

west virginia department of environmental protection

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: 47-3904894, 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 penalities 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-37

Farm Name: APPALACHIAN LAND CO.

API Well Number: 47-3904894 Permit Type: Plugging

Date Issued: 08/06/2014

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

- 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 37 3) API Well No. 47-39-4894P

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

APPLICATION FOR A DEPARTE NO DIVING AND

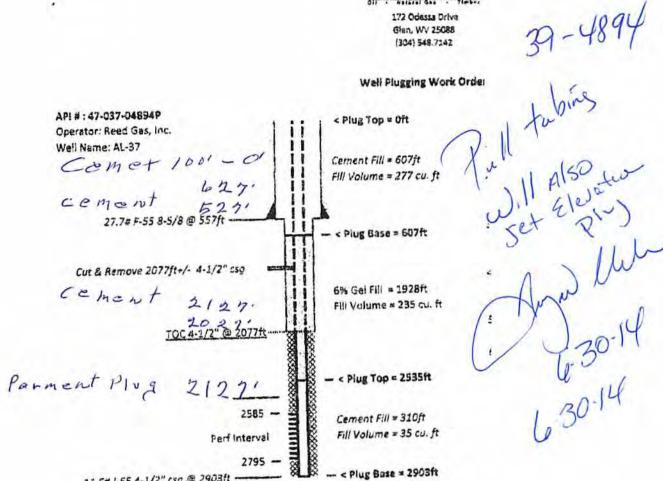
4.2	(If "Gas, Production or Und	d injection/ Waste disposal/ derground storage) Deep/ Shellow
51	Location: Elevation 1672	Watershed Middle Fork of Blue Cree
6)	Well Operator Reed Cas.Inc. Virginia Street Charleston WV. 25	7) Designated Agent James Reed Address Virginia Street Charleston WV. 25
3)	Oil 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
(0)	Work Order: The work order for the manne	er of plugging this wall is as follows:
	Permanent Plug 2127' Cement 2127' to 2027' Cement 627' to 527' Cement 100' to surface	Dec Physics
otif ork	fication must be given to the district oil	and gas inspector 24 hours before permitted
	order approved by inspector Aul	Pate 4-30-14 Received
		W- 1 L J

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



172 Odessa Drive Glan, WV 25088 (304) 548.7142

Well Plugging Work Order



Received

JUL 1 / 2014

Office of Oil and Gas
Office of Oil and Gas
Office of Oil and Gas

11.6# J-55 4-1/2" csg @ 2903ft

WR-35 Principle St. Permitting

19-May-93 API # 47- 39-04894

State of West Virginia Division of Environmental Protection Section of Oil and Gas

OCATION: B	levation:	1,672.0	0 Quad	rangle: M	нтони		
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CLAY,	BOX 480 WV 2504			Casing &	Used in Drilling		Cement Fill Up Cu. Ft.
Agent: THOMA Inspector: CA Permit Issued Well work Com	ARLOS HIVE	LY 04/19/9	3	Size			
vell work Com Verbal Pluggi Permission gr	pleted:] .ng	6/18/93		24# 8 5/8"		557,	TO SURFACE
lotary x C Potal Depth (Presh water d	able feet) 29	10'		10.5# 4 1/2"	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2903'	175 8K8
Salt water de	_			4.6# _2_3/8		2788'	NA.
is coal being Coal Depths (ft): 450'	area (X	/N// <u>X</u> _				
DEN PLON DAT	'A					•	

Producing formation WEIR INJUN KEENER LIME Pay some depth (ft	<u> </u>	
Gas: Initial open flow 0 MCF/d Oil: Initial open flow 0	85179	
Final open flow 225 MCF/d Final open flow G	Bb1/d	
Time of open flow between initial and final tests 6	Hours	
Static rock Pressure 470 psig (surface pressure) after 4		
	<u></u>	
Second producing formation Pay zone depth (ft	:)	
Gas: Initial open flow HCF/d Oil: Initial open flow	86176	
Final open flow MCF/d Final open flow	Bb1/d	
Time of open flow between initial and final tests	Hours	1
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COMPLETION REPORT AL-37 REED PARTNERS API NO. 47-039-04894 CNR NO. 22274 PI

ı.	GEOLOGICAL RECORD		
	SURFACE	0-15	FT.
	SAND & SHALE	15-1450	
	ROSEDALE SAND	1450-1476	
	SALT SAND &		
	SHALE BREAKS	1476-1908	FT.
	UPPER MAXTON	1908-1944	
	RED ROCK & GRAY SHALE	1944-2074	FT.
	MIDDLE MAXTON	2074-2153	FT.
	RED ROCK & GRAY SHALE	2153-2365	FT.
	LITTLE LIME	2365-2408	FT.
	PENCIL CAVE	2408-2445	FT.
	BIG LIMB	2445-2600	FT.
	KEENER	2600-2616	FT.
	RED McCRADY SHALE	2616-2630	FT.
	INJUN	2630-2648	FT.
	SHALE	2648-2672	FT.
	UPPER WEIR	2672-2682	FT.
	SHALE	2682-2763	FT.
	LOWER WEIR	2763-2804	FT.
	SHALE	2804-2930	FT.

II. PERFORATION AND STIMULATION

- A. PERFORATION; A TOTAL OF 32 HOLES .39" IN DIAMETER WERE SHOT AS FOLLOWS

 - (1) 12 HOLES FROM 2770 TO 2795 FEET IN THE WEIR (2) 10 HOLES FROM 2610 TO 2633 FEET IN THE KEENER AND INJUN
 - (3) 10 HOLES FROM 2518 TO 2585 FEET IN THE BIG LIME
- B. STIMULATION; THE WELL WAS FRACTURED IN THREE STAGES BY MEANS OF A 3.56" BAFFLE BETWEEN THE KEENER AND BIG LIME AND A 3 3/4" FRAC BALL, AND A 3.31" BAFFLE BETWEEN THE WEIR AND INJUN AND A 3 1/2" BALL USING 65 QUALITY FOAM. DETAILS ARE AS FOLLOWS:
- (1) BROKE DOWN THE FIRST STAGE (WEIR) WITH 500 GAL. OF 18% HCl at a pressure of 1690 PSI WITH CASING FULL OF WATER PUMPED A 40 BBL PAD OF 65 QUALITY FOAM FOLLOWED BY 285 SKS PUMPED A 40 BBL PAD OF 65 QUALITY FOAM FOLLOWED BY 285 SKS OF 20/40 SAND IN 65 QUALITY AT AN AVERAGE FOAM RATE OF 16 BBL/MIN. ISIP OF 1420 PSI AND AN AVERAGE TREATING PRESSURE OF 2170 PSI. USED 265,087 SCF OF N2. MAXIMUM SAND CONC. PRO 2.5 M/GAL DOWN HOLE.

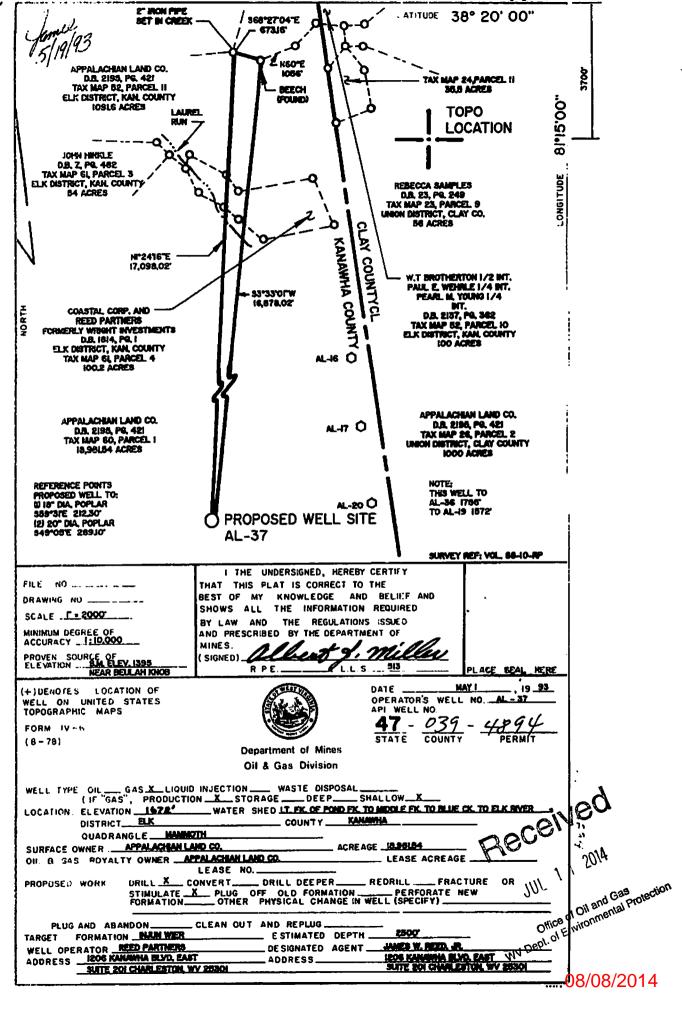
Onice of Oil and USB Production Dept. of Environmental Production Oluce of Oil and Gas

- (2) BROKE DOWN SECOND STAGE (INJUN & REENER) WITH 500 GAL OF 15% HCl AT A PRESSURE OF 1760 PSI WITH CASING FULL OF WATER. PUMPED A 35 BBL PAD OF 65 QUALITY FOAM FOLLOWED BY 175 SKS OF 20/40 BAND IN 65 QUALITY FOAM AT AN AVERAGE POAM RATE OF 14 BBL/MIN. ISIP OF 1290 PSI AND AN AVERAGE TREATING PRESSURE OF 2550 PSI. USED 202,533 SCF OF N2. MAXIMUM SAND CONC. OF 2 #/GAL DOWN HOLE.
- (3) BROKE DOWN THIRD STAGE (BIG LIME) WITH 500 GAL OF 15% HCl AT A PRESSURE OF 2130 PSI WITH CASING FULL OF WATER. FOAMED 2000 GAL OF 28% HCl WITH N2 USING 65 QUALITY FOAM AT A RATE OF 16 BBL/MIN. ISIP OF 1620 PSI. USED 95,090 SCF OF N2, AND AN AVERAGE TREATING PRESSURE OF 2190 PSI.

Modern of Environmental Protection

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08/08/2014



WW-4A Revised 6-07

1) Date: 6/	10/14	
2) Operator's Well Num AL	ber -37	
3) API Well No.: 47 •	39 .	4894P

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

4) Surface Ow	nex(s) to be served: 5) (a) Open Operator	
(a) Name	Applachian Land Name	-
Address	Blue Engle Land Ca / Address	
(b) Name	Cherleston WV 25302 (b) Coal Owner(s) with Declaration	
Address	Name	
SWINGTON	Address	
200 AV	Terry Urban Name	
(c) Name	P.O.Box 1207 Address	
Address		
s) Inspector	(c) Coal Lapsee with Declaration	
Address	Neme	
	Address	-
Telephone		
(2) The mass afonever. Take noting accompan	e application to Plug and Abandon a Well on Form WW-42, which sets out the parties involved in the woll its and the plugging work order; and a plut (surveyor's map) showing the well location on Form WW-6. In you received these documents is that you have rights regarding the application which are summarized in the instruction, you are not required to take any action at all. In our are not required to take any action at all. In the under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this No againg documents for a points to plug and abandon a well with the Chief of the Office of Oil and Gas. West Virginia Deparam, with respect to the unit at the location described on the attached Application and depicted on the ottached form WW-6 location, and the pize have been mailed by registered or certified mail or delivered by hand to the persons; manual about the particular of the pize have been mailed by registered or certified mail or delivered by hand to the persons; manual about the pize has been mailed by registered or certified mail or delivered by hand to the persons;	ons on the reverses side. tice and Application and rement of Environmental Comies of Units Notice
Dertapi cu	reconstances) on or baters the day of roulling or delivery to the Chief.	
	Well Operator Reed Gos Fire	
	By: James W Keel h	
	Its: President	
	Address Virginia STreet	
	Charleston WV 25301	
	Telephone 304-345-3817	
	nd sworn before me this Japak day of June 12014 Notery Public on Expires Nov 6, 2015	
My Commission	on wahres	
Oil and Gas Pri		
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The Office of Dil and Gaz processes your persons) information, each as carse, 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 quantions about our use of your personal information, please contact: DEP's Chief Privacy Officer at denutive profiler Syvacy.



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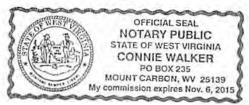
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	Page_		4894P
Operator's Well No	,	AL	-37

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

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

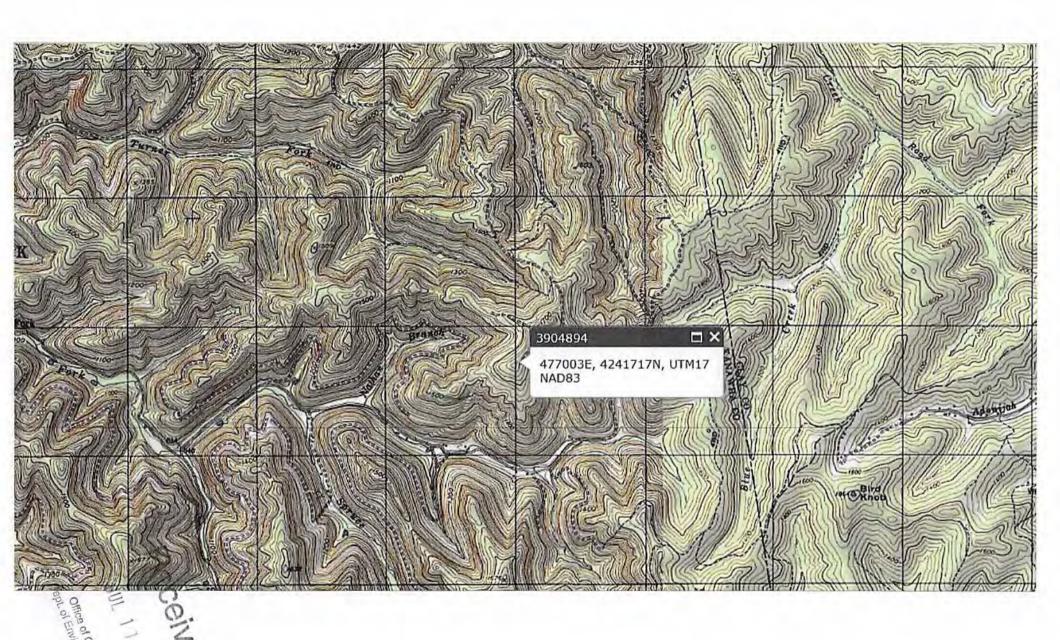
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08/08/2014





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

AM: 47-39-4894 WELL NO.: 191-37
FARMNAME: APPlachian hand Co.
RESPONSIBLE PARTY NAME: Tames W. Reed In
COUNTY: Kanawha DISTRICT: 1=114
QUADRANGLE: Man oth
SURFACE OWNER: 17 PPlachian Land Co.
ROYALTYOWNER: Applachian Land Co
UTM GPS NORTHING: 424/7/6,9
UIM GPS EASTING: 477003.2 GPS ELEVATION: 1672
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
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 be lief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas. Signature Title Date Office of Oil and Gas Oil and Gas