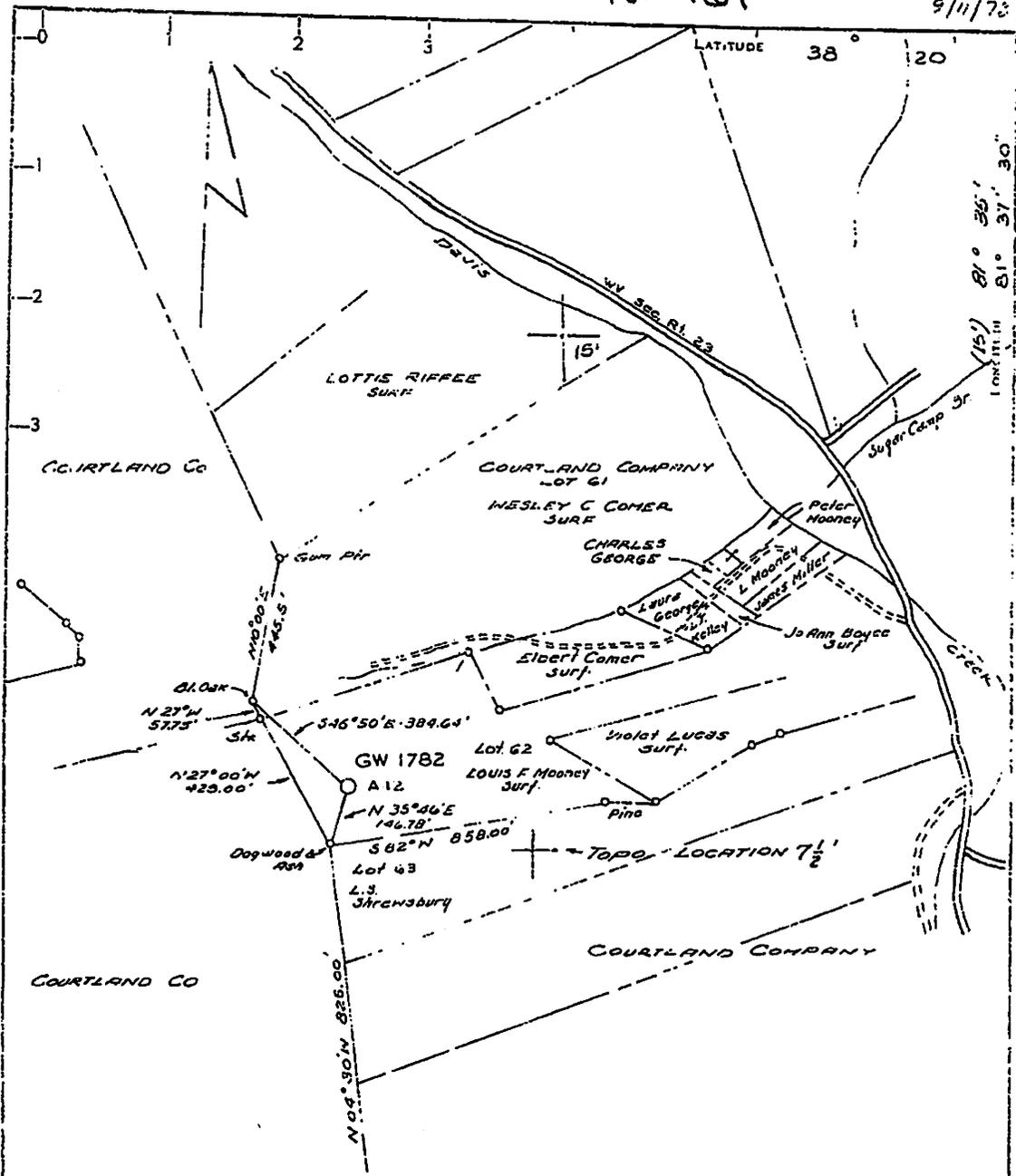
Cities Service Company

APPROVED Sam J. Matthews Owner

By Region Production Manager  
 (Title)

127461

9/11/78



- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

**CERTIFICATE**

"I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 1 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."

Minimum degree of accuracy is one part in 200.

Signed: \_\_\_\_\_

Received

COMPAN: **CITIES SERVICE COMPANY**  
 ADDRESS: **BOX 873 CHARLESTON, W.VA**  
 FARM: **THE LOUIS F. MOONEY COMPANY**  
 MAP: **LOT 62** A.C. 3350  
 WELL: **A 12** SERIAL NO. **GW-1782**  
 ELEVAT. IN FEET: **1065.46**  
 QUADRANT: **CHARLESTON WEST, CHARLESTON 15'**  
 COUNTY: **KANAWHA** DISTRICT: **LOUDEN**  
 POINT OF BEGINNING: **SE COR CONC BRIDGE OVER DAVIS CK ON CONC WING WITH US 575.9**  
 FILE NO.: **H 10-78**  
 DATE: **Aug 5, 1978**

STATE OF WEST VIRGINIA Office of Oil and Gas  
 DEPARTMENT OF MINES W.V. Dept. of Environmental Protection  
 OIL AND GAS DIVISION  
 CHARLESTON

WELL LOCATION MAP  
 FILE NO. **KAN-3347**

NOTED TO APPEAR IN WEST VIRGINIA STATE TOGAS  
 MAPS IN ALL 1:25,000 SCALE AND COPIES OF  
 BEING REPRINTED BY BORDER LINES AS SHOWN **47-039**  
 UNLESS OTHERWISE NOTED IN THE MARGIN

3903347A

WW-4-A  
Revised 6/07

1) Date: July 15, 2013  
2) Operator's Well Number  
WV 127461 (Courtland A-12)  
3) API Well No.: 47 039 - 03347  
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 Russell G. Baire Jr. ✓  
Address 47 Lakeview Drive  
Charleston, WV 25314  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Terry Urban ✓  
Address P.O. Box 1207  
Clendenin, WV 25045  
Telephone 304-549-5915

5) (a) Coal Operator:  
Name None  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration ✓  
Name The Courtland Company  
114 Monongalia St.  
Address Charleston, WV 25302-2312  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name None  
Address \_\_\_\_\_

**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.

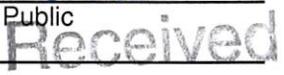
Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Division of Environmental 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:  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_

**EQT Production Company**  
Victoria J. Roark \_\_\_\_\_  
**Permitting Supervisor**  
PO Box 280  
Bridgeport, WV 26330  
(304) 848-0076

Subscribed and sworn before me this 15 day of July, 2013  
Pamela Sykes Notary Public  
My Commission Expires: 8-24-22



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).

JUL 25 2013

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: Davis Creek Quadrangle: Charleston West 4.5'  
Elevation: 1039' County: Kanawha District: Loudon

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.? 30 ml

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

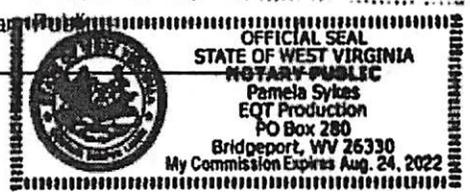
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. \_\_\_\_\_  
If left in pit and plan to solidify what medium will be used? Cement, Lime, sawdust \_\_\_\_\_  
Landfill or offsite name/permit number? \_\_\_\_\_

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

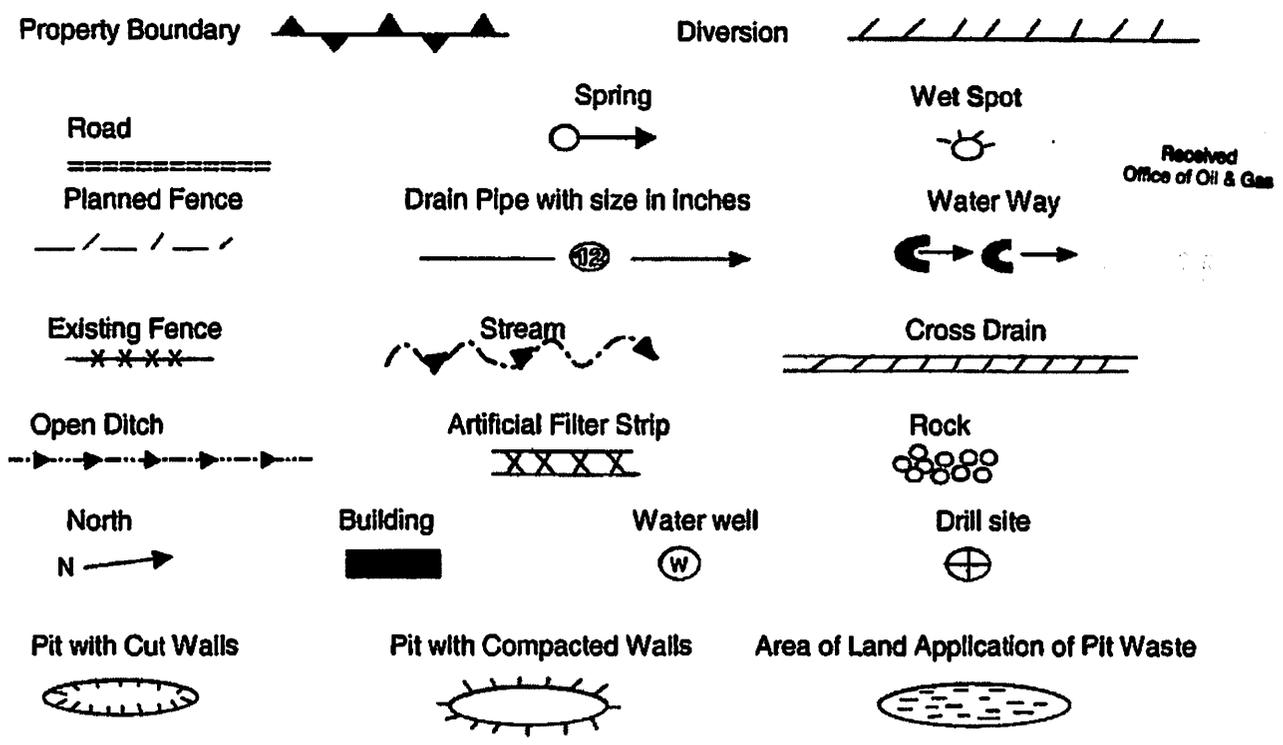
Subscribed and sworn before me this 15 day of July, 2013

My Commission Expires 8-24-22



**OPERATOR'S WELL NO.:**  
**WV 127461 (Courtland A-12)**

**LEGEND**



Received  
Office of Oil & Gas

Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH 6.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20) or equivalent 1/3 ton lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre or hydroseed.

**SEED MIXTURES**

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

**ATTACH:**  
 Drawing(s) of road, location, pit and proposed area for land application.  
 Photocopies section of involved 7.5' topographic sheet.

Plan approved by: [Signature]

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

Title: [Signature] Date: 7/19/03  
 Field Reviewed? Yes  No

3903347A

Topo Quad: Charleston West 7.5'

Scale: 1" = 2000'

County: Kanawha

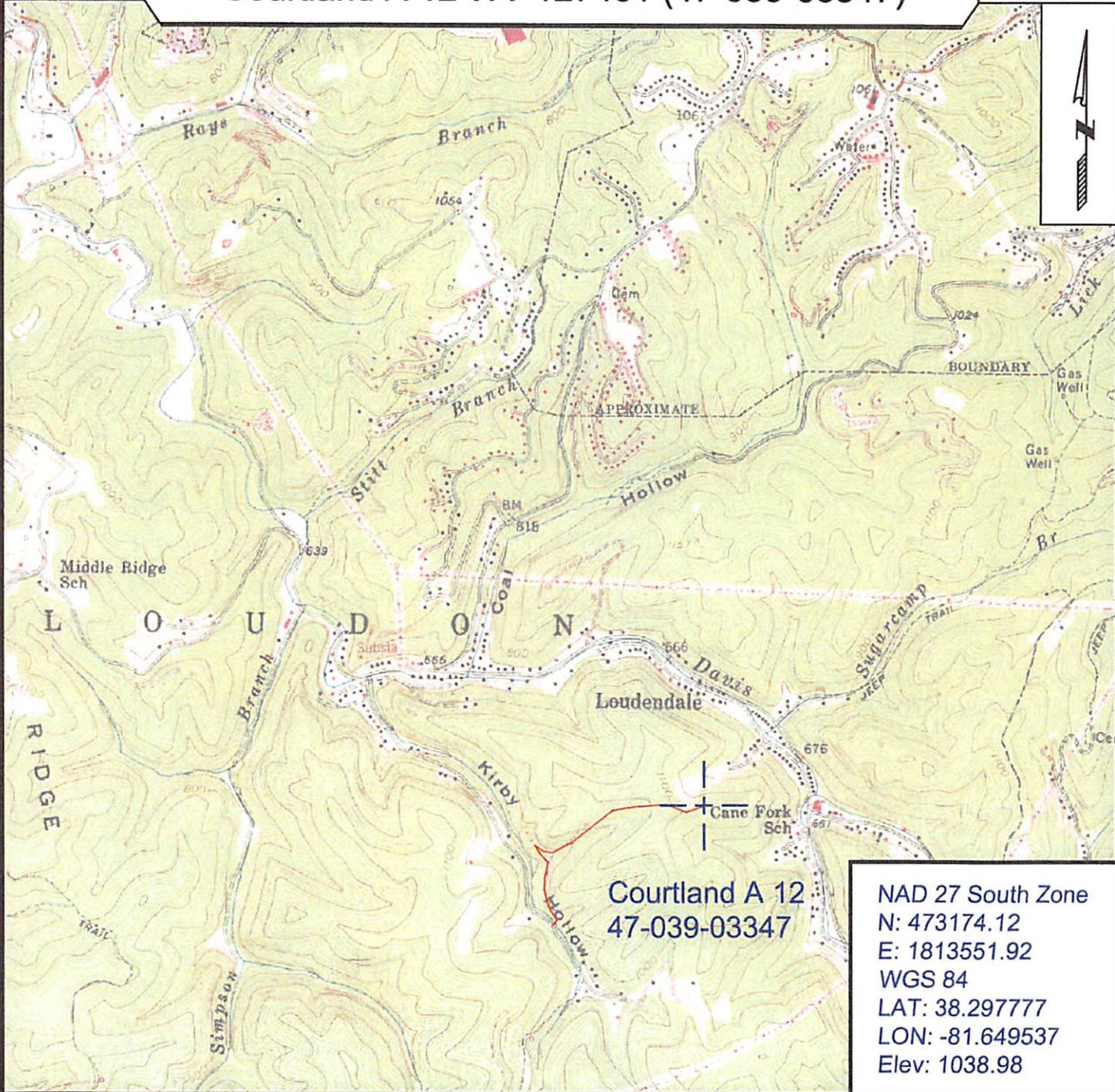
Date: May 28, 2012

District: Loudon

Project No: 52-14-00-07

# Courtland A 12 WV 127461 (47-039-03347)

Topo



**Courtland A 12**  
**47-039-03347**

NAD 27 South Zone  
 N: 473174.12  
 E: 1813551.92  
 WGS 84  
 LAT: 38.297777  
 LON: -81.649537  
 Elev: 1038.98



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 1-800-482-8606  
 P.O. BOX 438  
 BIRCH RIVER, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

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







### POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY INC.  
LEASE NAME AND WELL No. Courtland A 12 47-039-03347 (WV 127461)

The initial mapping review of the area surrounding the proposed well site revealed the below listed surface owner(s) that were potentially utilizing groundwater (potable) for Human Consumption or other purposes within 1000' of the existing well site. The following landowners will be notified of the opportunity to request a water sample.

\*Please note that the following information is subject to change upon field inspection.

#### POTENTIAL SAMPLE LOCATIONS

Site: 1 Spacing: 930' +/- Owner: Elbert & Dan Comer  
Address: 123 S St. Marks Ave, Chattanooga, TN 37411

Phone No. \_\_\_\_\_

Comments:

Site: 2 Spacing: 700 +/- Owner: Elbert & Dan Comer  
Address: 123 S St. Marks Ave, Chattanooga, TN 37411

Phone No. \_\_\_\_\_

Comments:

Site: 3 Spacing: 920 +/- Owner: Elbert & Dan Comer  
Address: 123 S St. Marks Ave, Chattanooga, TN 37411

Phone No. \_\_\_\_\_

Comments:

Received

JUL 19 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

**BIRCH RIVER OFFICE**  
P.O. Box 438 • 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

**CALDWELL OFFICE**  
212 Cumberland Street  
Caldwell, OH 43724  
phone: 740-305-5007  
fax: 740-305-5126

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