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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 15, 2013

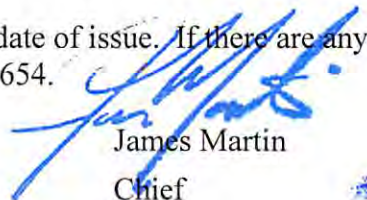
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-3903191, 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: (WV 001440) OSBORNE 12  
Farm Name: HAWKINS, DANIEL & PATSY  
**API Well Number: 47-3903191**  
**Permit Type: Plugging**  
Date Issued: 08/15/2013

CK# 15783

\$200.<sup>00</sup>

(001381001440)

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

Date: July 31, 2013  
Operator's Well \_\_\_\_\_  
Well No. Osborne #12 (001440)  
API Well No.: 47 39 - 03191 P

**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 X Liquid Injection \_\_\_\_\_ Waste Disposal: \_\_\_\_\_  
If Gas, Production \_\_\_\_\_ X Or Underground storage \_\_\_\_\_ Deep \_\_\_\_\_ Shallow X

5) Elevation: 899 Watershed: Laurel Fork  
Location: Big Sandy 01 County: Kanawha 39 Quadrangle: Clendenin 299  
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.**

OK gwn

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 \_\_\_\_\_ Office of Oil & Gas

2013

08/16/2013

PLUGGING PROGNOSIS

**Osborne, J.A. # 12 (001440)**

Kanawha County, West Virginia  
API # 47-039-03191  
Clendenin Quad

BY: Craig Duckworth  
DATE: 2/11/13

**CURRENT STATUS:**

10" csg @ 20'  
8 1/4" csg @ 395'  
6 5/8" csg @ 1565'  
2" tbg @ 1939'

TOP OF SHOT 1908'  
BOTTOM SHOT 1932'

TD @ 1941'

Fresh Water @ none reported                      Salt Water @ 970'

Salt Sand @ 895'                      Coal @ 145'to150'; 185'to190'

Gas shows @ Weir (1840' & 1870')

Oil Shows @ Weir (1912')

Stimulation: 1932' - 1908' 80Qts.

1. Notify State Inspector, Terry Urban 304-549-5915, and 24 hrs prior to commencing operations.
2. TOO H w/ 2" tbg and check condition.
3. TIH w/ tbg @ 1941'; Set 151' C1A Cement Plug @ 1941' to 1790' (Weir 1840' & 1870' Gas Show & Oil Show 1912')
4. TOO H w/ tbg @ 1790'; Gel hole @ 1790' to 1615'
5. TOO H w/ tbg and attempt to pull 6 5/8"; Freepoint 6 5/8", cut /shoot 6 5/8" @ freepoint.
6. TIH w/ tbg Set 100' C1A Cement Plug @ 1615' to 1515' (6 5/8" csg st )
7. Set a 100' C1A Cement Plug 50' In/Out of cut. Perf all FW, Coal, Oil and Gas shows below 6 5/8" cut Do not omit any plugs
8. TOO H w/ tbg @ 1515'; Gel hole @ 1515' to 895'
9. TOO H w/ tbg @ 895'; Set 100' C1A Cement Plug @ 895' to 795' (Salt Sand 895')
10. TOO H w/ tbg @ 795'; gel hole @ 795' to 445'
11. TOO H w/ tbg and attempt to pull 8 1/4". Freepoint 8 1/4", cut/shoot 8 1/4" @ freepoint
12. TIH w/ tbg @ 445'; Set 100' C1A Cement Plug @ 445' to 345' (8 1/4" )
13. Set a 100' C1A Cement Plug 50' In/Out of cut. Perf all FW, Coal, Oil and Gas shows below 8 1/4" cut Do not omit any plugs
14. TOO H w/ tbg @ 240'; Set 240' C1A Cement Plug @ 240' to Surface (Coal 145'to150' & 185'to190')
15. Top off as needed
16. Set Monument to WV-DEP Specifications
17. Reclaim Location & Road to WV-DEP Specifications

Received  
Office of Oil & Gas

ALL CEMENT PLUGS MUST BE AT LEAST 100' CLASS A w/ NO MORE THAN 3% CaCl<sub>2</sub>

OK gwm

08/16/2013

3903191P

KAN - 3191

LOG OF UNITED CARBON COMPANY WELL NUMBER 144

Title and Number of Well Osborne No 12 Former Owner \_\_\_\_\_

CASING RECORD Kanawha County, W. Va.

| Size   | Weight Per Foot | Threads Per Inch | Manufacturer's Name | Where Landed | CEMENTED |    |       | SET  |    | BAILED DRY | Stood Hours |
|--------|-----------------|------------------|---------------------|--------------|----------|----|-------|------|----|------------|-------------|
|        |                 |                  |                     |              | Yes      | No | Sacks | From | To |            |             |
| 10"    |                 |                  |                     | 20           |          |    |       |      |    |            |             |
| 3 1/2" |                 |                  |                     | 395          |          |    | OIL   |      |    |            |             |
| 3 5/8" |                 |                  |                     | 1565         |          |    |       |      |    |            |             |
| 3"     |                 |                  |                     | 1939         |          |    |       |      |    |            |             |

DETAILS OF LOG: 883 Acres.

| FEET          |                                | FORMATION           | FEET             |    | FORMATION                              |
|---------------|--------------------------------|---------------------|------------------|----|--|
| From          | To                             |                     | From             | To |  |
| 0             | 18                             | Soil                |                  |    |  |
| 18            | 110                            | Sand                |                  |    |  |
| 110           | 145                            | Slate               |                  |    |  |
| 145           | 150                            | Coal                | April 1, 1926    |    | Line pressure 5# pick up 5 min. 16#    |
| 150           | 185                            | Sand                | May, 1926        |    | Line Pressure 6# Pick up in 5 Min 16#  |
| 185           | 190                            | Coal                | June, 1926       |    | Line pressure 6# pick up in 5 Min. 16# |
| 190           | 320                            | Slate               | November 1, 1926 |    | Line Pressure 6# pick up in 5 Min. 15# |
| 320           | 360                            | Sand                |                  |    |  |
| 360           | 385                            | Slate & Shells      |                  |    |  |
| 385           | 460                            | Sand                |                  |    |  |
| 460           | 615                            | Slate & Shells      |                  |    |  |
| 615           | 650                            | Sand                |                  |    |  |
| 650           | 665                            | Slate               |                  |    |  |
| 665           | 700                            | Sand & Lime         | October 31, 1926 |    | In 2" pipe Water 5/10 - 106,000        |
| 700           | 895                            | Slate & Shells      |                  |    |  |
| 895           | 1370                           | Salt Sand           | Apr 20th 1926    |    | Blown to surface 5/10 W in 1" - 20,000 |
| 1370          | 970                            | Water               |                  |    |  |
| 970           | 1000                           | Hole Full           |                  |    |  |
| 1000          | 1225                           | Break in Salt Sand  |                  |    |  |
| 1225          | 370                            | Red Rock            |                  |    |  |
| 370           | 1410                           | Red Rock            |                  |    |  |
| 1410          | 1420                           | Lime                |                  |    |  |
| 1420          | 1440                           | Black Slate         |                  |    |  |
| 1440          | 1475                           | Red Rock            |                  |    |  |
| 1475          | 1490                           | Maxon Sand          |                  |    |  |
| 1490          | 1505                           | Slate               |                  |    |  |
| 1505          | 1530                           | Little Lime         |                  |    |  |
| 1530          | 1549                           | Slate               |                  |    |  |
| 1549          | 1562                           | Lime Shell          |                  |    |  |
| 1562          | 1565                           | Pencil Cave         |                  |    |  |
| 1565          | 1720                           | Big Lime-Steel Lime |                  |    |  |
| 1720          | 1678                           | Little Gas          |                  |    |  |
| 1678          | 1755                           | Slate               |                  |    |  |
| 1755          | 1780                           | Injun Sand          |                  |    |  |
| 1780          | 1825                           | Red Sand            |                  |    |  |
| 1825          | 1936                           | Wier Sand           |                  |    |  |
| 1936          | 1840                           | Gas - Steel Lime    |                  |    |  |
| 1840          | 1870                           | Second Gas          |                  |    |  |
| 1870          | 1912                           | Oil pay             |                  |    |  |
| 1912          | 1936                           | Slate               |                  |    |  |
| 1936          | 1941                           | Total Depth         |                  |    |  |
| 1941          |                                |                     |                  |    |  |
| gging up      | January 3rd, 1923              |                     |                  |    |  |
| udding in     | January 5th, 1923              |                     |                  |    |  |
| ompleted      | April 12th, 1923               |                     |                  |    |  |
| ot July       | 4th, 1923                      |                     |                  |    |  |
| ot with       | 60 qt. 3 X 8 - 20 Qt. - 80 Qt. |                     |                  |    |  |
| p of Shot     | 1908                           |                     |                  |    |  |
| ottom of Shot | 1932                           |                     |                  |    |  |
| chor          | 10"                            |                     |                  |    |  |

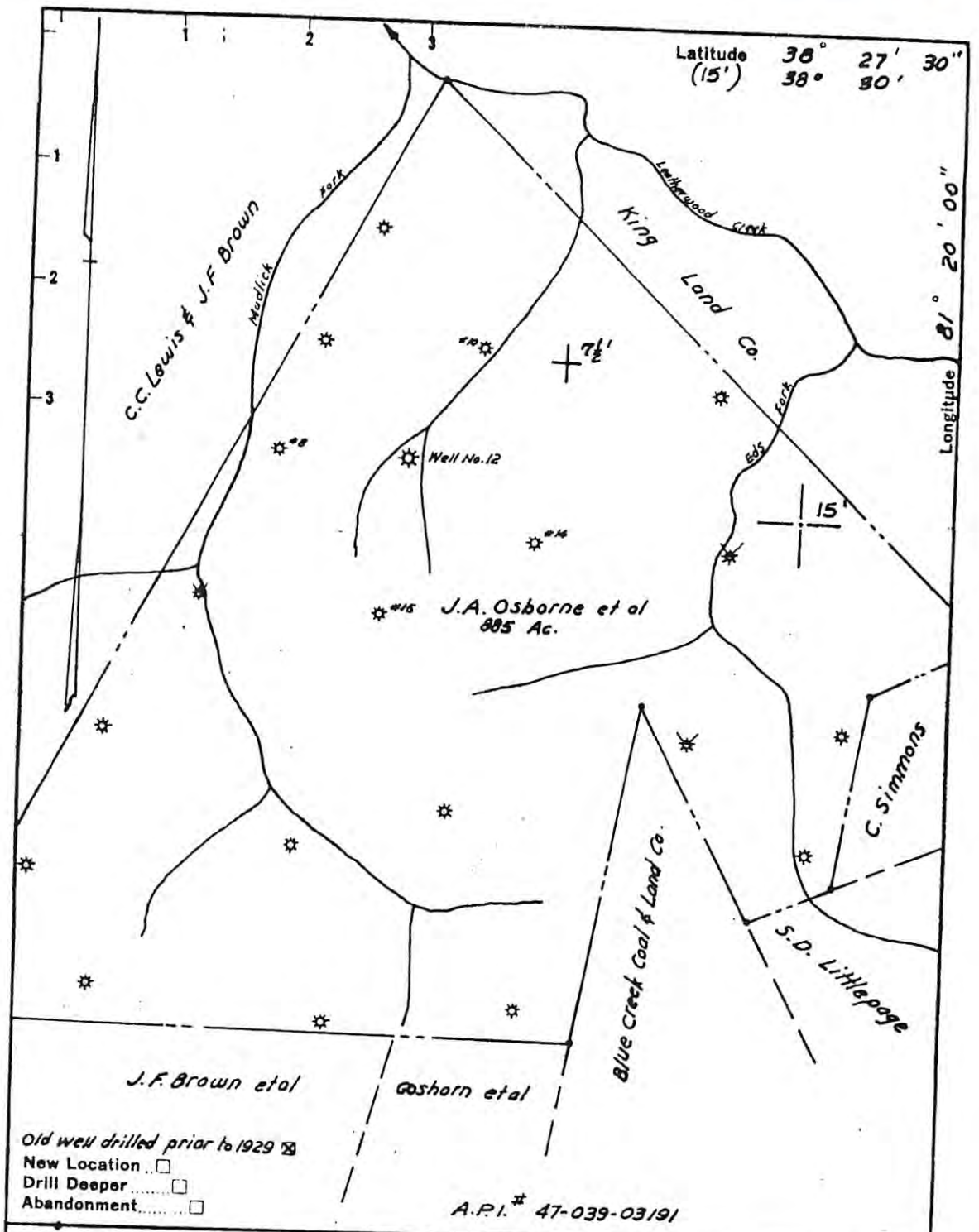
RECEIVED

DEC 23 1977  
 Received  
 Office of Oil & Gas  
 DEPT. OF MINES

AVG - 5 2013

08/16/2013

3903191P



Company ASHLAND EXPLORATION, INC.  
 Address BOX 391-ASHLAND, KY. 41101  
 Farm J.A. OSBORNE ET AL  
 Tract \_\_\_\_\_ Acres 885 Lease No. 738  
 Well (Farm) No. 12 Serial No. 001440  
 Elevation (Spirit Level) 899  
 Quadrangle CLENDENIN  
 County KANAWHA District BIG SANDY  
 Engineer John H. Burnett  
 Engineer's Registration No. 1442  
 File No. \_\_\_\_\_ Drawing No. \_\_\_\_\_  
 Date JAN. 29, 1979 Scale 1"=1,000'

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

WELL LOCATION MAP  
 FILE NO. KAN-3191 Gas

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

08/16/2013

1) Date: July 31, 2013  
 2) Operator's Well Number Osborne #12 (001440)  
 3) API Well No.: 47 39 - 03191  
State County Permit

*Check # 15783  
\$ 200.00  
(001440; 001539)*

**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 Daniel S. & Patsy J. Hawkins ✓  
 Address 1485 Mudlick Road  
Clendenin, WV 25045-5161  
 (b) Name See Attached ✓  
 Address \_\_\_\_\_  
 (c) Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 6) Inspector Terry Urban  
 Address P.O. Box 1207  
Clendenin, WV 25045  
 Telephone \_\_\_\_\_

5) (a) Coal Operator:  
 Name None  
 Address \_\_\_\_\_  
 (b) Coal Owner(s) with Declaration  
 Name Dr. R.D. Karr U/W R.J. Karr ✓  
Dr. Robert D. Carr Trustee  
 Address P.O. Box 883  
Mt. Holley, NC 28120-0883  
 Name See Attached ✓  
 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:  
 By: \_\_\_\_\_  
 Its: \_\_\_\_\_  
 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 1 day of August, 2013  
 My Commission Expires: 8.24.02  
 Notary Public \_\_\_\_\_

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).

3903191P

WW-9  
Revised 2/03

Page \_\_\_\_ of \_\_\_\_  
2) Operator's Well Number  
Osborne #12 (001440)  
3) API Well No.: 47 39 - 03191

**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: Laurel Fork Quadrangle: Clendenin  
Elevation: 899 County: Kanawha District: Big Sandy

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 1 day of August, 2013

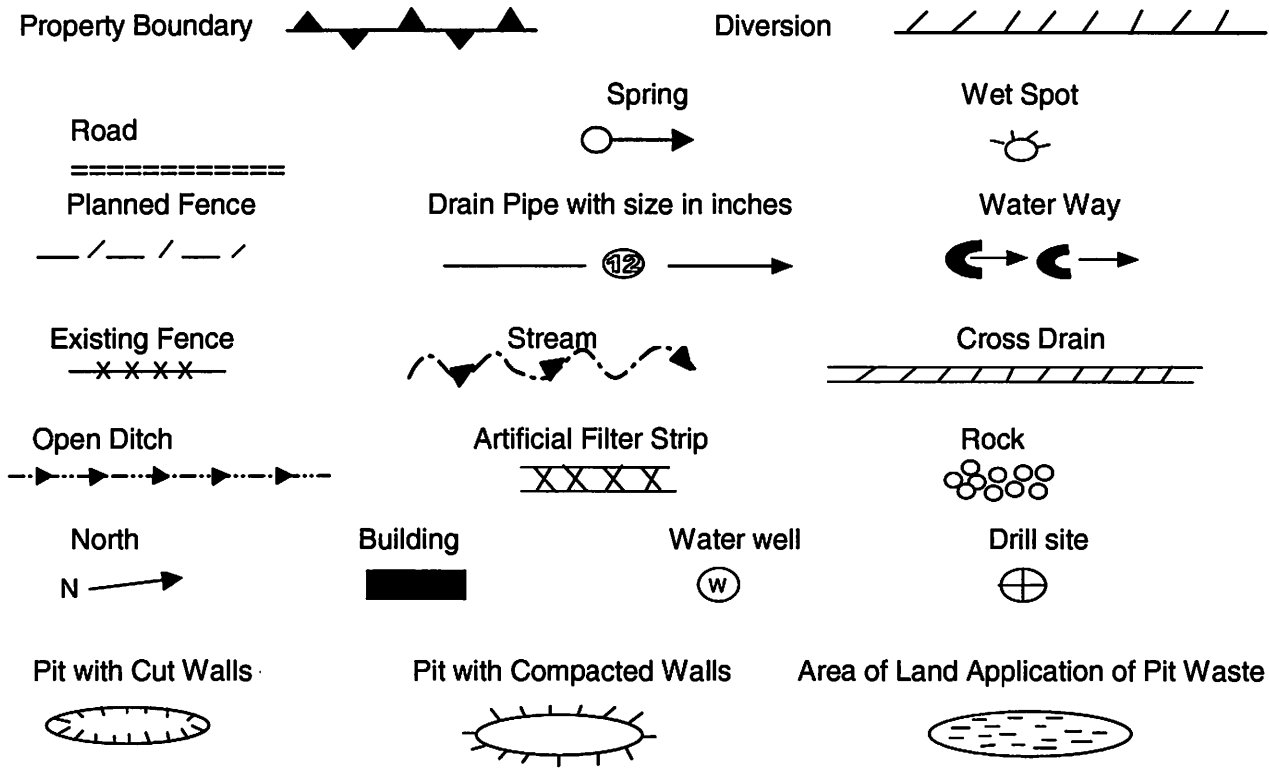
*Paula...* Notary Public  
My Commission Expires 8-24-22

Received  
Office of Oil & Gas



**OPERATOR'S WELL NO.:**  
**Osborne #12 (001440)**

**LEGEND**



Proposed Revegetation Treatment: Acres Disturbed: 1± Prevegetation pH 5.8

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: \_\_\_\_\_

Received  
Office of Oil & Gas

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

Title: \_\_\_\_\_ Date: \_\_\_\_\_  
Field Reviewed?      Yes      No



3903191P

Topo Quad: Clendenin 7.5'

Scale: 1" = 2000'

County: Kanawha

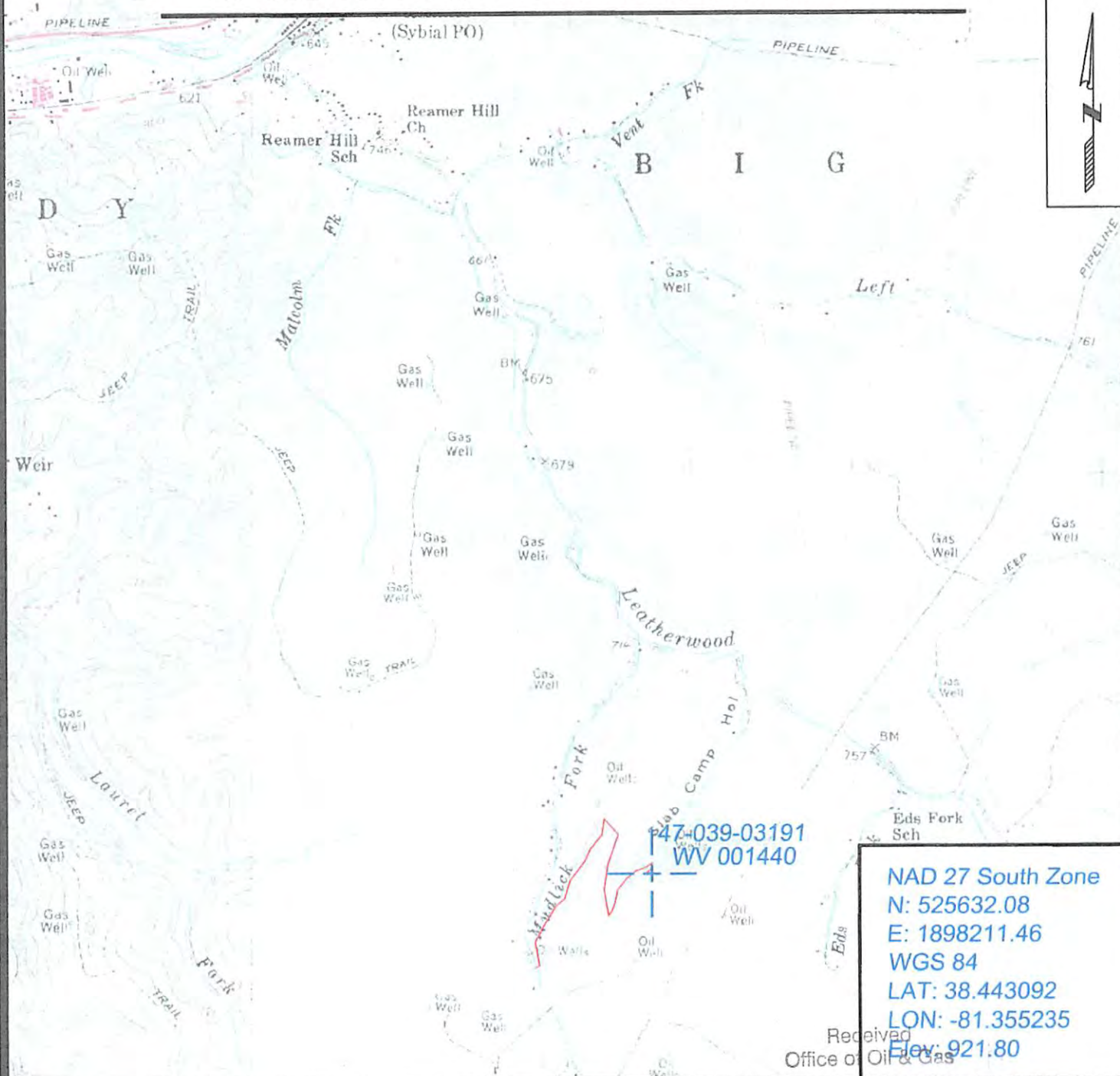
Date: May 24, 2013

District: Big Sandy

Project No: 52-14-00-07

# 47-039-03191 WV 001440 J.A. Osborne #12

Topo



NAD 27 South Zone  
 N: 525632.08  
 E: 1898211.46  
 WGS 84  
 LAT: 38.443092  
 LON: -81.355235  
 Elev: 921.80

Received  
Office of Oil & Gas



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

08/16/2013

3903191A

WW-7  
8-30-06



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

API: 47-039-03191 WELL NO.: WV 001440 (Osborne #12)

FARM NAME: Osborne

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Kanawha DISTRICT: Big Sandy

QUADRANGLE: Clendenin 7.5'

SURFACE OWNER: Daniel and Patsy Hawkins

ROYALTY OWNER: Dr. Robert D. Karr, et al.

UTM GPS NORTHING: 4255039

UTM GPS EASTING: 469000 GPS ELEVATION: 281 m (922 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  : Post Processed Differential   
Real-Time Differential

4. **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

Ben R. Sengler  
Signature

P.S. 2092  
Title

7-11-2013  
Date

AUG 5 2013

08/16/2013



## POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY INC.

LEASE NAME AND WELL No. J.A. Osborne #12 WV 001440 (47-039-03191).

### POTENTIAL SAMPLE LOCATIONS

There appears to be no known water samples within the required 1000' of the existing well WV 001440.

**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

Received  
Office of Oil & Gas  
ALUM CREEK OFFICE  
P.O. Box 108 • 1413 Childress Road  
Alum Creek, WV 25003  
*phone* 304-756-2949  
*fax* 304-756-2948

3903191P

Topo Quad: Clendenin 7.5'

Scale: 1" = 2000'

County: Kanawha

Date: May 24, 2013

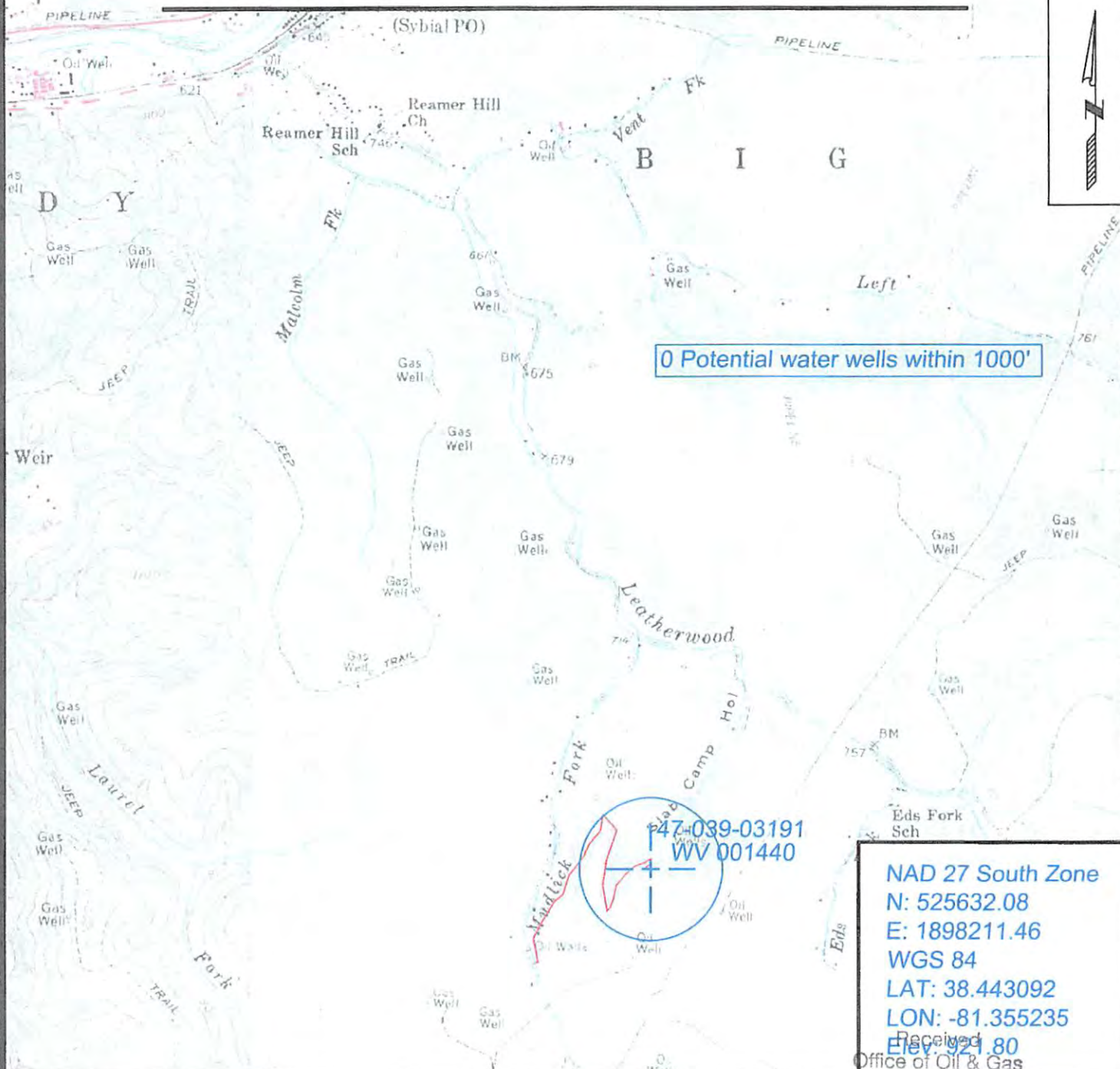
District: Big Sandy

Project No: 52-14-00-07

Water

Topo

# 47-039-03191 WV 001440 J.A. Osborne #12



0 Potential water wells within 1000'

47-039-03191  
WV 001440

NAD 27 South Zone  
 N: 525632.08  
 E: 1898211.46  
 WGS 84  
 LAT: 38.443092  
 LON: -81.355235  
 Elev: 921.80  
 Office of Oil & Gas



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 BIRCH RIVER, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:  
**EQT Production Company**  
 P.O. Box 280  
 Bridgeport, WV 26330  
 08/16/2013