



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

May 19, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-1502651, 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: CD-4
Farm Name: WOODBINE LTD. PARTNERSHIP
API Well Number: 47-1502651
Permit Type: Plugging
Date Issued: 05/19/2015

Promoting a healthy environment.

05/22/2015

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.

WW-4A
Revised 6-07

1) Date: 4-5-15
2) Operator's Well Number
CD4

3) API Well No.: 47 - 15 - 02651

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:	5) (a) Coal Operator
(a) Name <u>Woodhine Partnership</u>	Name <u>Reed Brothers Inc</u>
Address <u>Kennife Reed</u>	Address <u>_____</u>
(b) Name <u>602 Adams St. Apt 23</u>	(b) Coal Owner(s) with Declaration
Address <u>Davis, Cal. 95634</u>	Name <u>_____</u>
(c) Name <u>_____</u>	Address <u>_____</u>
Address <u>_____</u>	Name <u>_____</u>
(d) Inspector <u>Eddie Gainer</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 821</u>	Name <u>_____</u>
Telephone <u>Spencer, WV 25276</u>	Address <u>_____</u>

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

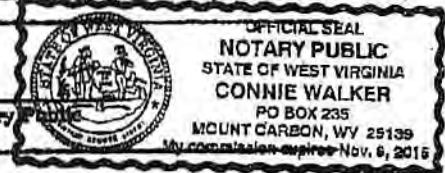
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well(s) and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-5

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.

This 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-5. 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 Reed Brothers Inc
 By: Charles Reed
 Title: Vice President
 Address: 1319 Virgila St East
Charleston, WV 25301
 Telephone: _____

Subscribed and sworn before me this 20th day of April, 2015
Connie Walker Notary Public
 My Commission Expires March 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.

Received
APR 21 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

7014 1200 0000 4936 6348

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

FORESTHILL CA 95631

Postage	\$	\$0.49
Certified Fee		\$3.30
Return Receipt Fee (Endorsement Required)		\$2.70
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$6.49



Sent To
 Jennifer Reed
 Street, Apt. No.,
 or PO Box No. 602 Adams St Apt 23
 City, State, ZIP+4
 Davis Cal 95631

PS Form 3800, August 2006 See Reverse for Instructions



Received

APR 21 2015

Office of Oil and Gas
 Calif. Dept. of Environmental Protection

15-02651

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

APPLICATION FOR A PERMIT TO DRILL AND ABANDON

- 4) Well Type: Oil / Gas / Liquid Injection / Waste disposal
 Gas, Production or Underground storage / Deep / Other
- 5) Location: Elevation 1243' Attached Elk River
 Section Henry County Clay Washington Clay
- 6) Well Operator Reed brothers 7) Designated Agent
 Address 1314 Virginia St Address
Charleston, WV
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
 Name Eddie Cain Name Duckworth Well Service
 Address P.O. Box 821 Address P.O. Box 72
Spencer, WV Charleston, WV

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

- Cement 4625' - 4225-
- Cement 2050' - 1950-
- Cement 1100' - 1000'
- Cement 550' - 450'
- Cement 100' - Surface

Gel between all plugs.
Erect monument with API numbers.
Pull all free pipe'

Notification must be given to district Oil & Gas Inspector 24 hours before permitted work can commence.

Inspector Approved As Is
Approved With Changes/Notes

4/21/15

Received

APR 21 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

WR - 35
Rev (5-01)

Date: 04/16/03
API # 47-015-02651

AB

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

Operators well name: CD 4
Farm Name: Woodbine Ltd. Partnership Operator # 41350

Location: Elevation 1050 Quadrangle: Clay
District Henry County: Clay
Latitude: 11760 Feet South of 38 Deg 30 Min. 00 Sec.
Longitude: 0 Feet West of 81 Deg 5 Min. 00 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:	<u>George H. Campbell</u>								
Date Permit Issued:	<u>12/12/01</u>	<u>9 5/8</u>	<u>528</u>	<u>528</u> FT	<u>175</u>	<u>Sks</u>	<u>243</u>	<u>CU FT</u>	
Date Well Work Commenced	<u>12/27/01</u>	<u>7</u>	<u>1992</u>	<u>1992</u> FT	<u>265</u>	<u>Sks</u>	<u>400</u>	<u>CU FT</u>	
Date Well Work Completed	<u>05/17/02</u>	<u>4 1/2</u>		<u>4629</u> FT	<u>255</u>	<u>Sks</u>	<u>538</u>	<u>CU FT</u>	
Verbal Plugging:						<u>Sks</u>		<u>CU FT</u>	
Date Permission Granted On						<u>Sks</u>		<u>CU FT</u>	
Rotary X Cable	<u>RIG</u>								
Total Depth (feet):	<u>4703</u>								
Fresh Water Depth:									
Salt Water Depth									
Is coal being mined in area ?	<u>N</u>								
Coal Depths									

OPEN FLOW DATA:

GAS: Producing Formation: Shale Pay zone depth (ft) 2736 to 4611
Initial Open Flow: NA MCF/d OIL: Initial Open Flow: Bbl/d
Final Open Flow: 211 MCF/d Final Open Flow: Bbl/d
Time of open flow between initial and final tests 6 Hours
Static rock pressure: 300 PSI (surface pressure) after 72+ Hours

GAS: Second producing formation: Big Lime/Keener Pay zone depth (ft) 2137 to 2207
Initial Open Flow: NA 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: Marl Ruchits
By:
Date: 4/16/03

Received
APR 21 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

150651

05/22/2015

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

Operators well name: CD 4
Farm Name: Woodbine Ltd. Partnership Operator # 41350
Company: Reed Gas Inc.
Address: 1206 Kanawha Blvd. E.- Suite 201
Charleston, WV 25301

Stimulation Record

Stage 1) Shale Perforate 20 shots from 4334 to 4611. Treat at 32 Bpm with variable quality foam. Placed 17,000 lbs 20/40 sand using 51 bbls treated water, 500 gals 15% Hcl acid and 607,200 scf nitrogen. Max. sand Conc. 2.5 PPG. Avg. treating pressure 3217

Stage 2) Shale Perforate 20 shots from 4127 to 3664/ Treat at 32 Bpm with variable quality foam. Placed 31,000 Lbs 20/40 sand using 81 bbls treated water, 500 gals 15% Hcl acid & 373,800 scf nitrogen. Max sand Conc. 3 1/4 ppg. Avg. treating pressure 3201

Stage 3,4 & 5 - See additional pages

Received

MAY 22 2015

Office of Oil & Gas

05/22/2015

Odessa Development Inc.

Well Treatment Report

Company Reed Brothers Limited Partnership
Well CD-4
API # 47-15-2651
Date 5/17/02

3RD

1st. Stage Upper Huron

3RD

1st. Stage

Surface Breakdown Psig 2010

Perforation depths
3496' - 3396'

Avg. Treating Psig @ Surface 2700

Slurry Rate 32 bbl./min.

Plug set 3508'
bridge plug (gas release)
Baffle Set N/A

Fluid Pump Rate 7 bbl/min

Nitrogen Rate 21,500 scf/min

Perf. Size 0.33

Total Sand 30,000 lbs 20/40

Perf. Charge 10 grams

Total Water 113 bbls

of holes 20

Total Acid 12 Bbl.- 15% HCL

Gun Type 3 1/8" S.F.
2-Shot

Total Nitrogen 514,900 scf

Phasing 180 degrees

Max. Sand Concentration (down-hole) 3 lbs./gal.

Foam Quality 90-85-80-75%

ISIP 2000 after 5 min 1800

Comments: Set bridge plug (gas release) & perforate first stage

Pump 12 bbls 15% HCL acid & breakdown w/N2

Start job @ 1/2 lb/gal sand concentration - end w/3 lb/gal

Flush w/N2

Received

APR 21 2015

Office of Oil and Gas
WV Dept. of Environmental Protection

05/22/2015

Odessa Development Inc.

Well Treatment Report

Company Reed Brothers Limited Partnership
Well CD-4
API # 47-15-2651
Date 5/17/02

4 7h. 2nd. Stage Cleveland Shale

4 7h 2nd. Stage

Surface Breakdown Psig 2780

Perforation depths
2781' - 2736'

Avg. Treating Psig @ Surface 1455

Slurry Rate 16 bbl./min.

Plug set 2810'

Fluid Pump Rate 6 bbl/min

SMF Plug

Baffle Set N/A

Nitrogen Rate 9,400 scf/min

Perf. Size 0.33

Total Sand 31,112 lbs 20/40

Perf. Charge 10 grams

Total Water 99 bbls.

of holes 18

Total Acid 12 Bbl.- 15 % HCL

Gun Type 3 1/8" S.F.
2-Shot

Total Nitrogen 287,089 scf

Phasing 180 degrees

Max. Sand Concentration (down-hole) 3 lbs./gal.

Foam Quality 75%

ISIP 1710 after 5 min 1400

Comments: Set SMF Plug & perforate second stage

Pump 3 bbls 15% HCL acid past frac ball & land w/ 9 bbls acid

Breakdown w/acid & nitrogen

Start job @ 1/2 lb/gal - end job w/3 lb/gal

Flush w/N2

Received

CLAY 2651

05/22/2015

Odessa Development Inc.

Well Treatment Report

Company Reed Brothers Limited Partnership
Well CD-4
API # 47-15-2651
Date 5/17/02

5th
~~3rd~~ Stage Big Lime/Keener

5th
~~3rd~~ Stage

Surface Breakdown Psig 2050
Avg. Treating Psig @ Surface 1350
Slurry Rate 16 bbl/min
Fluid Pump Rate 5 bbl/min
Nitrogen Rate 8,050 scf/min
Total Sand 21,755 lbs 20/40
Total Water 104 bbls
Total Acid 12 bbls 15% - 12 bbls 28%
Total Nitrogen 221,745 scf
Max. Sand Concentration (down-hole) 3 lb/gal
Foam Quality 75%
ISIP 930 after 5 min 900

Perforation depths 2207' - 2137'
Plug set 2230'
LMF Plug
Baffle Set N/A
Perf. Size 0.33
Perf. Charge 10 grams
of holes 18
Gun Type 3 1/8" S.F.
2-Shot
Phasing 180 degrees

Comments: Perforate third stage & set LMF Plug

Pump 3 bbls 15% HCL acid past frac ball & land w/ 9 bbls acid

Pump 12 bbls "foamed acid" - 28% HCL & N2 to breakdown

Start job @ 1/2 lb/gal - end job w/3 lb/gal

Flush w/N2 & water

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Office of Oil and Gas
Environmental Protection

05/22/2015

WW-9
Rev. 5/08

Page _____ of _____
API Number 47- 15 - 2651
Operator's Well No. CD4

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 Brothers Inc. OP Code _____

Waterhed Elk River Quadrangle Clay

Elevation 1243' County Clay District Henry

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 _____)

Proposed Work For Which Pit Will Be Used:

- _____ Drilling
- _____ Swabbing
- _____ Workover
- _____ Plugging
- _____ Other (Explain _____)

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 Charles Reed

Company Official (Typed Name) Charles Reed

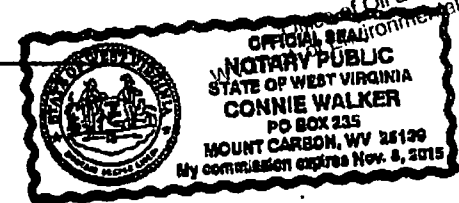
Company Official Title Vice President

Subscribed and sworn before me this 20th day of April, 2015

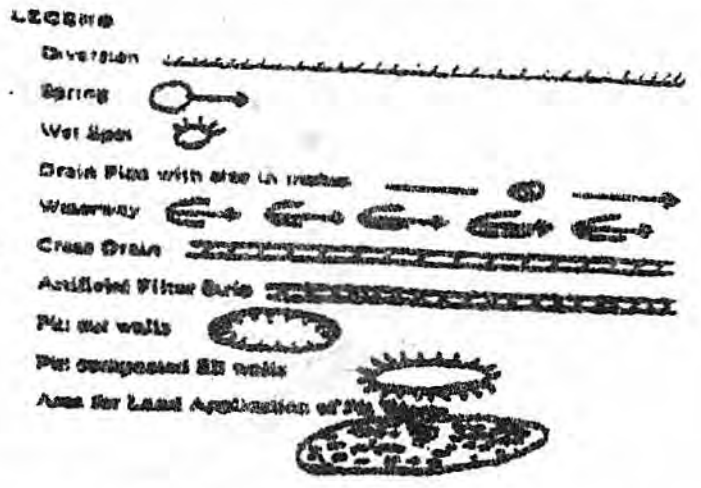
Connie Walker Notary Public

Received
APR 21 2015

My commission expires Nov 6, 2015



Operator's Well No. _____



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 lbs/acre	Seed Type	Area II 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: [Signature]

Comments: _____

Title: Inspector Date: 4/21/15

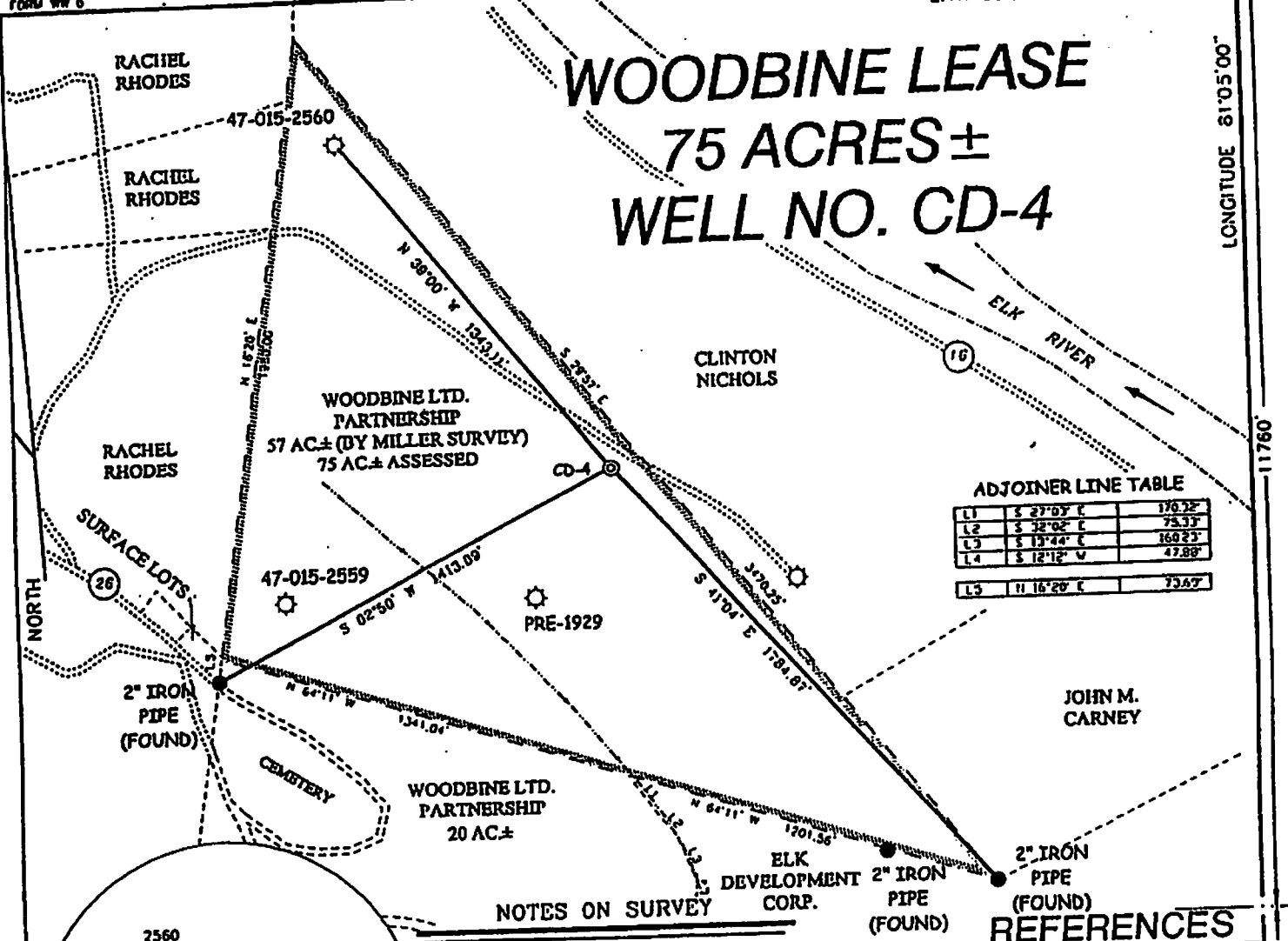
Field Reviewed? Yes No

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APR 21 2015
Office of Oil and Gas
WV Dept. of Environmental Protection

FORM WV 6 LONG. 81°05'00.4" LATITUDE 38°30'00"

WOODBINE LEASE 75 ACRES ± WELL NO. CD-4



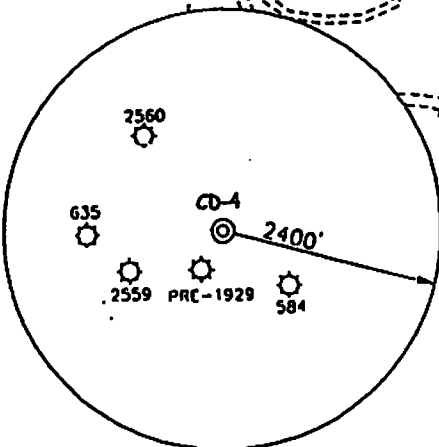
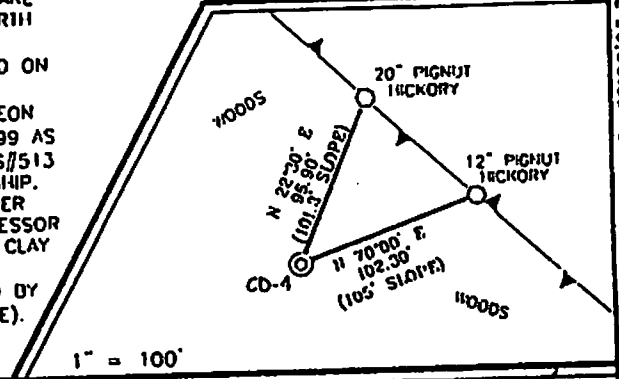
ADJOINER LINE TABLE

L1	S 27°05' E	170.32'
L2	S 32°02' E	75.37'
L3	S 13°44' E	160.23'
L4	S 12°12' W	47.88'
L5	N 16°28' E	73.67'

NOTES ON SURVEY

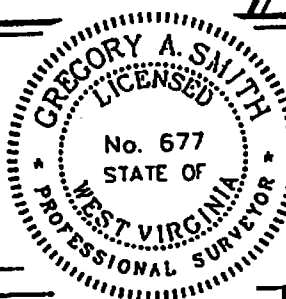
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 07/14/00.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A PLAT DATED 8/01/99 AS PREPARED BY ALBERT J. MILLER PS/513 FOR CANDEE DEV. LTD. PARTNERSHIP.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF CLAY COUNTY IN JULY, 2000.
5. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).

REFERENCES



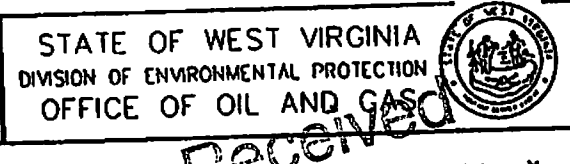
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

P.S. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JULY 25 20 00
 OPERATORS WELL NO. CD-4
 API WELL NO. 47-15-02651
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 4458P4 (91-18)
 PROVEN SOURCE OF ELEVATION BENCH MARK ELEVATION 708' SCALE 1" = 500'



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1243' WATERSHED ELK RIVER
 DISTRICT HENRY COUNTY CLAY QUADRANGLE CLAY 7.5'
 SURFACE OWNER WOODBINE LTD. PARTNERSHIP ACREAGE 57 BY MILLER SURVEY
 ROYALTY OWNER WOODBINE LTD. PARTNERSHIP LEASE ACREAGE 75
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION DEVONIAN SHALE
 ESTIMATED DEPTH 5000

WELL OPERATOR REED GAS INC. DESIGNATED AGENT JAMES W. REED, JR.
 ADDRESS 1206 KANAWHA BLVD. E-SUITE 201, CHARLESTON, WV 25301 ADDRESS 1206 KANAWHA BLVD. E-SUITE 201, CHARLESTON, WV 25301

Received

APR 21 2015

05/22/2015

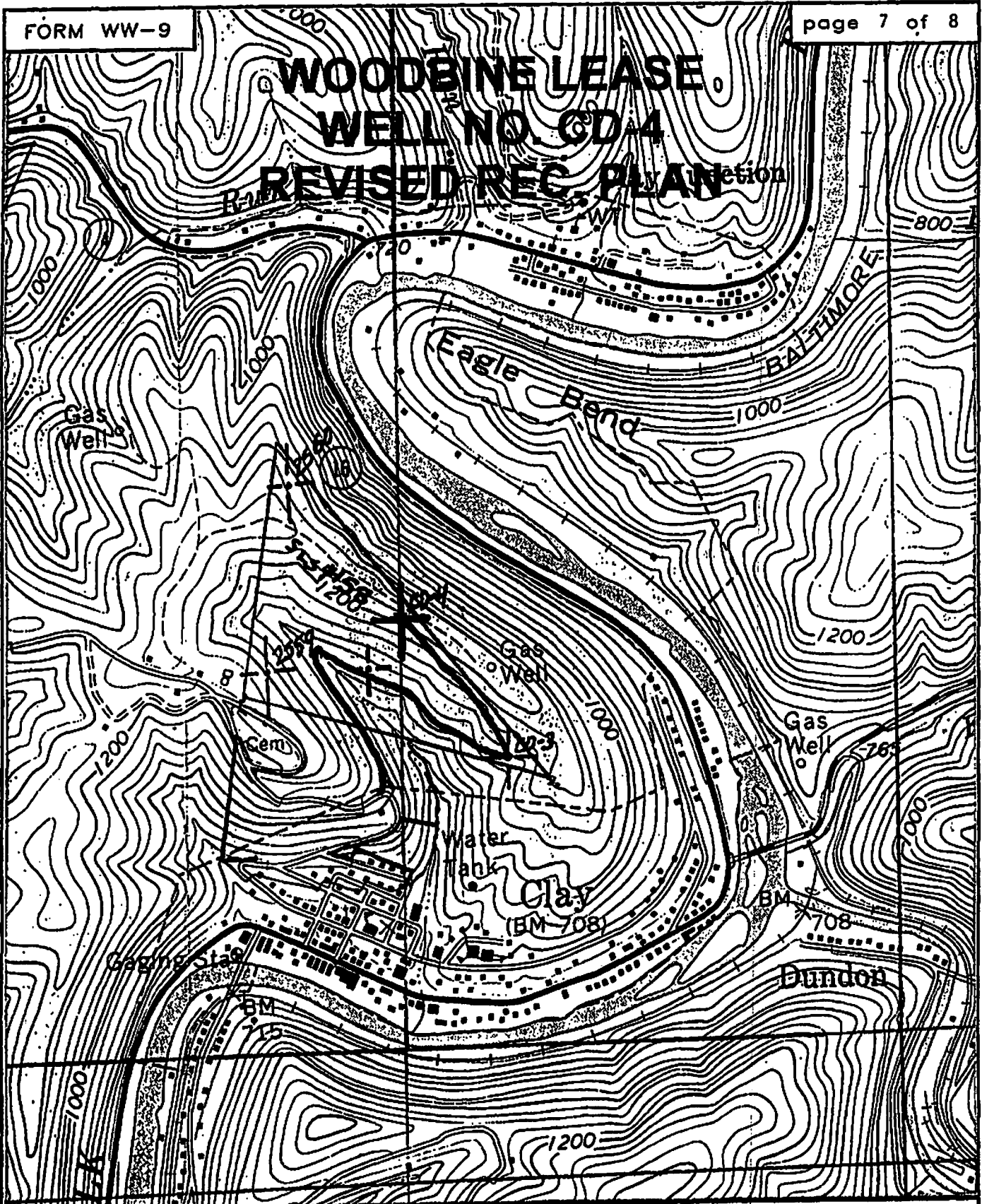
CLAY COUNTY NAME PERMIT 21651

15:02651

FORM WW-9

page 7 of 8

WOODBINE LEASE WELL NO. CD4 REVISED REC. PLAN



SMITH LAND SURVEYING
P.O. BOX 150 GLENVILLE, WV. 26351

TOPO SECTION OF Clay 7.5'

FILE NO. 4458 DATE 7/19/01 SCALE 1"=1000'

05/22/2015

Longitude: -81.003142
Latitude: 38.467851





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

API: 47-15-02651 WELL NO.: C D 4

FARM NAME: Woodbine

RESPONSIBLE PARTY NAME: Charles Reed Gas Inc.

COUNTY: Clay DISTRICT: Henry

QUADRANGLE: Clay

SURFACE OWNER: Woodbine LTD. Partnership

ROYALTY OWNER: Woodbine LTD partnership

UTM GPS NORTHING: 4257716

UTM GPS EASTING: 492745 GPS ELEVATION: 1243'

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.

Steve Huffnath, Contractor
Signature Title

4 MAY 15
Date

Received
MAY 21 2015
Office of Oil and Gas
Department of Environmental Protection