



---

**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 05, 2013

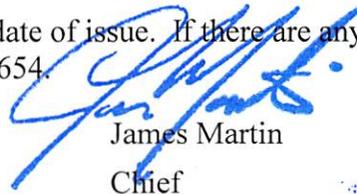
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-9900561, 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: WILSON COAL #48  
Farm Name: STATE OF WEST VIRGINIA  
**API Well Number: 47-9900561**  
**Permit Type: Plugging**  
Date Issued: 08/05/2013

**Promoting a healthy environment.**

WW-4B  
Rev. 2/01

1) Date May 22, 2013  
2) Operator's  
Well No. Wilson Coal #48  
3) API Well No. 47-099 -00561

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 \_\_\_ or Underground storage \_\_\_) Deep \_\_\_ / Shallow X

5) Location: Elevation 1,234.57' Watershed Moses Creek of the West Fork of Twelvepole Cr.  
District Lincoln County Wayne Quadrangle Webb

6) Well Operator Cabot Oil & Gas Corporation 7) Designated Agent Brian D. Hall  
Address Five Penn Center West, Ste. 401 Address 6804 Lick Creek Road  
Pittsburgh, PA 15276 Danville, WV 25053

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Jeremy James Name Petty Oilfield Services, Inc.  
Address P.O. Box 147 Address P.O. Box 437  
Ona, WV 25545 Hamlin, WV 25523

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

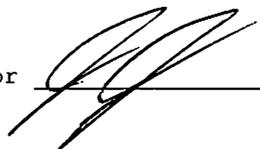
See Attached Procedure

Received

JUL 25 2013

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

Office of Oil and Gas  
WV Dept. of Environmental Protection

Work order approved by inspector 

Date 5-31-13

# Wilson Coal #48 API # 47 – 099 – 00561D PLUGGING PROCEDURE

## Current Configuration

ELEV. 1228.

- PBTD @ 3191'
- 8-5/8" casing @ 554' set on packer
- 7" – 20# casing @ 1725' set on packer
- 3-1/2" – 7.7# tubing @ 2470'
- 3 x 6-5/8 x 16 Hook Wall packer @ 2467' – 2471'
- Coal @ 100' – 104'
- Fresh water @ 125'
- Salt water @ 1257' & 1275'
- Oil show @ 2454'
- Gas shows @ 1592', 1598', 2454', 2458', 2553', 2618', 2664', 2923', 3007', 3194', & 3366'
- Berea & Devonian Shale shot from 2543' to 3447'
- Maxton formation @ 1591' – 1633'
- Big Lime formation @ 1699' – 1906'
- Injun formation @ 1906' – 1963'
- Berea formation @ 2451' – 2558'
- Devonian Shale @ 2558' - TD

## PROCEDURE

1. Contact Danville Office a minimum of 48 hours prior to starting work.
2. Contact State Inspector a minimum of 24 hours prior to starting work.
3. Lay 2" line from wellhead to pit/tank and stake down securely.
4. MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
5. Unpack wellhead.
6. Run in hole with sand line to check TD.
7. Pull 3-1/2" tubing. **If unable to pull, go to step 17.**
8. TIH with 2 3/8" work string to 3180'.
9. MIRU Cement Company and pump 50 bbls 6% Gel.
10. Pull work string up to 2520' and pump 30 sks of Class A cement for plug 1 from 2520' to 2320'.
11. Displace w/ 9 bbls of 6% Gel.
12. TOOH with work string. Let cement plug set for a minimum of eight hours.
13. TIH with work string to top of plug and pump 15 bbls 6% Gel.
14. Pull work string up to 1950' and pump 35 sks of Class A cement for plug 2 from 1950' to 1750'.
15. Displace w/ 6 bbls of 6% Gel.
16. POOH with work string. **Go to step 29.**
17. **If 3-1/2" tubing could not be pulled** run freepoint on tubing.
18. TIH with 1-1/2" work string to 3180'.
19. Pump 50 bbls 6% Gel.
20. Pull work string up to 2520' and pump Class A cement for plug 1 from 2520' to freepoint of 3-1/2" tubing.
21. Displace with 6% Gel.
22. TOOH with work string. Let cement plug set for a minimum of eight hours.
23. Cut 3-1/2" tubing where free. Pull up on tubing.
24. Pump 20 bbls of 6% Gel followed by 35 sks of Class A cement for 200' plug 2.
25. Displace with 6% Gel.

Received  
 JUL 25 2013  
 Office of Oil and Gas  
 Department of Environmental Protection

- 26. Pull tubing up to 1950' and pump 35 sks of Class A cement for plug 3 from 1950' to 1750'.
- 27. Displace with 16 bbls of 6% Gel.
- 28. POOH with 3-1/2" tubing.
- 29. Pull 7" and 8-5/8" casing strings out of hole.
- 30. If casing strings cannot be pulled, run freepoints, cut strings, and POOH.
- 31. TIH with work string to 1750' and pump 70 bbls of 6% Gel.
- 32. Pump 190 sks of Class A cement for plug from 1750' to 1100'.
- 33. Displace w/ 4 bbls (or 2 bbls if 1-1/2" is used as work string) of 6% Gel.
- 34. Pull work string up to 200'.
- 35. Pump 100 sks of Class A cement for plug from 200' to surface.
- 36. TOOH with work string and lay down.
- 37. RDMO Cementing Company.
- 38. Place monument as required by law on top of well bore.
- 39. Reclaim well site.



CEMENT A MINIMUM OF  
50' <sup>ABOVE OR</sup> INSIDE  $\frac{1}{2}$  50' ~~OR~~  
BELOW ALL CASING CUTS.

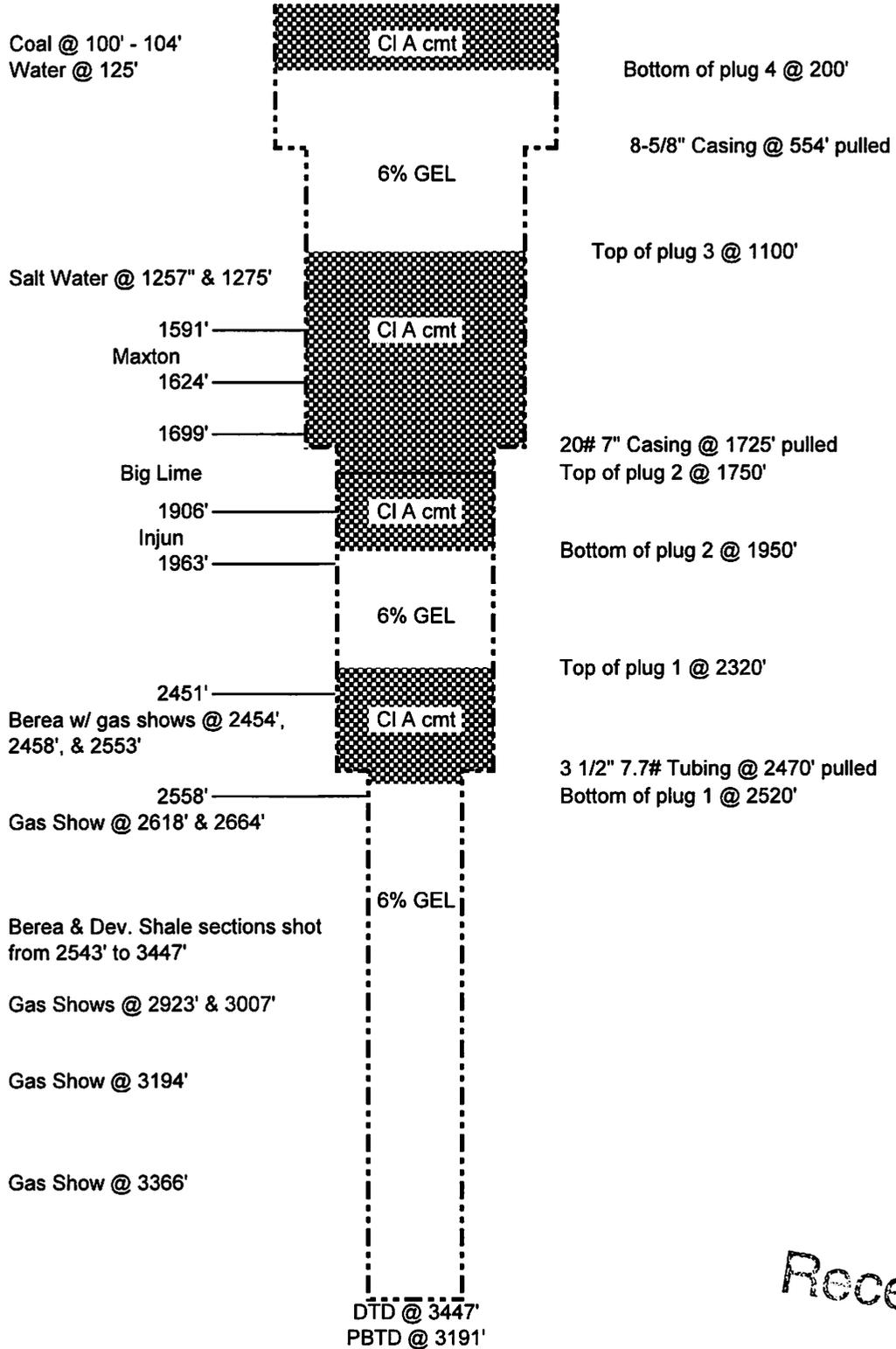
JWM

Received

JUL 25 2013

Office of Oil and Gas  
NY Dept. of Environmental Protection

**Wilson Coal #48**  
 API 47-099-00561D  
 PROPOSED CONFIGURATION  
 IF 3-1/2" TUBING CAN BE PULLED



Schematic is not to scale

**Received**

MAY 23 2013

Office of Oil and Gas  
 MA Dept. of Environmental Protection

9900561P

WEST VIRGINIA DEPARTMENT OF MINES  
OIL & GAS DIVISION  
W E L L R E C O R D

Permit No. Wayne 561  
Naugatuck Quad.  
Company  
Address  
Farm  
Location  
Well No.  
District  
Surface  
Coal  
Commenced  
Completed  
Open flow  
Volume Maxon  
Rock Pressure  
Water

Gas Well  
CASING & TUBING

Owens, Libbey-Owens Gas Dept.  
P.O. Box 4158, Charleston 4, W.Va. 8 5/8 554 554  
Wilson Coal Land Co. A 9,937 7 1533 1533  
Moses Fork 3 1/2 Perf. 11 11  
OLO #772, Wilson C. L. # 48 Elev. 1228.62  
Lincoln Wayne County  
  
State Conservation Comm. Charleston 5, W.Va.  
5-28-48  
7-12-48  
54/10ths W in 3"  
519 MGF  
357 lbs. 48 hrs.  
125' H.F.; 150' stood 125'  
425' level was 125'; 1257' 2 bail Hr.  
1275' Inc. to 3 bail hr.; 1495-1515 bailing every screw

Soil			0	25
Sand			25	100
Coal			100	104
Slate Bl			104	115
Water Sand			115	130
Slate Bl			130	150
Sand			150	205
Slate Shells Dk H			205	275
Slate Bl			275	298
Shell Gr H			298	302
Slate & Shell Dk M			302	335
Slate Bl			335	363
Sand Gr M			363	437
Slate Dk S			437	450
Slate & Shell Dk M			450	480
Sand Gr H			480	505
Slate & Shells Dk M			505	574
Sand Gr M			574	617
Slate Blk S			617	634
Shell Blk H			634	642
Slate & Shell Dk S			642	729
Sand Dk H			729	762
Slate Lt H			762	910
Slate & Shell Lt H			910	940
Sand Lt H			940	960
Slate Dk S			960	977
Slate & Shells Dk S			977	1104
Sand Broken Dk H			1104	1247
Salt Sand Wh H			1247	1386
Slate & Shell Dk S			1386	1495
Lime Shell Lt H			1495	1503
Sand Lt H			1503	1515
Slate Lt S			1515	1533
Slate & Shells H			1533	1591
Maxon Sand Wh H			1591	1624
Total Depth				1624

Gas 1592-1598 10 M  
Gas Pay 1598-1614 569 M

Received

MAY 23 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

9900561P

WELL RECORD

OWENS, LIBBEY-OWENS GAS DEPARTMENT  
 OLC No. 772 Wayne 561  
 Wilson Coal Land Company No. 48  
 Lincoln District Wayne County  
 West Virginia  
 Elevation: 1228.62  
 Drilling commenced: 5-28-48  
 Drilling completed: 7-12-48  
 Open Flow: 519 M  
 Rock Pressure: 48 Hrs. 357 #

C A S I N G:

8 5/8" 554'  
 7" 1533'  
 3 1/2" 1624'

Soil	0	25
Sand	25	100
Coal	100	104
Slate	104	115
Water Sand	115	130
Slate	130	150
Sand	150	205
Slate Shells	205	275
Slate	275	298
Shell	298	302
Slate & Shell	302	335
Slate	335	363
Sand	363	437
Slate	437	450
Slate & Shell	450	480
Sand	480	505
Slate & Shells	505	574
Sand	574	617
Slate	617	634
Shell	634	642
Slate & Shell	642	729
Sand	729	762
Slate	762	910
Slate & Shell	910	940
Sand	940	960
Slate	960	977
Slate & Shells	977	1104
Sand, broken	1104	1247
Salt Sand	1247	1386
Slate & Shell	1386	1495
Lime Shell	1495	1503
Sand	1503	1515
Slate	1515	1533
Slate & Shells	1533	1591
Maxton Sand	1591	1624
Total Depth		1624

Hole full of water @ 125'  
 At 150 water stood @ 125'  
 Water level was 125' @ 425'  
 Water - 2 Bail Hr. @ 1257'  
 Increase in water 1275' - 3 Bail Hr.  
 Gas 1592-1598  
 Gas pay 1598-1614 569 M  
 Open flow Maxton Sand  
 5 1/2" W 3" plate 519 M

Received

MAY 23 2013

Office of Oil and Gas  
 West Virginia Department of Environmental Protection

WEST VIRGINIA DEPARTMENT OF MINES  
OIL & GAS DIVISION  
W E L L R E C O R D

Permit No. Way-561 D  
Naugatuck Quad.

Gas Well  
CASING & TUBING

Company	Owens, Libbey-Owens Gas Dept.	6-5/8 1725
Address	P. O. Box 4158, Chas., 4, W. Va.	Oilwell Hook Wall
Farm	Wilson Coal Land Co. A. 9,937	Packer
Location	Bark Camp Br. of Moses Fork	3 x 6-5/8 x 16
Well No.	CLO No. 772, Farm no. 48 Elev. 1228.6	depth set * 2467-2471 from top of casing.
District	Lincoln County Wayne	
Coal Rights	State Conservation Commission	
Commenced	1/9/50	
Completed	2/17/50	
Date Shot	2/14/50 from 2543 to 3447 with 8,700# Detonite	
Volume	124 M CF	
Rock Pressure	400 lbs. 48 hrs.	

Began drilling deeper 1625

Maxton Sand	Light	Hard	1591	1633				
Lime	Light	Hard	1633	1676				
Little Lime	Light	Hard	1676	1699				
Big Lime	Light	Hard	1699	1906				
Big Injun	Light	Med.	1906	1908				
Big Injun	Red	Hard	1908	1933				
Big Injun	Gray	Hard	1933	1963				
Shells	Gray	Hard	1963	1999				
Sl.& Shells	Light	Med.	1999	2067				
Lime Shells	Light	Hard	2067	2084				
Sl.& Shells	Light	Med.	2084	2102				
Sl.& Shells	Light	Soft	2102	2135				
Sl.& Shells	Light	Med.	2135	2372				
Slate	Light	Med.	2372	2442				
Shale	Dark	Soft	2442	2451				
Sand-Berea	Light	Hard	2451	2458				
Sand-Berea	Light	Hard	2458	2558	Oil	2454'	Show	
Brown Shale		Soft	2558	2618	Gas	2454'		3.0M
Sl.& Shells	Light	Med.	2618	2859	Gas	2458'		4.3M
Sl.& Shells	Dark	Med.	2859	2886				
Sl.& Shells	Dark	Soft	2886	2923				
Shale	Dark	Soft	2923	3017	Gas	2553'		3.9M
Sl.& Shells	Light	Soft	3017	3110				
Shale	Dark	Sort	3110	3401	Gas	2618'		6.2M
Slate	Light	Soft	3401	3447	Gas	2664'		6.6M

Total Depth	3447			
Total Depth after shot	3191	Gas	2923'	6.6 M
		Gas	3007'	6.6 M
		Gas	3194'	6.9 M
		Gas	3366'	8.5 M

Test before shot 7.7M  
Shot 2/14/50 with 8700#  
Detonite from 2543 to 3447  
1 hr. after shot 366 M  
13 Hrs " " 140 M  
Ran 3193' of 3" tubg. but packer did not hold.

Reran tubing  
Ran 2470" 3" tubg. on HW packer  
Packer set 2470-2474  
Top of tubing is 3' above floor, therefore tubing is set on packer 2467-2471.

Received

MAY 23 2013

Office of Oil and Gas

Test after tubing:  
3" 8/10 W 2" 89 M Shale  
3"x7" 20/10 W 1" 35 M Berea

124 M

9900561A

WW-4A  
Revised 6-07

1) Date: May 22, 2013  
2) Operator's Well Number  
Wilson Coal #48

3) API Well No.: 47 - 099 - 00561

**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>WV Division of Natural Resources</u>	Name <u>None</u>
Address <u>Office of Land &amp; Streams</u>	Address _____
<u>324 Fourth Ave., Room 200</u>	_____
(b) Name <u>South Charleston, WV 25303</u>	(b) Coal Owner(s) with Declaration
Address _____	Name <u>WV Division of Natural Resources</u>
_____	Address <u>Office of Land &amp; Streams</u>
(c) Name _____	<u>324 Fourth Ave., Room 200</u>
Address _____	Name <u>South Charleston, WV 25303</u>
_____	Address _____
6) Inspector <u>Jeremy James</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 147</u>	Name <u>Vantage Mining Co. Pen Coal</u>
<u>Ona, WV 25545</u>	Address <u>Route 49 5110 Maryland Way</u>
Telephone <u>(304) 951-2596</u>	<u>Lobata, WV 25678 Brentwood, TN 37027</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 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.

<b>COMMONWEALTH OF PENNSYLVANIA</b> Notarial Seal Constance C. Carden, Notary Public McDonald Boro, Washington County My Commission Expires Nov. 16, 2013 Member, Pennsylvania Association of Notaries	Well Operator <u>Cabot Oil &amp; Gas Corporation</u>
	By: <u>Kenneth L. Marcum</u>
	Its: <u>Regulatory Supervisor</u>
	Address <u>Five Penn Center West, Ste. 401</u>
	<u>Pittsburgh, PA 15276</u>
	Telephone <u>(412) 249-3850</u>

Subscribed and sworn before me this 22nd day of May, 2013  
Constance C. Carden Notary Public  
My Commission Expires November 16, 2013

**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).

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

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

Watershed Moses Fork of the West Fork of Twelvepole Cr. Quadrangle Webb

Elevation 1,234.57' County Wayne District Lincoln

Description of anticipated Pit Waste: None - no cuttings produced during plugging operation

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes \_\_\_\_\_ No X

Will a synthetic liner be used in the pit? N/A. If so, what mil.? \_\_\_\_\_

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)
- XX Other (Explain no treated pit wastes will be produced)

ANY EFFLUENT WILL BE CONTAINED IN TANKS.

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. no drilling proposed

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

Additives to be used? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. No cuttings produced during plugging operation

-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 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

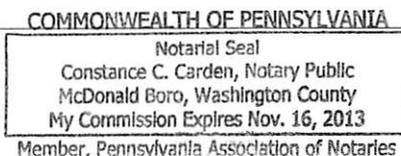
Company Official (Typed Name) Kenneth L. Marcum

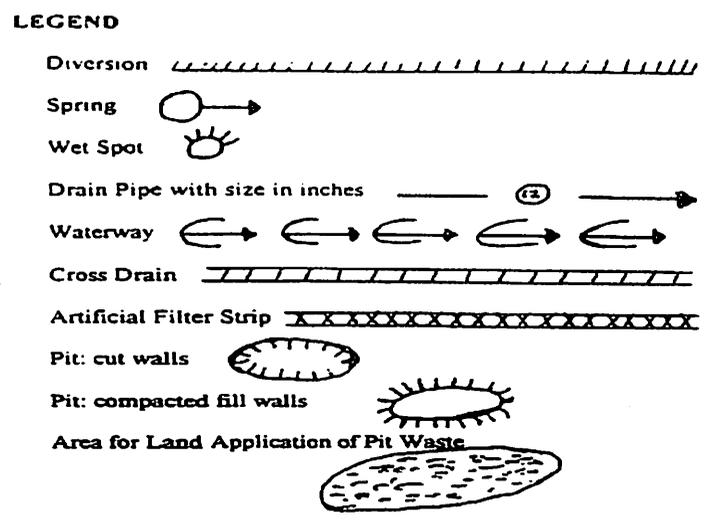
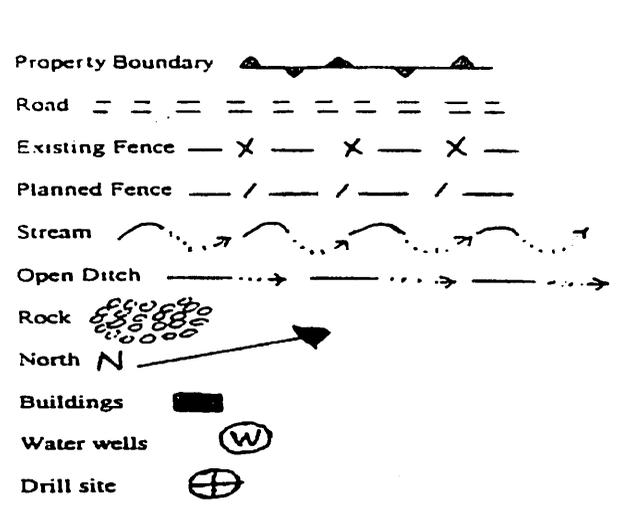
Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 22nd day of May, 20 13

Constance C. Carden Notary Public

My commission expires November 16, 2013





Proposed Revegetation Treatment: Acres Disturbed \_\_\_\_\_ Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 6.5

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

Mulch Pulp Fiber at 1000 to 1500 Tons/acre

Seed Mixtures

Area I			Area II		
Seed Type	lbs/acre		Seed Type	lbs/acre	
Grain Rye - 100	Red Clover - 5	Fescue - 40	Grain Rye - 100	Red Clover - 5	Fescue - 40
Annual Rye - 20	White Clover - 5		Annual Rye - 20	White Clover - 5	
Perennial Rye - 10	Alta Sweet Clover - 5		Perennial Rye - 1	Alta Sweet Clover - 5	
Yellow Clover - 5	Birdsfoot Trefoil - 10		Yellow Clover - 5	Birdsfoot Trefoil - 10	

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

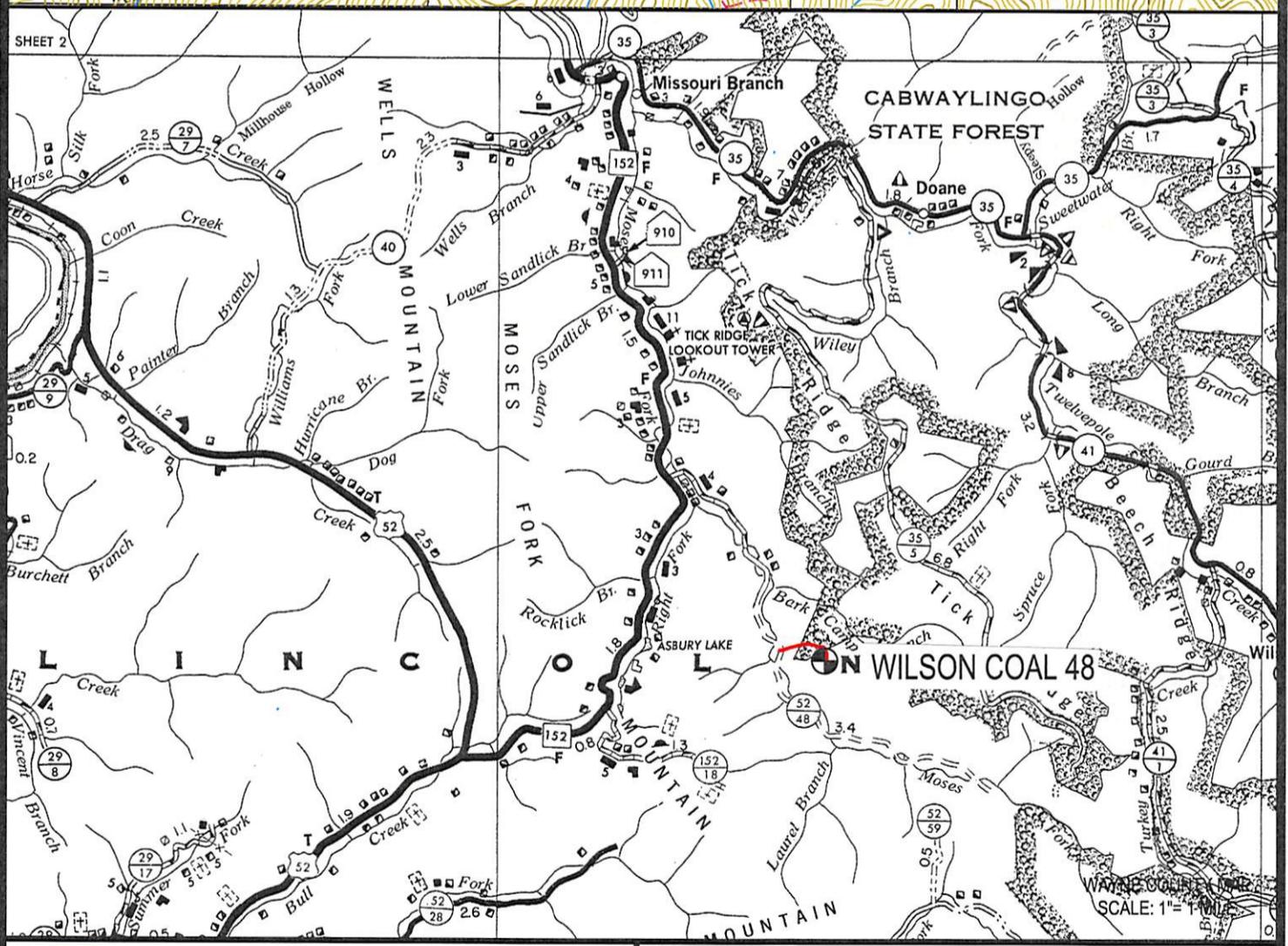
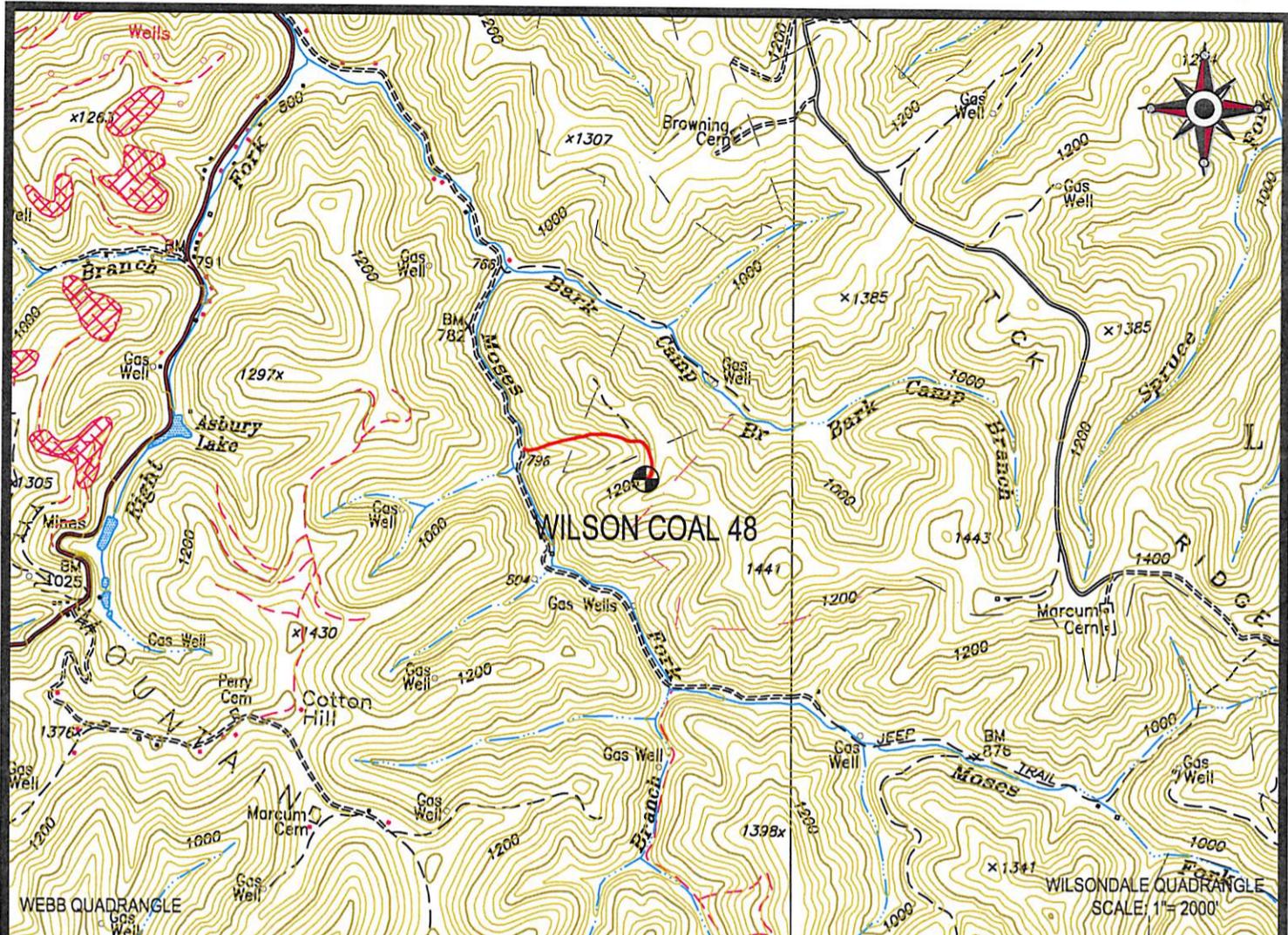
Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

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

Title: inspector OOG Date: 7-16-13

Field Reviewed?  Yes  No



 Cabot Oil & Gas Corporation

**WILSON COAL 48**  
LOCATION MAP



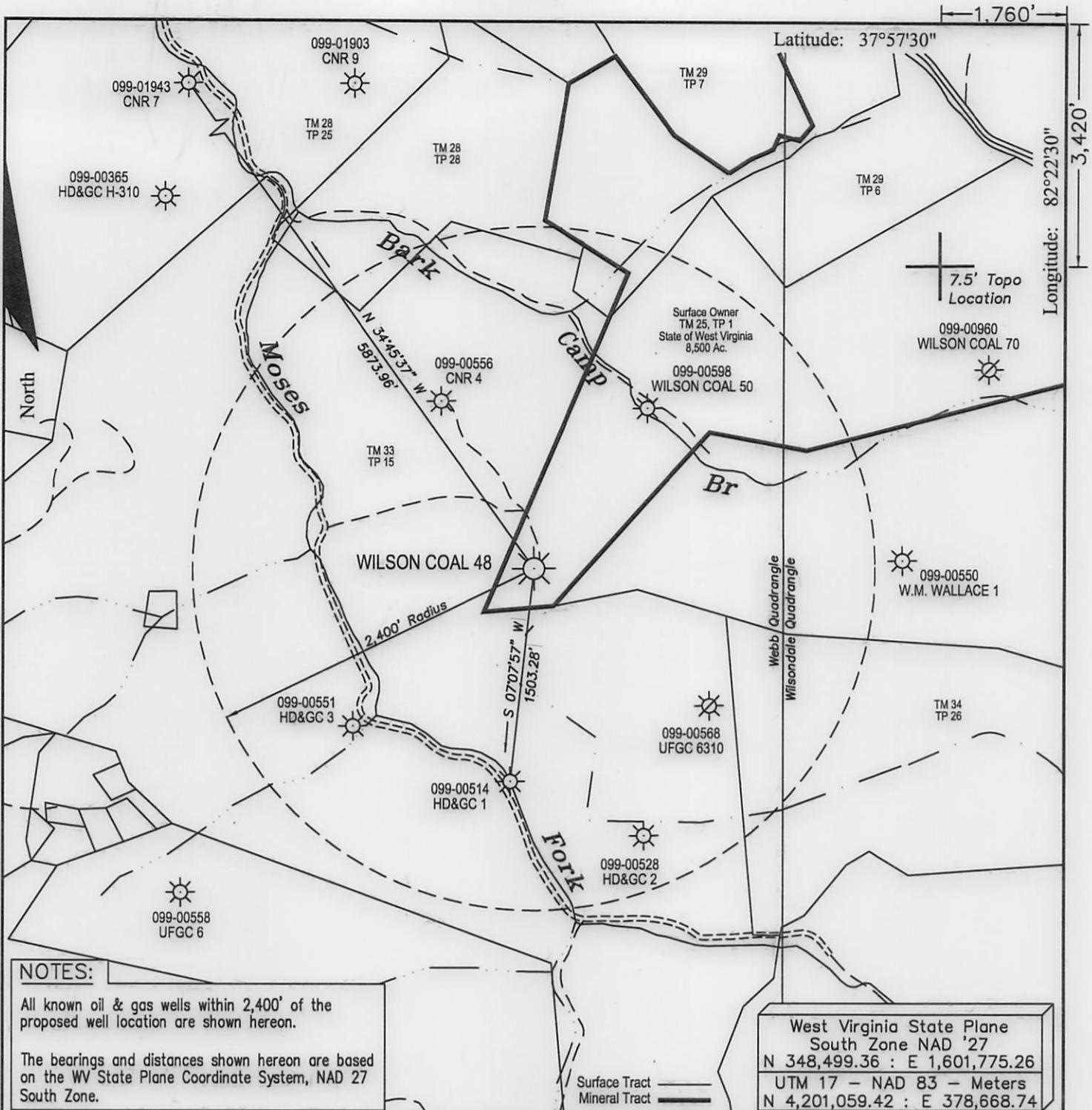
**CUNNINGHAM**

LAND SURVEYING & MAPPING SERVICES, LLC

- 5213 STEPHEN WAY •
- CROSS LANES, WEST VIRGINIA 25313 •
- VOICE (304) 561-4129 • FAX (304) 776-0703 •
- E-MAIL ADDRESS • DKCUNNINGHAM@SUDDENLINK.NET •

LOCATED ON THE WATERS OF MOSES FORK  
OF THE WEST FORK OF TWELVEPOLE CREEK  
LINCOLN DISTRICT, WAYNE COUNTY, W.VA  
WEBB QUADRANGLE

PROJECT NO. CABOT	DWG. NO. WILSON COAL 48 LOC.DWG
DATE: 04-05-13	SCALE: AS NOTED
	CHK'D BY: D.K.C.
DRAWN BY: G. PERKINS	FILE: C:\PROJECT FOLDER\CABOT



**NOTES:**

All known oil & gas wells within 2,400' of the proposed well location are shown hereon.

The bearings and distances shown hereon are based on the WV State Plane Coordinate System, NAD 27 South Zone.

West Virginia State Plane  
South Zone NAD '27  
N 348,499.36 : E 1,601,775.26  
UTM 17 - NAD 83 - Meters  
N 4,201,059.42 : E 378,668.74

FILE #: \_\_\_\_\_  
DRAWING #: Wilson Coal 48 ww6  
SCALE: 1" = 1000'  
MINIMUM DEGREE OF ACCURACY: 1 : 12,729  
PROVEN SOURCE OF ELEVATION: Global Positioning System (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: Don K. Cunningham  
R.P.E.: \_\_\_\_\_ L.L.S.: 701

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304



DATE: April 5, 2013  
OPERATOR'S WELL #: Wilson Coal 48  
API WELL #: 47 099 00561P  
STATE COUNTY PERMIT

Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

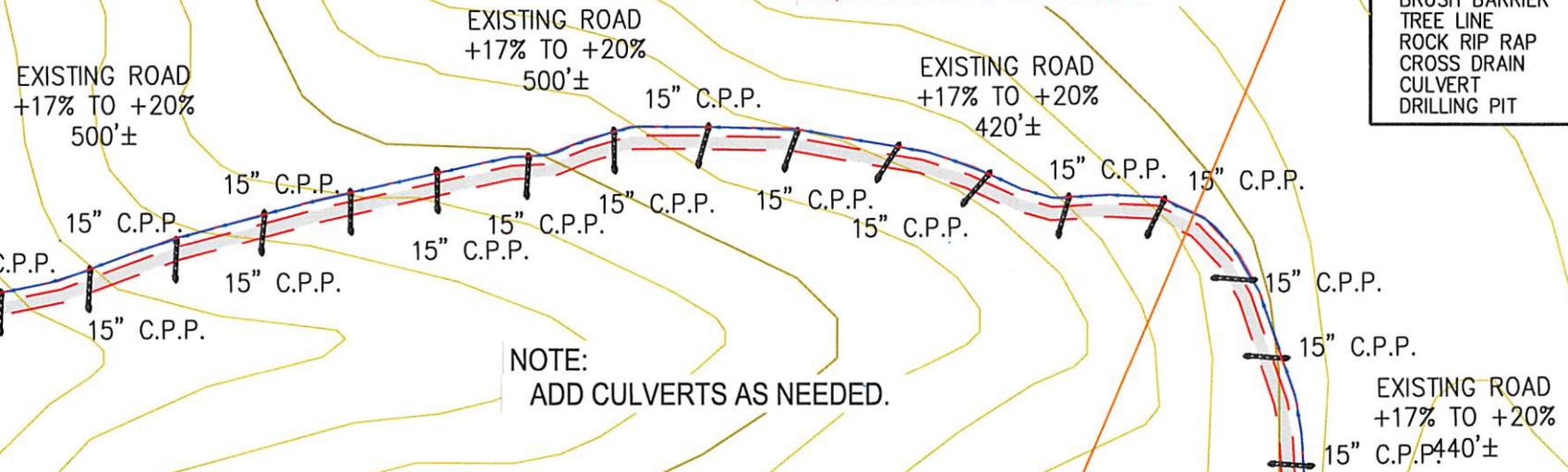
WATERSHED: Moses Fork of the West Fork of Twelvepole Cr. ELEVATION: 1,234.57'  
COUNTY/DISTRICT: Wayne / Lincoln QUADRANGLE: Webb  
SURFACE OWNER: State of West Virginia ACREAGE: 8,500  
OIL & GAS ROYALTY OWNER: Cabot Oil & Gas Corp. ACREAGE: 8,749  
LEASE #: 47-1460M DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): \_\_\_\_\_  
TARGET FORMATION: \_\_\_\_\_ ESTIMATED DEPTH: \_\_\_\_\_

WELL OPERATOR Cabot Oil & Gas Corp. DESIGNATED AGENT Brian Hall  
Address Five Penn Center West, Suite 401 Address P.O. Box 260  
City Pittsburgh State PA Zip Code 15276 City Danville State WV Zip Code 25053

9900561P

Note:  
Tanks will be used instead of drilling pit(s),  
and may be adjusted to the most  
environmental safe site to meet the  
requirements of the WVDEP.

DRAWING LEGEND		
PROPOSED ROAD	---	ROAD DITCH
EXISTING ROAD	---	GAS LINE
STRAW BALES	▨	FENCE LINE
SILT FENCE	▧	ROCK OUTCROP
BRUSH BARRIER	⌒	WATER WELL
TREE LINE	⌒	HOUSE/STRUCTURE
ROCK RIP RAP	⌒	UTILITY POLE
CROSS DRAIN	⌒	SPRING
CULVERT	⌒	WET SPOT
DRILLING PIT	⌒	PIT WASTE APP. AREA



TM 33, TP 15  
Lester R. & Linda L. Finley  
30 Acres

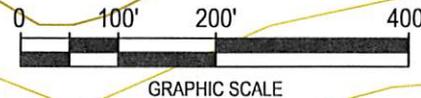
Surface Owner  
TM 25, TP 1  
State of West Virginia  
8,500 Ac.

WILSON COAL 48  
API #47-099-00561

Cabot Oil & Gas Corporation

### WILSON COAL NO. 48 CONSTRUCTION & RECLAMATION SITE PLAN

WATERS OF MOSES FORK OF WEST FORK OF TWELVEPOLE CREEK  
LINCOLN DISTRICT, WAYNE COUNTY, W.VA  
WEBB QUADRANGLE



SHEET NUMBER 1 OF 1	SCALE: 1"=200'	DRAWN BY: J.M.JONES	DATE: 04/10/13	CHK'D. BY: DKC
------------------------	-------------------	------------------------	-------------------	-------------------

**GENERAL NOTES:**

THIS DRAWING REPRESENTS A SCHEMATIC REPRESENTATION OF THE PROPOSED WELL SITE AND ACCESS ROAD. PROPOSED STRUCTURES SUCH AS THE DRILLING PIT, ROADWAY, CULVERTS, SEDIMENT BARRIERS, ETC. ARE SHOWN IN THEIR APPROXIMATE PREPLANNING CONFIGURATION. GIVEN UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATION SHOWN ON THE ATTACHED DRAWINGS.

ALL ROADS SHOWN THEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH GUIDELINES AND REQUIREMENTS OF WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL MANUAL.

ALL CULVERTS SHOWN ON THIS DRAWING ARE PROPOSED AND WILL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE NOTED.

DITCH LINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL. HOWEVER PORTIONS OF THE EXISTING/ PROPOSED ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.

SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL STRUCTURES MEASURES IN ADDITION TO THOSE SHOWN ON THE ATTACHED DRAWINGS WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. SUCH ADDITIONAL MEASURES MAY CONSIST OF EITHER STRAW BALES, SILT FENCES OR OTHER MEASURES OUTLINED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

SEDIMENT BASINS (TRAPS) WILL BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAINS INLETS AS REQUIRED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL MANUAL. FIELD CONDITIONS SUCH AS ROCK OUTCROPS AND BEDROCK MAY PROHIBIT INLET TRAPS BEING INSTALLED WHEN THESE CONDITIONS EXIST. ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

A SEDIMENT BARRIERS OF EITHER BRUSH, STRAW BALES, FILTER FENCE, ETC. WILL BE INSTALLED AND MAINTAINED BELOW THE OUT FALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DRAINAGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.

ALL NECESSARY TIMBER OR BRUSH WILL BE REMOVED FROM ROUTE OF THE ROADWAY AND LOCATION BY CLEANING AND GRUBBING ACTIVITIES. ANY SALVAGEABLE TIMBER WILL BE CUT AND STACKED TO THE SIDE OF THE ROADWAY OR REMOVED TO A STOCKPILE AREA. THE REMAINING TIMBER OR BRUSH WILL BE CUTUP AND WIND ROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS TO BE UTILIZED AS A SEDIMENT BARRIER.

SEPARATE PERMITS WILL BE OBTAINED FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION FOR ALL POINTS OF INGRESS AND EGRESS FROM COUNTY AND STATE ROADS. THESE INGRESS AND EGRESS POINTS WILL BE MAINTAINED IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS. A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 8" OF CRUSHED STONE WILL BE CONSTRUCTED FOR A MINIMUM DISTANCE OF 50' FROM THE INGRESS AND EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS.

ALL CULVERTS SHOWN ON THE ATTACHED DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION ACTIVITIES UNLESS NOTED OTHERWISE. A STABILIZED OUTLET CONTROL DEVICE SUCH AS RIP RAP, NATURAL STONE, BRUSH, ETC. WILL BE INSTALLED BELOW THE OUT FALL OF ANY ROADWAY CULVERT(S) WHICH ARE NOT LOCATED IN A STREAM OR CREEK.

PERMANENT CROSS DRAINS OR WATER BARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH AS-BUILT ROADWAY SLOPES AND TABLE 11-4 OF THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

TEMPORARY SEEDING AND MULCHING WILL BE UTILIZED TO PROVIDE A VEGETATIVE COVER ON ALL DISTURBED AREAS I.E. ROADWAYS, LOCATION, ROAD/LOCATION SLOPES AND ANY OTHER AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES.

THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO THE MOST ENVIRONMENTAL SAFE SITE TO MEET THE REQUIREMENTS OF THE WVDEP.

**CONTRACTORS NOTE:**

IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND CONDITION OF ALL UNDERGROUND UTILITIES, SANITARY SEWERS, STORM SEWERS, ETC. PRIOR TO THE COMMENCEMENT OF ANY/OR CONSTRUCTION ACTIVITIES. DIG WITH C.A.R.E. CALL MISS UTILITY 1-800-245-4848.

TABLE 11-4 SPACING OF CROSS DRAINS

ROAD GRADE (%)	DISTANCE (FT)
1	400
2	250
5	135
10	80
15	60
20	45

TABLE 11-7 SPACING OF CULVERTS

ROAD GRADE (%)	DISTANCE (FT)
2-5	500-300
6-10	300-200
11-15	200-100
16-20	100



1-800-245-4848

**DRAWING LEGEND**

- PROPOSED ROAD -----
- EXISTING ROAD \_\_\_\_\_
- STRAW BALES [Symbol]
- SILT FENCE [Symbol]
- BRUSH BARRIER [Symbol]
- TREE LINE [Symbol]
- ROCK RIP RAP [Symbol]
- CROSS DRAIN [Symbol]
- CULVERT [Symbol]
- DRILLING PIT [Symbol]
- ROAD DITCH [Symbol]
- GAS LINE [Symbol]
- FENCE LINE [Symbol]
- ROCK OUTCROP [Symbol]
- WATER WELL [Symbol]
- HOUSE/STRUCTURE [Symbol]
- UTILITY POLE [Symbol]
- SPRING [Symbol]
- WET SPOT [Symbol]
- PIT WASTE APP. AREA [Symbol]

**DRIVING DIRECTIONS FOR WILSON COAL 48**

- 1.) FROM WAYNE, W.VA DRIVE SOUTH ON STATE ROUTE 52 FOR 27.1 MILES± TO SECONDARY ROUTE 52/48 LOCATED ON THE LEFT-HAND SIDE OF THE ROAD.
- 2.) TURN LEFT ONTO 52/48 AND DRIVE SOUTH 1.4 MILES± TO THE ENTRANCE OF THE ACCESS ROAD LOCATED ON THE LEFT-HAND SIDE OF THE ROAD.
- 3.) FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ACCESS ROAD APPROXIMATELY 0.4 MILE± TO THE EXISTING WELL LOCATION AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN".

MAY 23 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection