



---

**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

September 09, 2014

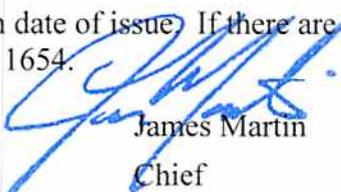
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-10701746, issued to CABOT OIL & GAS CORPORATION, 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: CABOT WOOD #1  
Farm Name: WHITLATCH, JOHN & SUCK, RO  
**API Well Number: 47-10701746**  
**Permit Type: Plugging**  
Date Issued: 09/09/2014

**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

---

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 August 26, 2014  
2) Operator's  
Well No. Cabot-Wood #1  
3) API Well No. 47-107 - 01746

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 X / Liquid injection \_\_\_ / Waste disposal \_\_\_ /  
(If "Gas, Production X or Underground storage \_\_\_) Deep X / Shallow \_\_\_

5) Location: Elevation 855' Watershed Badgley Fork of Tygart Creek  
District Lubeck County Wood Quadrangle South Parkersburg

6) Well Operator Cabot Oil & Gas Corporation 7) Designated Agent Whitney Johnson  
Address Five Penn Center West, Ste. 401 Address P.O. Box 450  
Pittsburgh, PA 15276 Glasgow, WV 25086

8) Oil and Gas Inspector to be notified Name Jamie Stevens  
Address 105 Kentuck Road  
Kenna, WV 25248  
9) Plugging Contractor Name Halliburton  
Address 121 Champion Way Ste. 200  
Canonsburg, PA 15317

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

**See Attached sheets**

Well was plugged on 8/24/14, verbal approval was given by Inspector, Jamie Stevens.

Received

AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

OK gwm

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector \_\_\_\_\_ Date \_\_\_\_\_

**Cabot Wood #1  
API # 47 – 107 – 01746  
PLUGGING PROCEDURE**

**Current Configuration**

DTD @ 8,100' – 8.5" Hole

24" Hole – 24" - 98# casing @ 85' from GL.

22" Hole – 18 5/8" - 87.5# casing @ 302' from GL.

17 1/2" Hole – 13 3/8" 54.5# @ 1,885'

12 1/4" Hole – 9 5/8" - 47# casing @ 6,383'

**PROCEDURE**

1. Contact WVDEP Office a minimum of 48 hours prior to starting work.
2. Contact State Inspector a minimum of 24 hours prior to starting work.
3. TIH with 548' of 2 7/8" tubing and 5" DP 19.5# to surface.
4. TIH to 6,100' and circulate a bottoms up.
5. Pump first balance plug, 20 bbls water, 42 bbls Shalecem (Class A), 15.6 ppg, 1.2 cu-ft/sxs and displace with 93 bbls mud.
6. POOH to 6,425' and reverse circulate on bottoms up.
7. WOC for 4 hrs.
8. TIH to 6,600' and pump the second balance plug: 20 bbls water, 44 bbls Halcem (Class A), 14.8 ppg, 1.33 cu-ft/sxs and displace with 91 bbls mud.
9. TOOH to 5,523' and WOC for 8 hrs.
10. TIH and confirm cement top.
11. Shut the well in and perform 1,000 psi casing test for 30 minutes
12. TOOH while LDDP.
13. RIH with tubing to 400' and pump 3<sup>rd</sup> balance plug: 2 bbls fresh water, 15 bbls Halcem (Class A), 15.6 ppg, 1.21 cu-ft/sxs.
14. TOOH and wash out tubing.
15. WOC.
16. ND BOP's and install abandonment cap.
17. Install monument with API number, date, and company name.

Received

AUG 29 2014

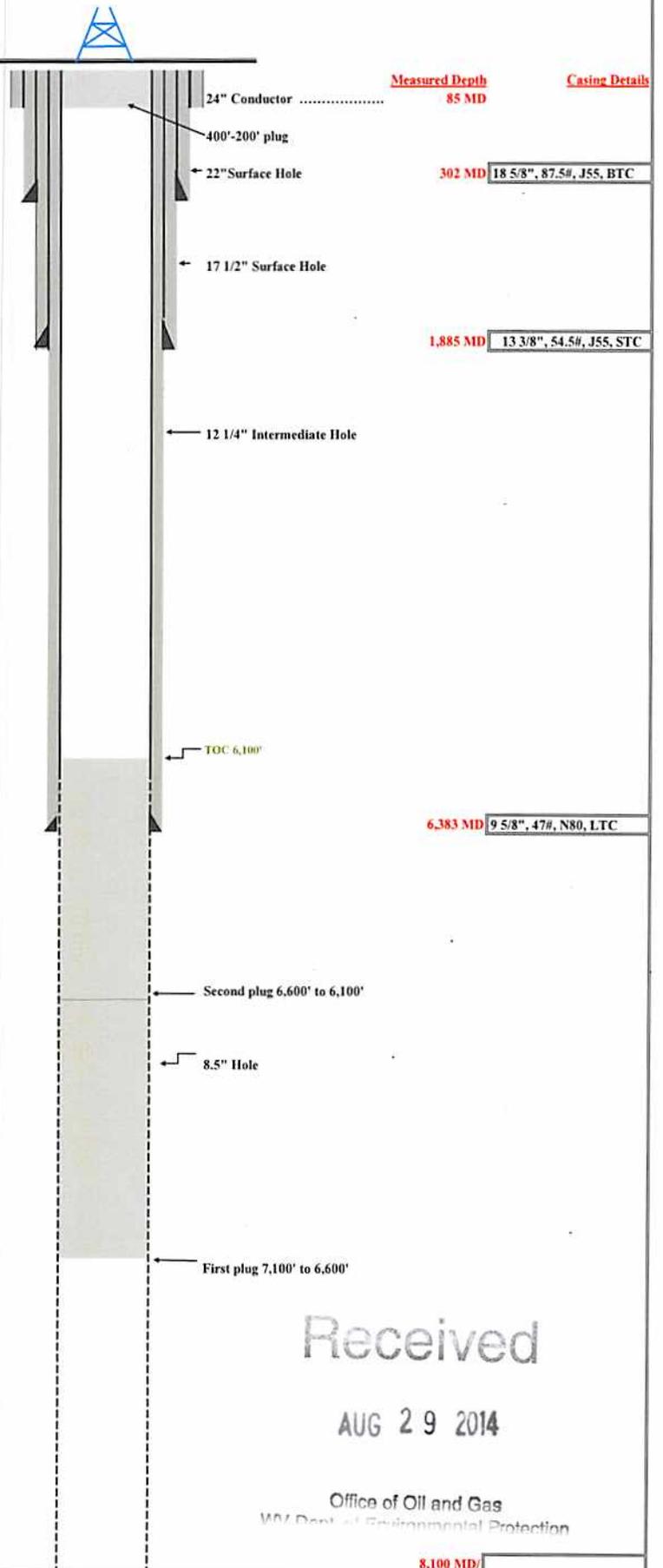
Office of Oil and Gas  
WV Dept. of Environmental Protection

Cabot O&G  
Cabot Wood #1

RKB: \_\_\_\_\_ KB = \_\_\_\_\_  
Pad: \_\_\_\_\_

Formation Tops (FVD)

Comments



Received

AUG 29 2014

Office of Oil and Gas  
MD Dept. of Environmental Protection

10701746P

WW-4A  
Revised 6-07

1) Date: August 26, 2014  
2) Operator's Well Number  
Cabot-Wood #1  
3) API Well No.: 47 - 107 - 01746

**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 John H. & Donna K. Whitlatch ✓  
Address 2222 Larkmead Road  
Parkersburg, WV 26101  
(b) Name Kathleen A. & Robert D. Suck ✓  
Address 1586 Larkmead Road  
Parkersburg, WV 26101  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Jamie Stevens ✓  
Address 105 Kentuck Road  
Kenna, WV 25248  
Telephone (304) 206-7775

5) (a) Coal Operator  
Name None  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name John H. & Donna K. Whitlatch ✓  
Address 2222 Larkmead Road  
Parkersburg, WV 26101  
(c) Coal Lessee with Declaration  
Name None of Record  
Address \_\_\_\_\_

Received  
AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

**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 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 person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator Cabot Oil & Gas Corporation  
By: Kenneth L. Marcum  
Its: Regulatory Supervisor  
Address Five Penn Center West, Suite 401  
Pittsburgh, PA 15276  
Telephone (412) 249-3850

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Constance C. Carden, Notary Public  
McDonald Boro, Washington County  
My Commission Expires Nov. 16, 2017  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Subscribed and sworn before me this 26th day of August, 2014  
*Constance C. Carden* Notary Public  
My Commission Expires November 16, 2017

**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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).

10701746P

7013 3020 0001 0841 5292

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

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Price	

Postmark Here  
 PITTSBURGH PA 15201  
 AUG 28 2014

Sent To **Kathleen A. & Robert D. Suck**  
 Street, Apt. or PO Box **1586 Larkmead Road**  
 City, State **Parkersburg, WV 26101**

PS Form 3800, August 2009 Cabot-Wood #1 P&A Instructions

7013 3020 0001 0841 5285

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

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here  
 PITTSBURGH PA 15201  
 AUG 28 2014

Sent To **John H. & Donna K. Whitlatch**  
 Street, Apt. or PO Box **2222 Larkmead Road**  
 City, State **Parkersburg, WV 26101**

PS Form 3800, August 2009 Cabot-Wood #1 P&A Instructions

7013 3020 0001 0841 5278

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

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here  
 PITTSBURGH PA 15201  
 AUG 28 2014

Sent To **Jamie Stevens**  
 Street, Apt. or PO Box **105 Kentuck Road**  
 City, State **Kenna, WV 25248**

Cabot-Wood # Putnam #35 P&A Instructions

Received

AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Cabot Oil & Gas Corporation OP Code \_\_\_\_\_

Watershed (HUC 10) Badgley Fork of Tygart Creek Quadrangle South Parkersburg

Elevation 855 County Wood District Lubeck

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No  NO NOT FOR PLUGGING

Will a pit be used for drill cuttings? Yes \_\_\_\_\_ No

If so, please describe anticipated pit waste: N/A

Will a synthetic liner be used in the pit? Yes \_\_\_\_\_ No \_\_\_\_\_ If so, what ml.? \_\_\_\_\_

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 \_\_\_\_\_)

Received

AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

Will closed loop system be used? Yes

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and possibly salt system as backup

-If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_

Additives to be used in drilling medium? See Attached Sheet

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? Tunnel Hill Reclamation, LLC/Ohio Environmental Protection Agency Permit #06-08443

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 Kenneth L. Marcum

Company Official (Typed Name) Kenneth L. Marcum

Company Official Title Regulatory Supervisor

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Constance C. Carden, Notary Public  
McDonald Boro, Washington County  
My Commission Expires Nov 16, 2013

Member, Pennsylvania Association of Notaries

20 13

Subscribed and sworn before me this 17th day of October

Constance C. Carden Notary Public

My commission expires 11/16/2013



Cabot Oil & Gas Corporation

Proposed Revegetation Treatment: Acres Disturbed 11.77 Prevegetation pH To be tested

Lime 2 Tons/acre or to correct to pH 6.5

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

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Winter Rye	168	Tall Fescue	40
Winter Wheat	180	Birdsfoot Trefoil	10
Annual Ryegrass	40	Redtop	3

\*See Construction Plans for additional seed mixtures\*

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

Photocopied section of involved 7.5' topographic sheet.

Received

Plan Approved by: \_\_\_\_\_ AUG 29 2014

Comments: \_\_\_\_\_ Office of Oil and Gas  
WV Dept. of Environmental Protection

Title: James Stevens

Date: 10/22/2013

Field Reviewed?  Yes  No

WW-9

**ADDITIVES TO BE USED IN DRILLING MEDIUM**

BARAZAN D PLUS - Viscosifier  
Barite (4.1 SG) – Weight Agent  
Bicarbonate of Soda  
Caustic Soda  
DEXTRID LT - Starch  
Lime  
PAC-L - Filtration Control  
Potassium Chloride  
Evaporated Salt

**Potential Additives:**

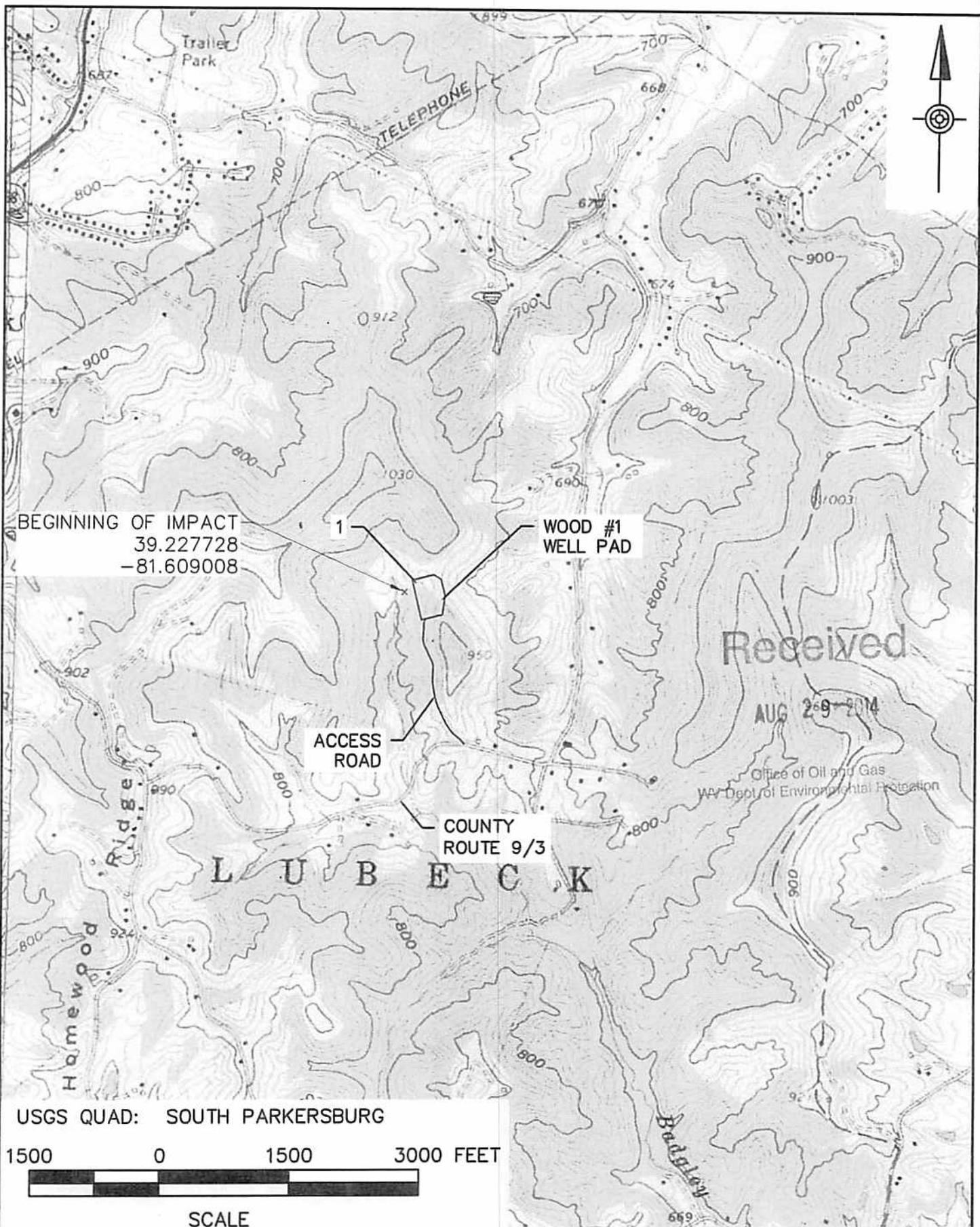
ALDACIDE G - Microbiocide  
BARA-DEFOAM W300 – Defoamer  
CLAYSEAL PLUS – Shale Stabilizer  
NO-SULF – H2S Scavenger  
OXYGON – Oxygen Scavenger  
Soda Ash / Citric Acid  
QUIK-THIN – Thinner

Received

AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection





BEGINNING OF IMPACT  
39.227728  
-81.609008

WOOD #1  
WELL PAD

ACCESS  
ROAD

COUNTY  
ROUTE 9/3

Received

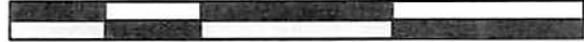
AUG 29 2014

Office of Oil and Gas  
WV Dept of Environmental Protection

L U B E C K

USGS QUAD: SOUTH PARKERSBURG

1500 0 1500 3000 FEET



SCALE



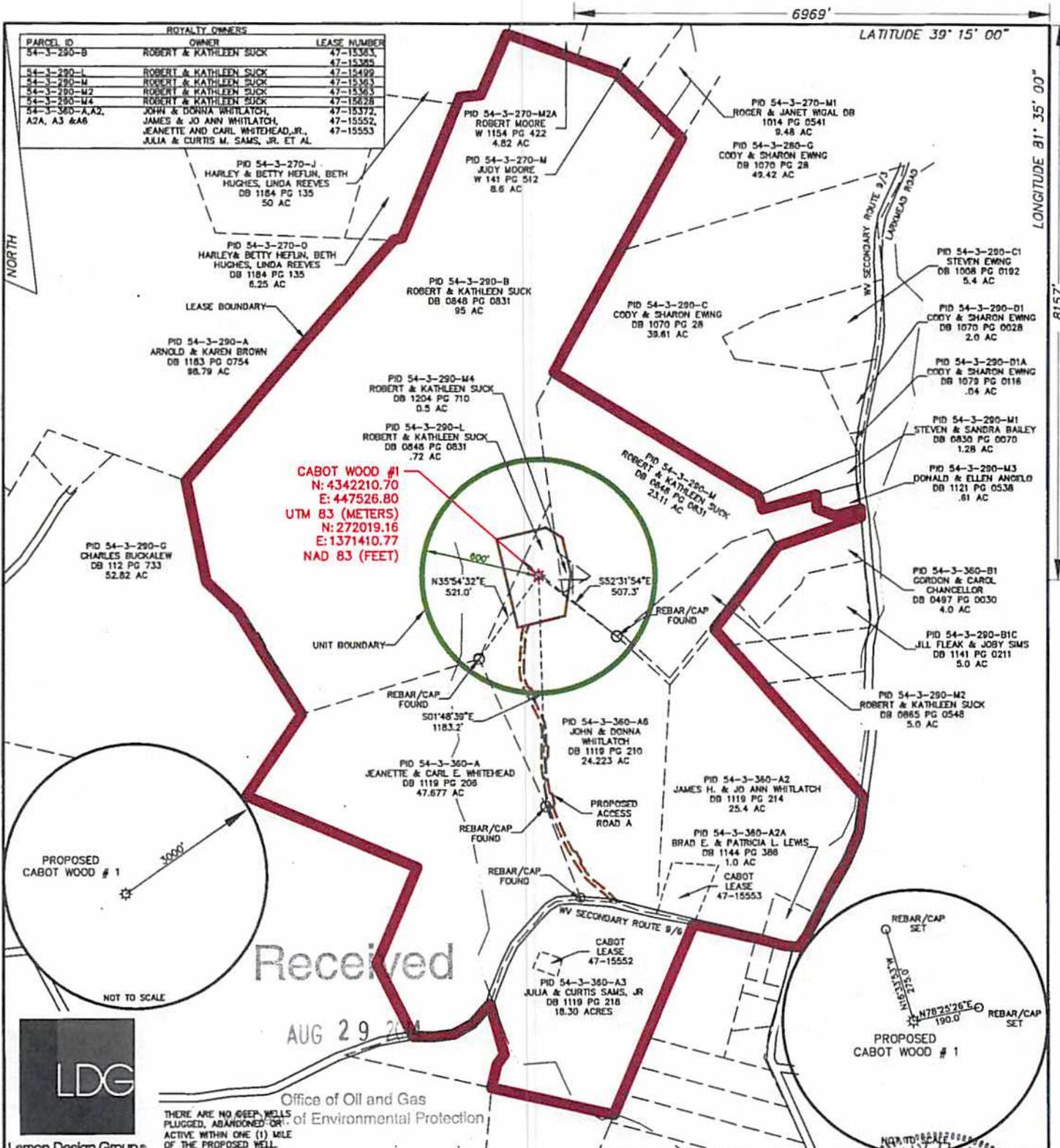
Architects Engineers Surveyors  
2502 Cranberry Square  
Morgantown, WV 26508  
PHONE 304.777.2940  
TOLL FREE 877.323.6603  
FAX 570.323.9902  
www.larsondesigngroup.com

WOOD WELL PAD #1

PROJECTS LOCATION MAP  
FOR  
CABOT OIL & GAS CORPORATION

DATE: 10/03/13
SHEET NO.: EX-2
PROJECT NO.: 8744-003-1
SCALE:

10701746 P



Received

AUG 29 2014



Office of Oil and Gas  
 Department of Environmental Protection  
 THERE ARE NO DEEP WELLS PLUGGED, ABANDONED OR ACTIVE WITHIN ONE (1) MILE OF THE PROPOSED WELL.

FILE NO. 8744-003-1  
 DRAWING NO. 1  
 SCALE 1" = 700'  
 MINIMUM DEGREE OF ACCURACY 1 in 2500'  
 PROVEN SOURCE OF ELEVATION SURVEY GRADE GPS

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 ENVIRONMENTAL PROTECTION.  
 (SIGNED) [Signature]  
 R.P.E. \_\_\_\_\_ L.L.S. 1969



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

DATE OCTOBER 20 13  
 OPERATOR'S WELL NO. CABOT WOOD #1  
 API WELL NO. 47 107 01746 P  
 STATE COUNTY PERMIT

WELL TYPE: OIL X GAS X LIQUID INJECTION     WASTE DISPOSAL      
 (IF "GAS,") PRODUCTION     STORAGE     DEEP X SHALLOW    

LOCATION: ELEVATION 855' WATERSHED BADGLEY FORK OF TYGART CREEK  
 DISTRICT LUBECK COUNTY WOOD  
 QUADRANGLE SOUTH PARKERSBURG

SURFACE OWNER SEE TABLE ABOVE ACREAGE 24.22 ACRES  
 OIL & GAS ROYALTY OWNER SEE TABLE ABOVE LEASE ACREAGE ±240.93 ACRES  
 LEASE NO. 47-0015372

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

PLUG AND ABANDON     CLEAN OUT AND REPLUG      
 TARGET FORMATION POINT PLEASANT ESTIMATED DEPTH 7,828' TARGET DEPTH 7,828' - 7955' TOTAL DEPTH 8,155'  
 WELL OPERATOR CABOT OIL & GAS CORPORATION DESIGNATED AGENT WHITNEY JOHNSON  
 ADDRESS FIVE PENN CENTER WEST, SUITE 401 ADDRESS CABOT OIL & GAS CORPORATION  
PITTSBURGH, PA 15276-0130 P.O. BOX 450 GLASGOW, WV 25086

FORM WW-8

COUNTY NAME PERMIT



August 26, 2014

Chief  
West Virginia Division of Environmental Protection  
Office of Oil & Gas  
601 57<sup>th</sup> Street  
Charleston, WV 25304

RE: Cabot-Wood #1  
Lubeck District, Wood County, WV  
API # 47-107-01746  
Written Application to plug and abandon wellbore

Dear Chief:

In accordance with Article 22-6-23 of the Code of State Regulations regarding oil and gas operations, please find attached a formal application for the plug and abandonment of the subject well.

This well was plugged with verbal approval from the DEP Inspector, Jamie Stevens, on August 24, 2014.

Copies of the permit have been sent to surface owner, coal owner, and coal operators associated with this well. Copies of the certified mail receipts are attached for your records.

If you have any questions or need additional information, I can be reached at 412-249-3850.

Sincerely,



Kenneth L. Marcum  
Regulatory Supervisor

Received

AUG 29 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection