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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

November 01, 2013

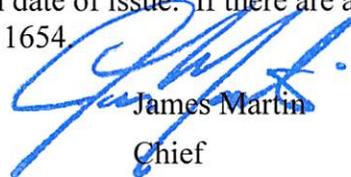
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-4500470, 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 023840 PARDEE LAND CO. #

Farm Name: PARDEE MINERALS, LLC

**API Well Number: 47-4500470**

**Permit Type: Plugging**

Date Issued: 11/01/2013

**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.

### 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.

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

Date: October 11, 2013  
Operator's Well  
Well No. 023840 Pardee Land Co #45  
API Well No.: 47 045 - 00470

**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: 1587' Watershed: Buffalo Creek  
Location: Triadelphia 03 County: Logan 45 Quadrangle: Lorado 7.5' 445  
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 Ralph Triplett  
Name: 5539 McClellan Hwy  
Address: Branchland, WV 25506

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.**

**Received**  
OCT 17 2013  
Office of Oil and Gas  
WV Dept. of Environmental Protection

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

Ralph D. Triplett

Date October 16, 2013

## PLUGGING PROGNOSIS

**Pardee land Company #45 (023840)**

Logan County, W.V.  
API # 47-045-00470

BY: Doug Fry

DATE: 3/18/13

**CURRENT STATUS:**

13 3/8" @ 322' Cmt w/ 63'

10 3/4" @ 506' Cmt w/ 271' cmt (Est TOC @ 235')

8 5/8" @ Cmt w/ 30' cmt

7" @ 2847'

TD 3619'

**Fresh Water** @ 1485' - 1490' - 650-685' -

**Gas shows/ Perfs** @ 685'-790' - Slate Gas show, 2585'-2620' Slate Gas show, Shot in Berea 3573'-3609'

**Oil Shows** @ None Reported

**Salt Sand top** 1358'

**Coal:** 25', 255', 444',

**Stimulation;** Shot in Berea 3573' - 3609'

OK  
RDT

1. Notify inspector, Ralph Triplett @ 304-389- 0350 24 hrs prior to commencing operations.
2. TOOH w/ 2" tubing and tally back in hole to confirm depth tubing if any in it.
3. TIH w/ tubing to 2900'; Set 100' C1A Cement Plug @ 2900' to 2800' ( 7" csg pt, Berea Shot ).
4. TOOH w/ tubing, Gel Hole @ 2800' to 2585'.
5. TOOH w/ tubing, Free point 7" casing, cut @ free point, TOOH w/ 7" casing if the hole will not cave in. Set a 100' C1A Cement Plug 50' In/Out of cut. Perf all Salt Sand top, FW, Gas, Oil and Coal shows below the 7" cut. Do not omit any plugs shown below. Pull 7" csg when safe to.
6. TIH w/ tubing to 2585'; Set 264' C1A Cement Plug @ 2585' to 2321' ( Slate gas show, 8 5/8" csg pt ).
7. TOOH w/ tubing, Gel Hole @ 2321' to 1350'.
8. TOOH w/ tubing, free point 8 5/8" casing, cut @ free point, TOOH w/ 8 5/8" casing if the hole will not cave in. Set a 100' C1A Cement Plug 50' In/Out of cut. Perf all Salt Sand top, FW, Gas, Oil and Coal shows below the 7" cut. Do not omit any plugs shown below Pull 8 5/8" csg when safe.
9. TIH w/ tubing to 1350'; Set <sup>1350'</sup> ~~264'~~ C1A Cement Plug @ <sup>1250'</sup> ~~2585'~~ to 2321' ( ~~Slate gas show, 8 5/8" csg pt~~ ).
10. TOOH w/ tubing, Gel Hole @ 1250' to 735'.
11. TOOH w/ tubing @ <sup>735'</sup> ~~560'~~, Set ~~100'~~ C1A Cement plug @ 735' to Surface. ( 10" csg pt ).  
Perforate all Coal and FW shows where 10 3/4" casing does not have cement behind pipe.
12. Top off as needed
13. Set monument to WV DEP specs
14. Reclaim Location to WV DEP Specifications.

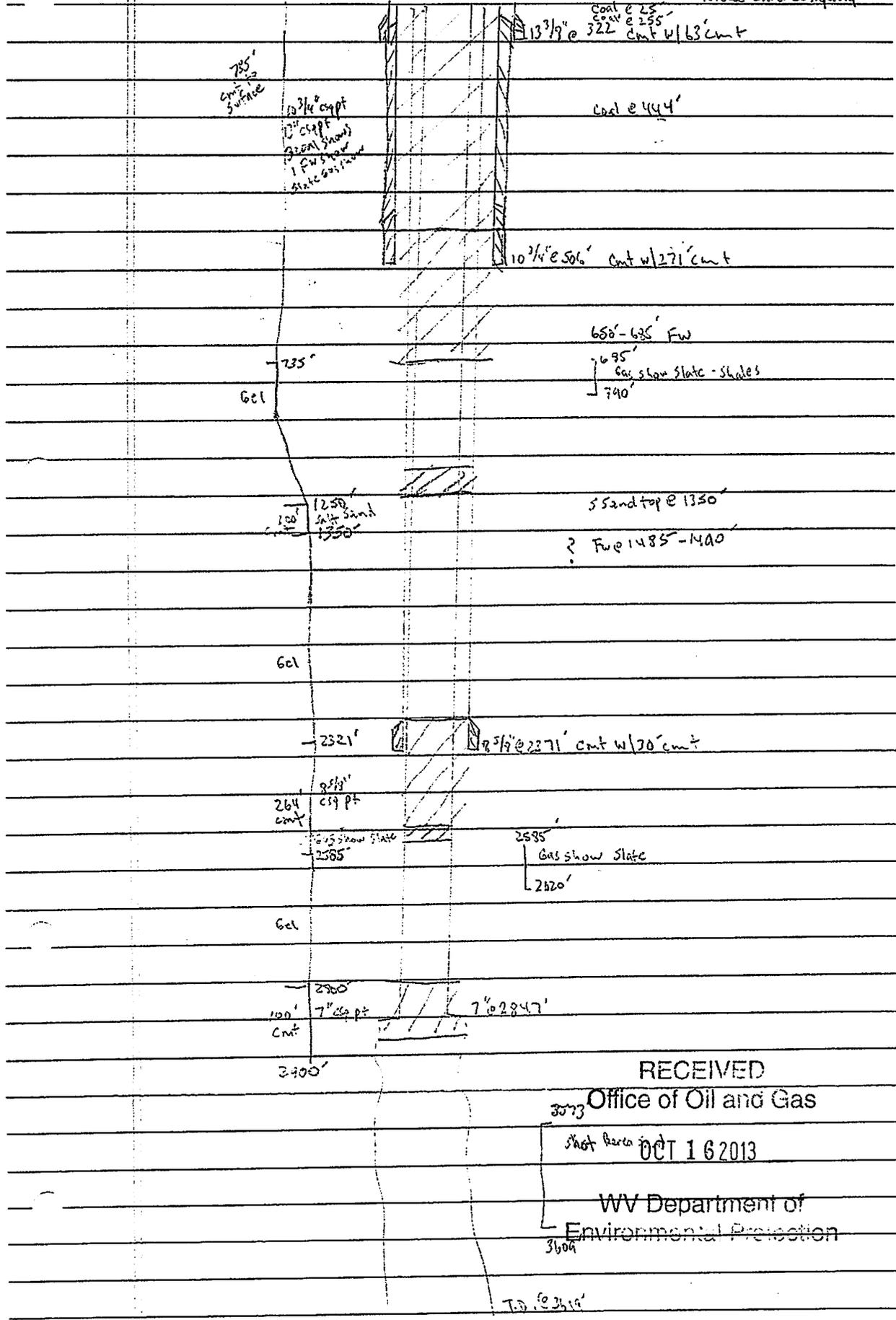
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OCT 17 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

Self sand?

4500470P  
Logan C.O. W.V.  
023840  
47-045-00470  
Pardue Land Company #45



RECEIVED  
 3073 Office of Oil and Gas  
 Shot Barco OCT 16 2013  
 WV Department of  
 Environmental Protection  
 3/6/04

T.D. @ 3616'

4500470 P

11/30/55



STATE OF WEST VIRGINIA DEPARTMENT OF MINES OIL AND GAS DIVISION

RECEIVED

NOV 28 1955

UNITED CARBON CO. GEOLOGICAL DEPT.

21 Bald Knob

WELL RECORD

Permit No. LOG-470

Oil or Gas Well Gas (KIND)

Company United Producing Company
Address Box 1913, Charleston 27, W. Va.
Farm Pardee Land Company Acres 22,000
Location (waters) Elsie Branch of Buffalo Creek
Well No. 45 (2384) Elev. 1574.9'DF
District Triadelphia County Logan
The surface of tract is owned in fee by Pardee Land Company, Rm. 703, 226 So. 16th St., Philadelphia 2, Pa.
Mineral rights are owned by Same
Address
Drilling commenced July 9, 1955
Drilling completed November 2, 1955
Date Shot 11-2-55 From 3573' To 3609'
With 180 qts. nitroglycerine
a Flow 8/10ths Water in 2 Inch
/10ths Merc. in Inch
Volume 119,000 Cu. Ft.
Rock Pressure 600 lbs. 48 hrs.
Oil bbls., 1st 24 hrs.
Fresh water 670-675 feet 1485-1490 feet
Salt water feet feet

Table with columns: Casing and Tubing, Used in Drilling, Left in Well, Packers. Rows include sizes like 16, 13 3/8", 10 3/4", 8 5/8", 6 7/8" OD, 5 3/16, 3, 2 and liner used information.

CASING CEMENTED 13 3/8" SIZE 63' No. Ft. 7-20-55 Da
10 3/4" 271' 7-28-55
8 5/8" 30' 10-3-55
COAL WAS ENCOUNTERED AT 25 FEET 48 INCH
255 FEET 48 INCHES 444 FEET 72 INCH
FEET INCHES FEET INCH

Main well log table with columns: Formation, Color, Hard or Soft, Top, Bottom, Oil, Gas or Water, Depth Found, Remarks. Lists geological layers from Clay to Red Rock with depths and water/gas findings.

RECEIVED Office of Oil and Gas OCT 16 2013 Water 1485-1490' Hole full

WV Department of Environmental Protection

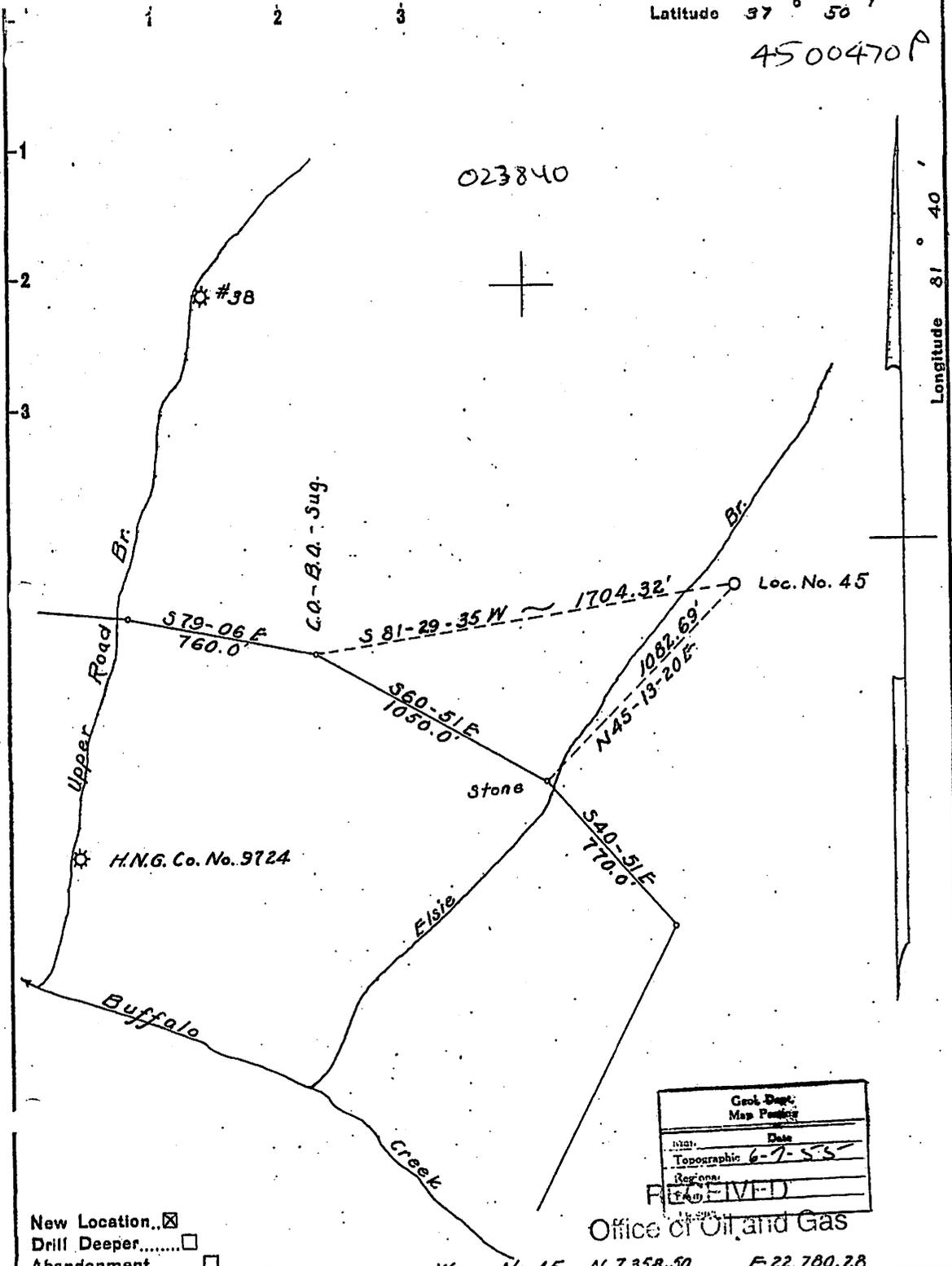
RECEIVED WEST VIRGINIA DEPT. OF MINES NOV 1955

Formation	Color	Hard or Soft	Top $\zeta$	Bottom	Oil, Gas or Water	Depth Found	Remarks
Lime			2422	2430			
Sand			2430	2501			
Red Rock			2501	2520			
Slate & Shells			2520	2570			
Lime	Red		2570	2585			
Slate			2585	2620	Gas	2590-2593'	show
Lime		Gritty	2620	2641			
Slate			2641	2689			
Little Lime			2689	2709			
Pencil Cave			2709	2725			
Big Lime			2725	3006			
Lime	Red		3006	3011			
Lime	White		3011	3096			
Injun Sand			3096	3145			
Slate & Shells			3145	3557			
Brown Shale			3557	3573			
Berea Sand			3573	3609			
Slate			3609				
TOTAL DEPTH				3619'			

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OCT 16 2013

WV Department of  
Environmental Protection

023840



Geol. Dept.	Map Posting
Date	
Topographic	6-7-55
Region	
Station	

Office of Oil and Gas

COORDINATES WELL No. 45 N 7,358.50 E 22,780.28

New Location...    
 Drill Deeper.....    
 Abandonment.....

Company UNITED PRODUCING Co. INC.  
 Address CHARLESTON, W. VA.  
 Farm FARDEE LAND COMPANY  
 Tract \_\_\_\_\_ Acres 22,000 Lease No. 4107  
 Well (Farm) No. 45 Serial No. 2384  
 Elevation (Spirit Level) 1570.93 = Gr.  
 Quadrangle BALD KNOB  
 County LOGAN District TRIADELPHIA  
 Engineer H. B. Burkhardt  
 Engineer's Registration No. 710  
 File No. W. Va. - 1-A Drawing No. \_\_\_\_\_  
 Date MAY 18, 1955 Scale 1" = 500'

OCT 16 2013  
 STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 Environmental Protection  
 CHARLESTON  
**WELL LOCATION MAP**  
 FILE NO. LOG-470

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.  
 - Denotes one inch spaces on border line of original tracing.

4500470P

WW-4-A  
Revised 6/07

- 1) Date: October 11, 2013
- 2) Operator's Well Number  
023840 Pardee Land Co #45
- 3) API Well No.: 47 045 - 00470  
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**

Check# 16407  
\$100.00

4) Surface Owner(s) to be served:

(a) Name Pardee Minerals LLC ✓  
 Address 500 Corporate Center Dr.  
Scott Depot, WV 25560

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

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

6) Inspector Ralph Triplett ✓  
 Address 5539 McClellan Hwy  
Branchland, WV 25506  
 Telephone 304-389-0350

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

(b) Coal Owner(s) with Declaration  
 Name Pardee Minerals LLC ✓  
500 Corporate Center Dr.  
 Address Scott Depot, WV 25560

(c) Coal Lessee with Declaration  
 Name Penn Virginia Resource Partners ✓  
 Address Carbon Center Suite 100  
Chesapeake, WV 25315

**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 11th day of October, 2013  
Shannon K Cunningham Notary Public  
 My Commission Expires: August 21 2022

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 Office of Oil and Gas  
 OCT 16 2013  
 WV Department of  
 Environmental Protection

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).

**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: Buffalo Creek Quadrangle: Lorado 7.5'  
Elevation: 1587' County: Logan District: Triadelphia

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:  
X 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

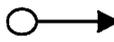
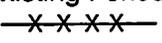
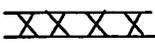
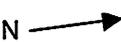
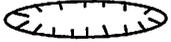
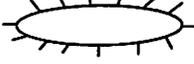
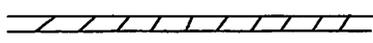
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OCT 16 2013

Subscribed and sworn before me this 11th day of October 2013  
Shannon K Cunningham  
My Commission Expires August 21, 2022



**OPERATOR'S WELL NO.:**  
**023840 Pardee Land Co #45**

**LEGEND**

Property Boundary 	Diversion 
Road 	Spring 
Planned Fence 	Drain Pipe with size in inches 
Existing Fence 	Stream 
Open Ditch 	Artificial Filter Strip 
North 	Building 
Pit with Cut Walls 	Pit with Compacted Walls 
	Water well 
	Drill site 
	Area of Land Application of Pit Waste 
	Wet Spot 
	Water Way 
	Cross Drain 
	Rock 

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	
Annual Rye	15		

**Received**  
OCT 17 2013

**ATTACH:**

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

Plan approved by: Raquel D. Tripodi

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

Title: District Inspector Date: October 16, 2013  
 Field Reviewed? Yes No

Office of Oil and Gas  
WV Dept. of Environmental Protection

4500 470P

Topo Quad: Lorado

Scale: 1" = 2000'

County: Logan

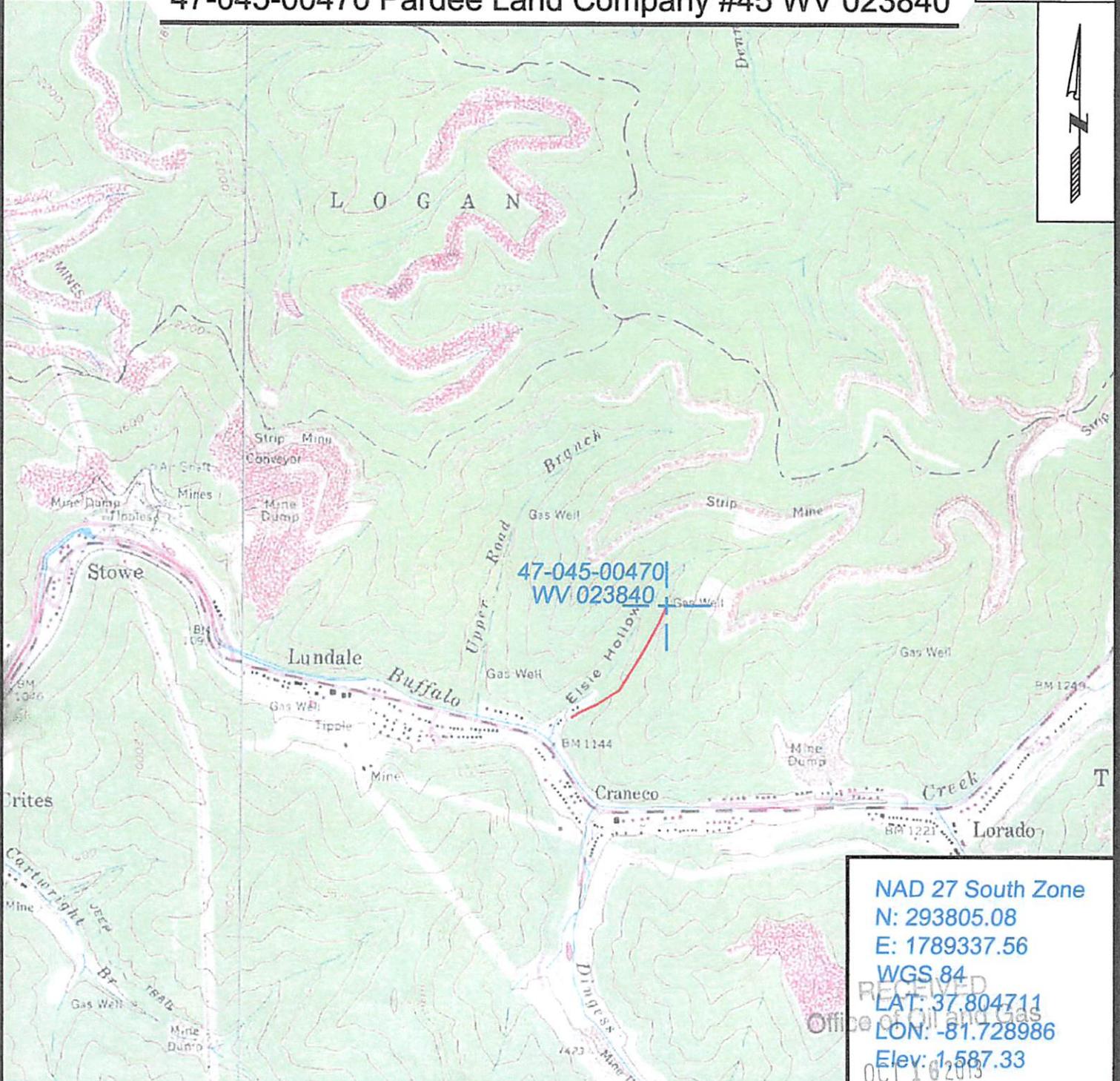
Date: September 30, 2013

District: Triadelphia

Project No: 21-21-00-08

**47-045-00470 Pardee Land Company #45 WV 023840**

Topo



NAD 27 South Zone  
 N: 293805.08  
 E: 1789337.56  
 WGS 84  
 LAT: 37.804711  
 LON: -81.728986  
 Elev: 1,587.33  
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 OCT 16 2013



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:  
 WV Department of  
**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: 47-045-00470 WELL NO.: WV 023840 (Pardee Land Company #45)

FARM NAME: Pardee

RESPONSIBLE PARTY NAME: EQT Production Company

COUNTY: Logan DISTRICT: Triadelphia

QUADRANGLE: Lorado 7.5'

SURFACE OWNER: Pardee Minerals, LLC

ROYALTY OWNER: Pardee Minerals, LLC

UTM GPS NORTHING: 4,184,398

UTM GPS EASTING: 435.827 GPS ELEVATION: 484 m (1587 ft)

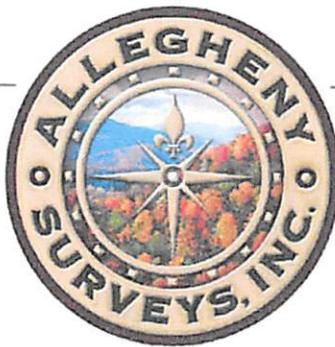
The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- 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.

Ben B. Singleton  
Signature  
9/30/13  
Date

P.S. 2092  
Title  
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Office of Oil and Gas  
OCT 16 2013  
WV Department of  
Environmental Protection



## POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EQT PRODUCTION COMPANY INC.

LEASE NAME AND WELL No. Pardee Land Company #45 (47-045-00470) WV 023840 .

### POTENTIAL SAMPLE LOCATIONS

There appears to be no known water samples within the required 1000' of the existing well WV 023840.

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Office of Oil and Gas

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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