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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 06, 2014

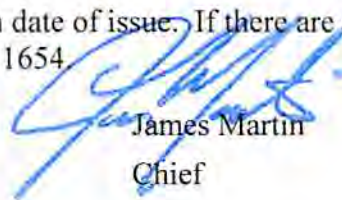
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-3905449, issued to REED GAS INC, 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: AL-117  
Farm Name: APPALACHIAN LAND COMPANY  
**API Well Number: 47-3905449**  
**Permit Type: Plugging**  
Date Issued: 08/06/2014

**Promoting a healthy environment.**

**08/08/2014**

# 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.

1) Date 6/10/14 20 14  
2) Operator's Well No. AL-117  
3) API Well No. 47-39-5449P

STATE OF WEST VIRGINIA  
DEPARTMENT 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) Location: Elevation 904' Watershed Lauri Run of Blue Creek  
District Elk County Kanawha Quadrangle Mammoth

6) Well Operator Reed Gas Inc. 7) Designated Agent James W, Reed Jr.  
Address Virginia Street Address Virginia Street  
Charleston WV. 25301

8) Oil and Gas Inspector to be notified Name Terry Urban  
Address P.O. Box 1207  
Clendenin WV. 25045  
9) Plugging Contractor Name Duckworth Well Service  
Address P.O. Box 6871  
Charleston WV. 25362

10) Work Order: The work order for the manner of plugging this well is as follows:

~~Perament Plug @1450'  
Cement 301' to 201'  
Cement 100' to Surface~~

*See plugging  
Diagram*

Gel between all plugs  
Pullall free pipe

Notification must be given to the district oil and gas inspector 34 hours before permitted work can commence.

Work order approved by inspector *[Signature]* Date 6-30-14

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Office of Oil and Gas  
WV Dept. of Environmental Protection

08/08/2014



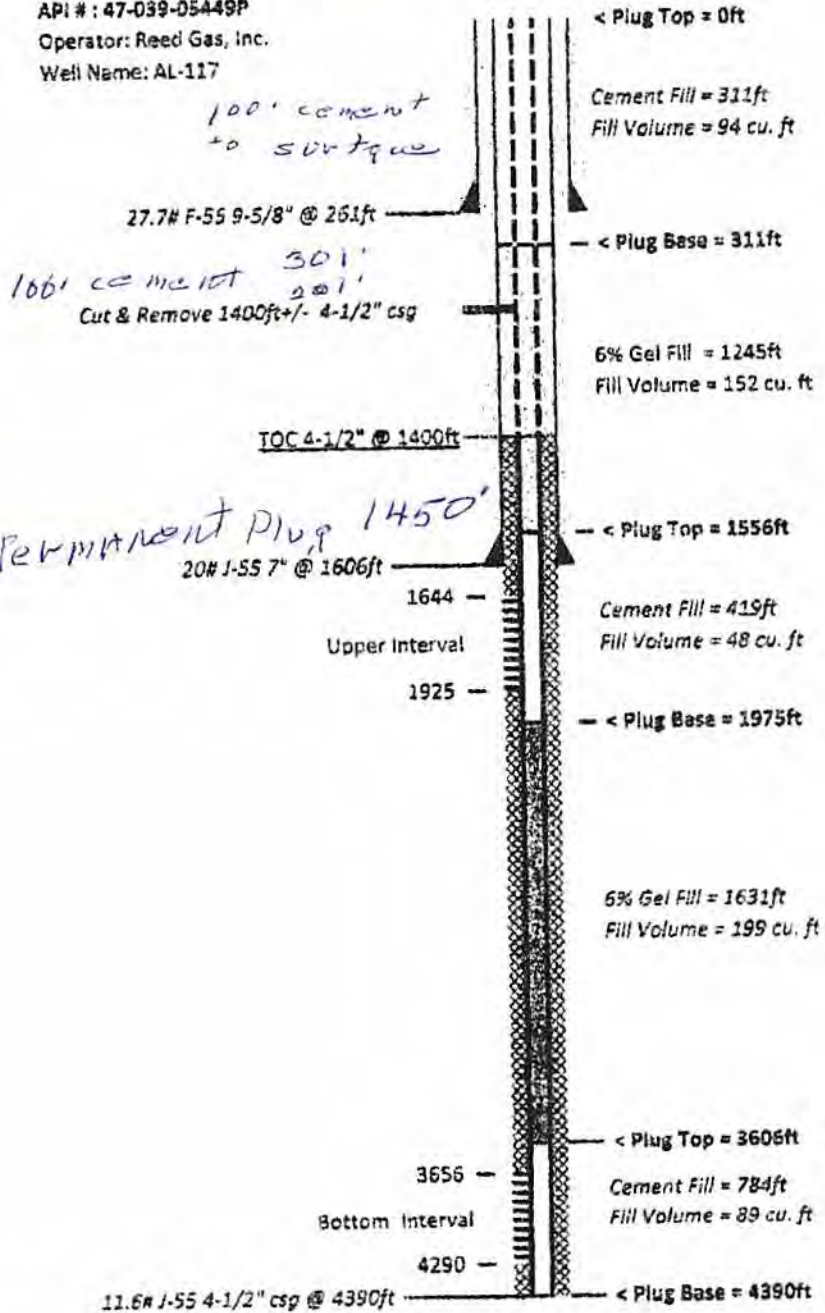


172 Odessa Drive  
Glen, WV 25098  
(304) 548.7142

Well Plugging Work Order

39-5449

API #: 47-039-05449P  
Operator: Reed Gas, Inc.  
Well Name: AL-117



Will also set elevat plug  
A. Miller  
4-30-14

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Office of Oil and Gas  
WV Dept. of Environmental Protection

08/08/2014

WR - 35  
Rev (5-01)

Date: 04/11/03  
API # 47-039-05449

State of West Virginia  
Department of Environmental Protection  
Office of Oil & Gas  
Well Operators Report of Well Work

*h*

Operators well name: AL 117  
Farm Name: Appalachian Land Co. Operator # 41350

Location: Elevation 904 Quadrangle: Mammoth  
District Elk County: Kanawha  
Latitude 5400 Feet South of 38 Deg 22 Min. 30 Sec.  
Longitude: 8575 Feet West of 80 Deg 15 Min. 0 Sec.

Company: Reed Gas Inc.  
Address: 1206 Kanawha Blvd. E. - Suite 201  
Charleston, WV 25301

Agent:	James W. Reed Jr.	Casing & Tubing	Used in Drilling	Left in Well	Cement Fill up Cu Ft		
Inspector	Carlos Hively				Sks		CU FT
Date Permit Issued	11/09/01	16"	15	FT			
Date Well Work Commenced	12/05/01	13 3/8	45	45 FT	60	Sks 70	CU FT
Date Well Work Completed	04/17/02	9 5/8	261	261 FT	110	Sks 152	CU FT
Verbal Plugging		7	1606	1606 FT	175	Sks 388	CU FT
Date Permission Granted On		4 1/2		4390 FT	160	Sks 400	CU FT
Rotary X Cable RIG							
Total Depth (feet)	4483						
Fresh Water Depth							
Salt Water Depth							
Is coal being mined in area ?	N						
Coal Depths							

OPEN FLOW DATA:

Producing Formation: Shale Pay zone depth (ft) 3656 to 4290  
GAS: Initial Open Flow: NA MCF/d OIL: Initial Open Flow:      Bbl/d  
Final Open Flow: 146 MCF/d Final Open Flow:      Bbl/d  
Time of open flow between initial and final tests 6 Hours  
Static rock pressure: 405 PSI (surface pressure) after 72 Hours

Second producing formation: Weir/Keener/Lime Pay zone depth (ft) 1644 to 1925  
GAS: Initial Open Flow:      MCF/d OIL: Initial Open Flow:      Bbl/d  
Final Open Flow:      MCF/d Final Open Flow:      Bbl/d  
Time of open flow between initial and final tests      Hours  
Static rock pressure:      PSI (surface pressure) after      Hours

NOTE: ON BACK OF THESE FORM PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGIC RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed: Mark Ruchie  
By:       
Date: 4/11/03

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KAN 2014  
6449

08/08/2014

WR - 35  
Rev (5-01)

Date: 04/11/03  
API # 47-039-05449

State of West Virginia  
Department of Environmental Protection  
Office of Oil & Gas

Operator well name: AL 117  
Farm Name: Appalachian Land Co. Operator # 41350

Company: Reed Gas Inc.  
Address: 1206 Kanawha Blvd. E.- Suite 201  
Charleston, WV 25301

GEOLOGICAL RECORD

Description:	Top	Bottom
Clay / Sand	0	10
Sand & Shale	10	548
Eagle Shale	548	559
Sands/Salt Sands/intermittent shales	559	1347
Red Rock/Gray Shale	1347	1476
Little Lime	1476	1505
Pencil Cave	1505	1526
Big Lime	1526	1737
Keener	1737	1760
McCrary Shale	1760	1812
Upper Weir	1812	1822
Shale break	1822	1861
Middle Weir	1861	1932
Shale	1932	4488

Additional Comments:

Gas Kick at 1440

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Department of Environmental Protection  
08/08/2014

State of West Virginia  
Department of Environmental Protection  
Office of Oil & Gas

Operator well name: AL 117  
Farm Name: Appalachian Land Co. Operator # 41350

Company: Reed Gas Inc.  
Address: 1206 Kanawha Blvd. E. - Suite 201  
Charleston, WV 25301

Stage 1) Shale Perf with 20 shots from 3980 to 4200. Treat at 32 BPM with variable quality foam placing 30,477 lbs 20/40 sand. Used 92 bbls treatd fluid, 500 gals 15% Hcl acid & 477,000 scf Nitrogen. Average treating pressure 2700 PSI. Went to a max. sand conc. of 3PPG

Stage 2) Shale Perf with 16 shots from 3650 to 3866. Treat at 32 BPM with variable quality foam placing 28,589 lbs 20/40 sand. Used 98 bbls treatd fluid, 500 gals 15% Hcl acid & 420,014 scf Nitrogen. Average treating pressure 2700 PSI. Went to a max. sand conc. of 3PPG

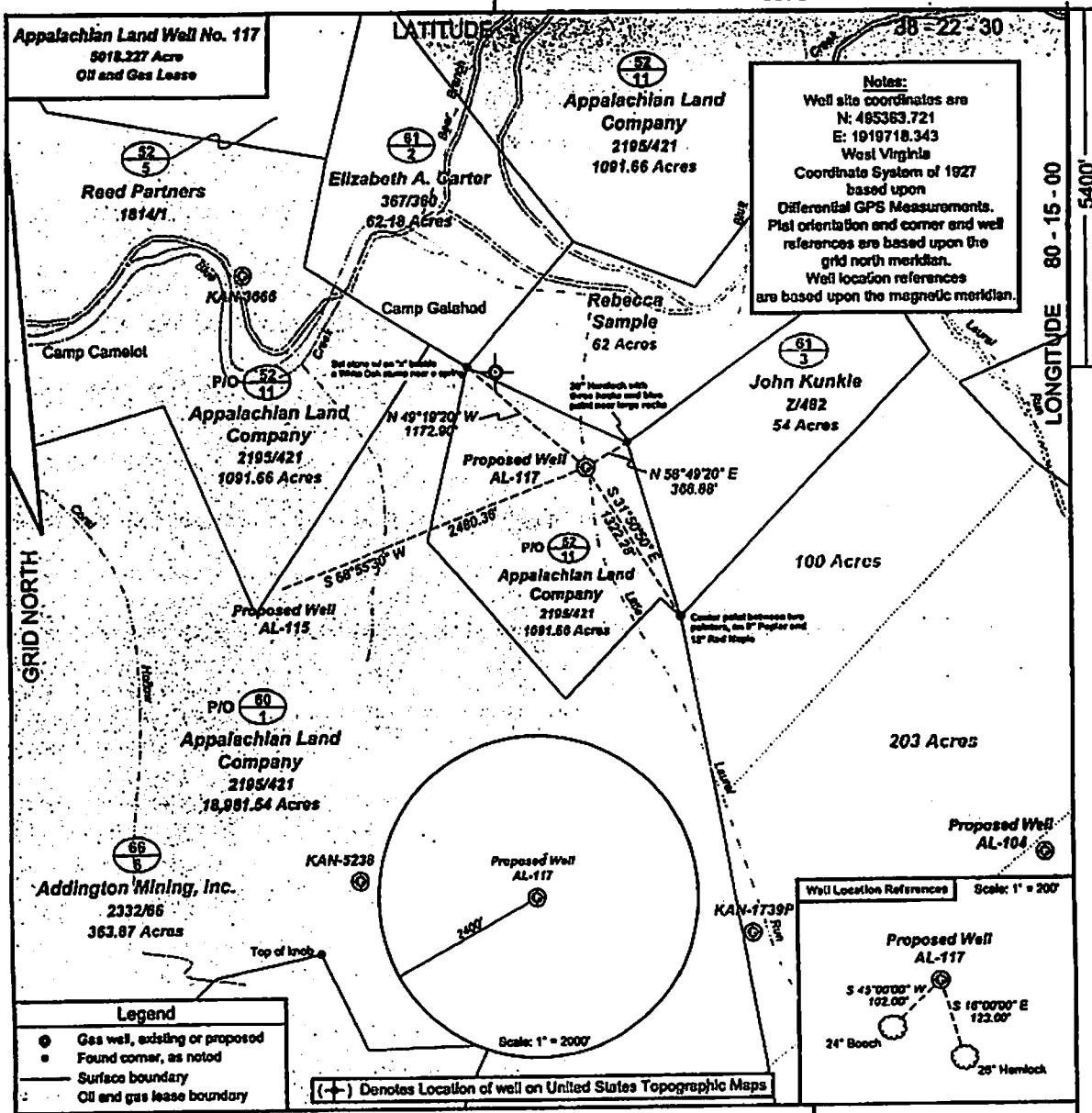
Stage 3) Weir Perf with 12 shots from 1897 to 1925. Treat at 20 BPM with 75 quality foam placing 30,159 lbs 20/40 sand. Used 142 bbls treatd fluid, 500 gals 15% Hcl acid & 343,120 scf Nitrogen. Average treating pressure 3200 PSI. Went to a max. sand conc. of 3PPG

Stage 4) Keener Perf with 16 shots from 1730 to 1755. Treat at 20 BPM with 75 quality foam placing 28,887 lbs 20/40 sand. Used 134 bbls treatd fluid, 500 gals 15% Hcl acid & 275,767 scf Nitrogen. Average treating pressure 2850 PSI. Went to a max. sand conc. of 3PPG

Stage 5) Big Lime Perf with 12 shots from 1644 to 1687. Treat at 12 BPM with 500 gals 15% Hcl acid & 500 Gals 28% acid foamed at 70 quality. Displace with Nitrogen- total nitrogen used 30,531 scf.

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JUL 11 2014  
KANAWHA  
Office of Oil and Gas  
WV Dept. of Environmental Protection  
SUN

08/08/2014



FILE No. 37-14-E-01  
DRAWING No. 3714E01.dwg  
SCALE: 1" = 1000'  
MINIMUM DEGREE OF  
ACCURACY: 1/2400  
PROVEN SOURCE OF  
ELEVATION U.S.G.S. HARN  
Station Elevation: 631.00'

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 Department of Mines.

*Alvin P. ...*  
P.S. 835

DATE: November 1 20 01  
OPERATOR'S WELL No. AL-117  
API WELL No. \_\_\_\_\_

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

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ STATE 47 COUNTY 039 PERMIT 05449  
(IF "GAS") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X

LOCATION: ELEVATION: 904.19' WATER SHED: Little Laurel Run of Blue Creek  
DISTRICT: Elk COUNTY: Kanawha

QUADRANGLE: Mammoth ACREAGE: 1091.66 Ac

SURFACE OWNER: Appalachian Land Company LEASE ACREAGE: 5018.227 Ac  
OIL & GAS ROYALTY OWNER: Pine Mountain Oil and Gas LEASE No. \_\_\_\_\_

PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_  
PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_  
OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION: Dovonian Shale ESTIMATED DEPTH: 4650'

WELL OPERATOR: Reed Gas, Inc. DESIGNATED AGENT: James W. Reed, Jr.  
ADDRESS: 1206 Kanawha BLVD. E. Suite 201 ADDRESS: 1206 Kanawha BLVD. E. Suite 201  
Charleston, WV 25301 Charleston, WV 25301

Office of Oil and Gas  
Department of Energy and Environment  
2014  
08/08/2014





WW-4A  
Revised 6-07

1) Date: 6/10/14  
2) Operator's Well Number: AL-117  
3) API Well No.: 47 - 39 - 5449P

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:

(a) Name: Appalachian Land Company (b) Coal Operator: Reed Gas Inc.  
 Address: Blue Eagle Land Co Address: \_\_\_\_\_  
200 Virginia  
Charleston, WV 25302

(b) Name: \_\_\_\_\_ (b) Coal Owner(s) with Declaration:  
 Address: \_\_\_\_\_ Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

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

6) Inspector: Terry Urban (c) Coal Lessee with Declaration:  
 Address: P. O. Box 1207 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: Clendenin WV. 25045 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 log 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 reverse side. However, you are not required to take any action at all.

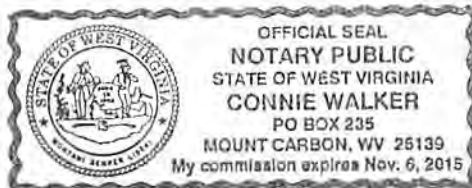
Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental 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 persons named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator: Reed Gas Inc.  
 By: James W. Reed Jr.  
 Its: President  
 Address: Virginia Street  
Charleston WV 25301  
 Telephone: 304-345-3817

Subscribed and sworn before me this 24th day of June, 2014  
Connie Walker Notary Public  
 My Commission Expires Nov 6, 2015

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 [depprivacy@dep.wv.gov](mailto:depprivacy@dep.wv.gov).



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JUN 10 2014  
 Office of Oil and Gas  
 WV DEP, 1000 Capitol Mall, Charleston, WV 25303  
 08/08/2014

7009 1410 0001 1000 4998 6028

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Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.91</b>



Sent To Blue Eagle Wind Co.  
 Street, Apt. No.,  
 or PO Box No. 700 Virginia Ln  
 City, State, ZIP+4 Charleston WV 25302

PS Form 3800, August 2006 See Reverse for Instructions



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JUL 11 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection  
08/08/2014



WW-9  
Rev. 5/08

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47- AL-117  
Operator's Well No. 39 5449P

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Reed Gas Inc. OP Code \_\_\_\_\_

Watershed Laruel Run of Blue Creek Quadrangle \_\_\_\_\_

Elevation 904' County Kanawha District Elk

Description of anticipated Pit Waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? \_\_\_\_\_

- Proposed Disposal Method For Treated Pit Wastes:
- Land Application
  - Underground Injection ( UIC Permit Number \_\_\_\_\_ )
  - Reuse (at API Number \_\_\_\_\_)
  - Off Site Disposal (Supply form WW-9 for disposal location)
  - Other (Explain \_\_\_\_\_)
- NO PIT

- Proposed Work For Which Pit Will Be Used:
- Drilling
  - Workover
  - Other (Explain \_\_\_\_\_)
  - Swabbing
  - Plugging

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 W. Reed Jr.

Company Official (Typed Name) James W. Reed Jr.

Company Official Title President

Subscribed and sworn before me this 24<sup>th</sup> day of June, 20  

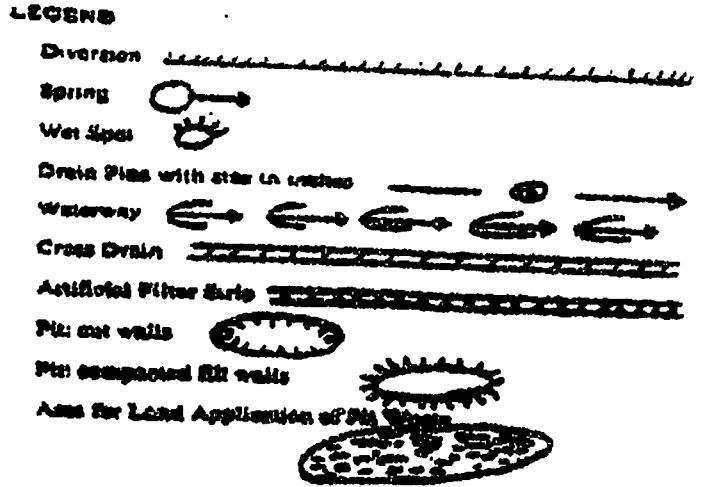
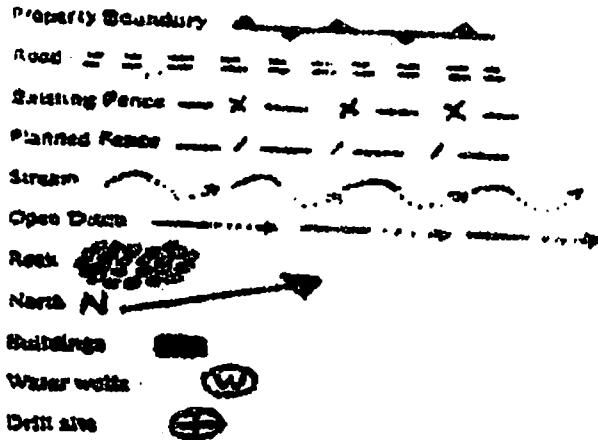
Connie Walker Notary Public

My commission expires Nov 6, 2015



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08/08/2014



Proposed Revegetation Treatment: Acres Disturbed 1 Prevegetation pH \_\_\_\_\_

Lime 3 Tons/acre or to correct to pH \_\_\_\_\_

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

Mulch 2 Tons/acre

Seed Mixtures

Seed Type	Area I		Area II	
	Seed Type	lbs/acre	Seed Type	lbs/acre
<u>Contractors Mix</u>				

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

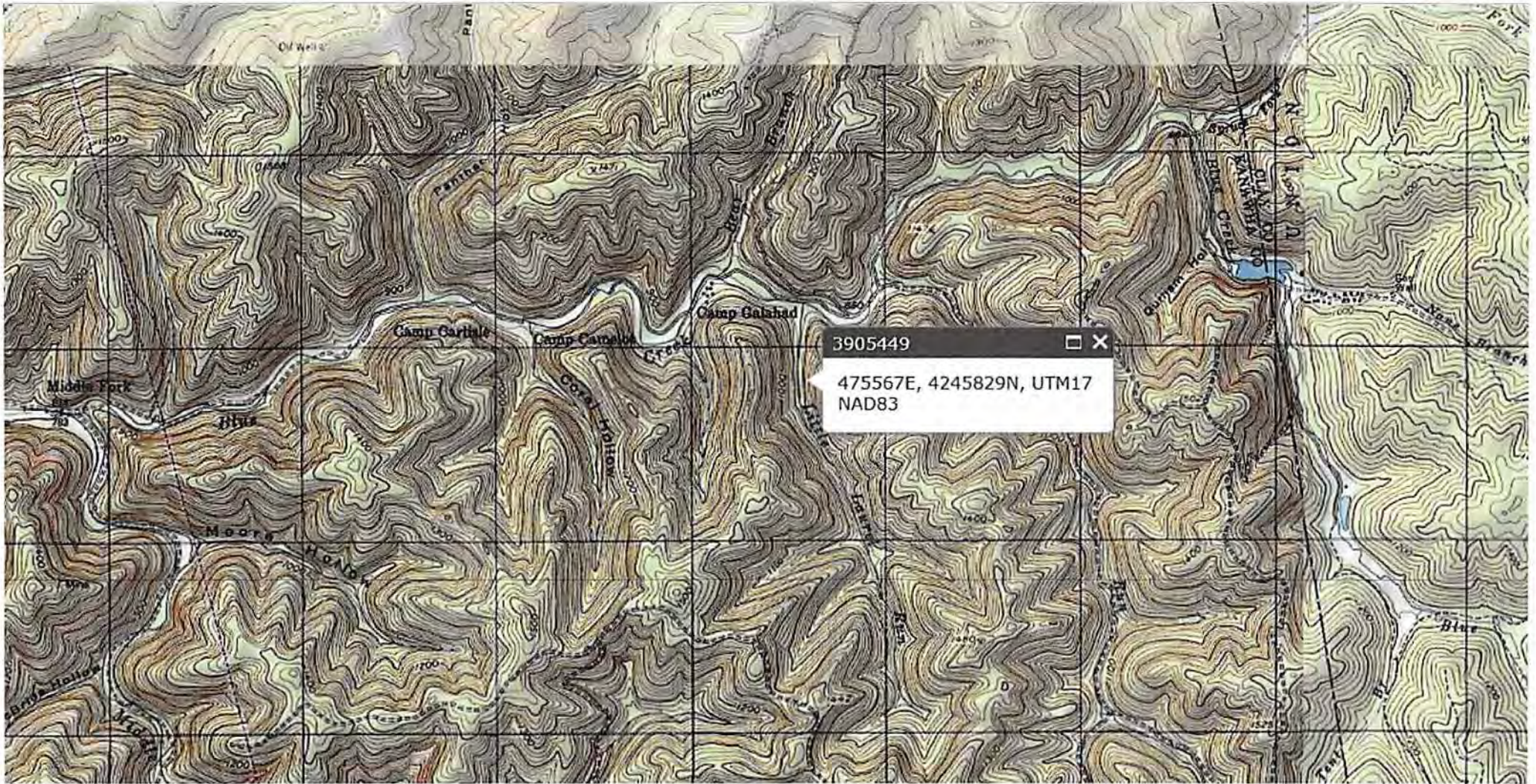
Plan Approved by: Terry Graham by [Signature]  
Comments: \_\_\_\_\_

Title: Inspector Date: 7/15/14  
Field Reviewed?  Yes  No

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JUL 17 2014





received  
JUL 1 2014  
Office of Oil and Gas  
Dept. of Environmental Protection





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

API: 47-39-5449 WELL NO.: 17L-117

FARM NAME: Appalachian Land Co.

RESPONSIBLE PARTY NAME: James W. Reed Jr.

COUNTY: Kanawha DISTRICT: ELK

QUADRANGLE: Mammoth

SURFACE OWNER: Appalachian Land Co.

ROYALTY OWNER: Pine Mountain Oil & Gas

UTM GPS NORTHING: 4245829

UTM GPS EASTING: 475567.4 GPS ELEVATION: 904

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:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. 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.

Steve Duckworth Contractor  
Signature Title

6-10-14  
Date

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Office of Oil and Gas  
WV Dept. of Environmental Protection