



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

April 17, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3902862, 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: 19-642

Farm Name: BOWERS, WILLIAM

API Well Number: 47-3902862

Permit Type: Plugging

Date Issued: 04/17/2015

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 February 25, 2015
2) Operator's
Well No. William Bowers #19
3) API Well No. 47-039 -0282
02862

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 / Shallow X

5) Location: Elevation 825.33' Watershed Unnamed Tributary of Mile Branch
District Cabin Creek ✓ County Kanawha Quadrangle Cedar Grove 284

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 9) Plugging Contractor
Name Terry Urban Name Contractor Services, Inc.
Address P.O. Box 1207 Address 929 Charleston Road
Clendenin, WV 25045 Spencer, WV 25276

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

SEE Changes on Diagram

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

Work order approved by inspector _____ Date _____

Bowers #19
API # 47 - 039 - 02862
PLUGGING PROCEDURE

Current Configuration

DTD @ 1987'
 Elevation @ 867'
 10" casing @ 325'
 8-1/4" casing @ 1205'
 6-5/8" casing @ 1547'
 2" tubing @ 1987' with anchor packer set @ 1717'
 Open mine @ 110' – 115' w/ water reported filling wellbore
 Coal @ 208' – 212'
 1st Salt Sand @ 860' – 960'
 2nd Salt Sand @ 1140' – 1180' with salt water
 Big Lime @ 1544' – 1734' with no show
 Injun @ 1734' – 1775' with no show
 Weir @ 1800' – 1980' with gas show of 1.25 MMcfd @ 1845'

PROCEDURE

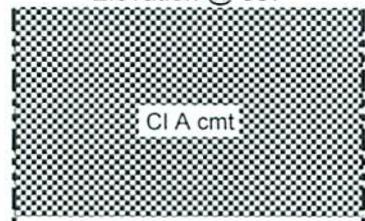
1. Contact Glasgow Office a minimum of 48 hours prior to starting work.
2. Contact State Inspector a minimum of 24 hours prior to starting work.
3. Lay 2" line from wellhead to pit/tank and stake down securely.
4. MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
5. Vent all annuli.
6. Unpack wellhead.
7. Pull 2" tubing.
8. If unable to pull tubing, run freepoint, cut above freepoint, and POOH.
9. TIH with 2-3/8" work string to 1900'.
10. MIRU Cement Company and pump 30 bbls 6% Gel followed by 40 sks of Class A cement for plug 1 from 1900' to 1700'.
11. Displace w/ 6 ½ bbls of 6% Gel.
12. TOOH with work string.
13. Pull 6-5/8" and 8-1/4" casing strings.
14. TIH with work string to 1200' and pump 20 bbls 6% Gel followed by 70 sks of Class A cement for plug 2 from 1200' to 1050'.
15. Displace w/ 4 bbls of 6% Gel.
16. Pull work string up to 950' and pump 50 bbls 6% Gel followed 70 cubic feet of Class A cement for plug 3 from 950' to 800'.
17. Displace w/ 3 bbl of 6% Gel.
18. TOOH with work string.
19. Pull 10" casing string.
20. TIH with work string to 260' and pump 200 sks of Class A cement for plug 4 from 260' to surface.
21. TOOH with work string and lay down.
22. RDMO Cementing Company.
23. Place monument as required by law on top of well bore.
24. Reclaim well site.

RECEIVED
 Office of Oil and Gas
 MAR 3 2015
 WV Department of
 Environmental Protection

BOWERS #19
API 47-039-02862
PROPOSED CONFIGURATION
Elevation @ 867'

Open mine @ 110' - 115'

Coal @ 208' - 212'



Bottom of cement plug 4 @ 260' ^{325' to surface}
10" Casing @ 325' pulled

Cement to surface

6% gel

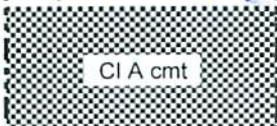
825' Elev.

800 ft

Cmt

Top of cement plug 3 @ 800'

Salt Sand @ 860' - 960'

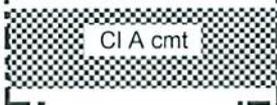


Bottom of cement plug 3 @ 950'

6% gel *Cement*

Top of cement plug 2 @ 1050'

Salt Sand @ 1140' - 1180'
w/ salt water



Bottom of cement plug 2 @ 1200'
8-1/4" Casing @ 1205' pulled

Maxton @ 1300' - 1380'

6% gel *Cement*

Will Set AS ONE PLUG IN STAGES
Displace with Gel

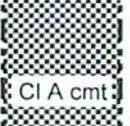
6-5/8" Casing @ 1547' pulled

Big Lime @ 1544' - 1734'



Top of cement plug 1 @ 1700'
2" X 6-5/8" packer @ 1717' pulled

Injun @ 1734' - 1775'



Weir @ 1800' - 1980'
w/ 1.25 MMcf/d gas @ 1845'

Bottom of cement plug 1 @ 1900'

DTD @ 1987'

Schematic is not to scale

T. Ott 2/23/15

Angus Miller
3-3-15

KAM
039(2862)

3902862F

642 29-42 BOWERS #19 WELL

Located on the Bowers farm on One Mile Branch of Kanawha River,
Cabin Creek District, Kanawha County, W.Va.
Drillers-C.M.Means & Burl Adkins. Contractor- L.E.Means & Brother.
Tool Dressers: Chas. Furman & O.K.Grinstead.
Well completed- Aug. 12, 1920;

E1-1

Formation	Top	Bottom
Surface gravel	20	55
Slate	55	80
Sand	80	110
Mine opening	110	115 (hole filled with water)
Slate	115	208
Coal	208	212
Slate & Shells	212	300
Sand	300	480
Slate	480	595
Sand	595	665
Slate and shells	665	720
Gas Sand	720	825
Slate	825	860
Salt Sand	860	960
Slate and shells	960	1140
Sand	1140	1180 Water in Salt Sand
Red Rock	1180	1200
Lime Shells & Red Rock	1200	1310
Maxon Sand	1300	1380 Hole full of water
Slate and Lime shells	1380	1484
Little Lime & Pencil Cave	1484	1544
Big Lime	1544	1734
Injun Sand	1734	1775
Lime Shells	1775	1800
Weir Sand (180')	1800	1838
Show of Gas	1838	1845
" 1 1/2 million	1845	1905
"	1905	1945
"	1945	1980
Bottom Sand	1980	1980
Slate	1980	
Total	1987	

1775
- 867
= 908 (180')

Wooden conductor	16 ft.
10" casing	325
8 1/2" "	1205
6 7/8" "	1547
2" tubing	1987

1544 1734
867 867
- 667 - 867

August 11, 1920
3-3-15

Packer set 270 ft from bottom
perforated joint 20 ft.

Condition of casing
10 new
8 1/2 old steel shoe on bottom
6-5/8 new steel shoe on bottom

WW-4A
Revised 6-07

1) Date: February 25, 2015
2) Operator's Well Number
William Bowers #19
3) API Well No.: 47 - 039 - 02862

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>Robin Land Company, LLC</u> ✓	Name <u>See Attached Sheet</u>
Address <u>P.O. Box 1001</u> ✓	Address _____
<u>Scott Depot, WV 25560</u>	_____
(b) Name <u>David A. Upton & Angela C. Upton</u> ✓	(b) Coal Owner(s) with Declaration
Address <u>118 Maroney Lane</u> ✓	Name <u>Robin Land Company, LLC</u>
<u>Shrewsbury, WV 25184</u>	Address <u>P.O. Box 1001</u> ✓
	<u>Scott Depot, WV 25560</u>
(c) Name _____	Name _____
Address _____	Address _____

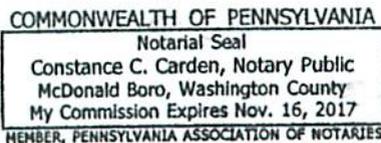
6) Inspector <u>Terry Urban</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 1207</u>	Name <u>None of Record</u>
<u>Clendenin, WV 25045</u>	Address _____
Telephone <u>(304) 549-5915</u>	_____

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 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 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 *Kenneth L. Marcum*
 Its: Regulatory Supervisor
 Address Five Penn Center West, Ste. 401
Pittsburgh, PA 15276
 Telephone (412) 249-3850

RECEIVED
Office of Oil and Gas

MAR 3 2015

Subscribed and sworn before me this 25th day of February, 2015 Department of
Constance C. Carden Environmental Protection
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 depprivacyofficer@wv.gov.

COAL OPERATORS
WILLIAM BOWERS #19
47-039-02862

Speed Mining, Inc. ✓
P.O. Box 99
Dawes, WV 25054

Midland Trail Energy, LLC ✓
P.O. Box 366
Tad, WV 25201

Coyote Coal Company, LLC ✓
P.O. Box 1001
Scott Depot, WV 25560

Spartan Mining Co., ✓
Dba Mammoth Coal Company
P.O. Box 150
Cannelton, WV 25036

Mammoth Coal Company ✓
P.O. Box 150
Cannelton, WV 25036

Emerald Processing, LLC ✓
P.O. Box 189
Comfort, WV 25049

Selah Corporation ✓
P.O. Box 1375
Gilbert, WV 25621

Upper Kanawha Valley Development Corp. ✓
400 Patterson Ln. #200
Charleston, WV 25311

RECEIVED
Office of Oil and Gas

MAR 3 2015

WV Department of
Environmental Protection

3902862P

7013 3020 0001 0841 7418

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

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

OFFICIAL USE

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



Sent To: David A. & Angela C. Upton
 Street, Apt. or PO Box: 118 Maroney Lane
 City, State: Shrewsbury, WV 25184

PS Form 3800, August 2009 Bowers #19 P&A Instructions

7014 2120 0003 6926 4999

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

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



Sent To: Robin Land Company, LLC
 Street & PO Box: P.O. Box 1001
 City, State: Scott Depot, WV 25560

PS Form 3800, August 2009 Bowers #19 P&A Instructions

7013 3020 0001 0841 5476

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

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

OFFICIAL USE

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



Sent To: Coyote Coal Company, LLC
 Street, Apt. or PO Box: P.O. Box 1001
 City, State: Scott Depot, WV 25560

PS Form 3800, August 2009 Bowers #19 P&A Instructions

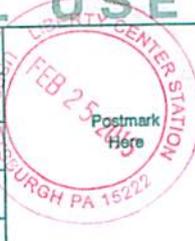
7014 2120 0003 6926 5002

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

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



Sent To: Speed Mining, Inc.
 Street & PO Box: P.O. Box 99
 City, State: Dawes, WV 25054

PS Form 3800, August 2009 Bowers #19 P&A Instructions

7013 3020 0001 0841 5483

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

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

OFFICIAL USE

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



Sent To: Spartan Mining Co.
 Street, Apt. or PO Box: DbA Mammoth Coal Company, P.O. Box 150
 City, State: Cannelton, WV 25036

PS Form 3800, August 2009 Bowers #19 P&A Instructions

7013 3020 0001 0841 7296

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

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

OFFICIAL USE

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



Sent To: Midland Trail Energy, LLC
 Street, Apt. or PO Box: P.O. Box 1860
 City, State: Tad, WV 25201

RECEIVED
 Office of Oil and Gas
 MAR 3 2015
 U.S. Department of Environmental Protection

PS Form 3800, August 2009 Bowers #19 P&A Instructions

7013 3020 0001 0841 5490

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

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

OFFICIAL USE

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



Sent To **Mammoth Coal Company**
 Street, Apt or PO Box **P.O. Box 150**
 City, State **Cannelton, WV 25036**

Bowers #19 P&A

7013 3020 0001 0841 5505

U.S. Postal Service™ **3902862P**
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

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

OFFICIAL USE

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



Sent To **Emerald Processing, LLC**
 Street, Apt or PO Box **P.O. Box 189**
 City, State **Comfort, WV 25049**

Bowers #19 P&A

7014 2120 0003 6926 4975

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

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



Sent To **Upper Kanawha Valley
Development Corp.**
 Street or PO **400 Patterson Ln. #200**
 City, S **Charleston, WV 25311**

Bowers #19 P&A

7013 3020 0001 0841 5515

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

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

OFFICIAL USE

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



Sent To **Selah Corporation**
 Street, Apt or PO **P.O. Box 1375**
 City, S **Gilbert, WV 25621**

Bowers #19 P&A

7014 2120 0003 6926 4982

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE

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



Sent To **Terry Urban**
 Street or PO **P.O. Box 1207**
 City, S **Clendenin, WV 25045**

Bowers #19 P&A

RECEIVED
Office of Oil and Gas

MAR 3 2015

WV Department 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 Unnamed Tributary of Mile Branch Quadrangle Cedar Grove

Elevation 825' County Kanawha District Cabin Creek

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 _____

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)
____ Other (Explain _____)

August 3-3-15

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. _____
-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*

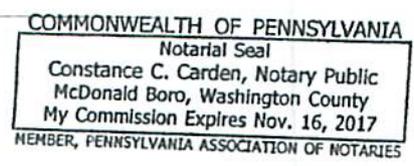
Company Official (Typed Name) Kenneth L. Marcum

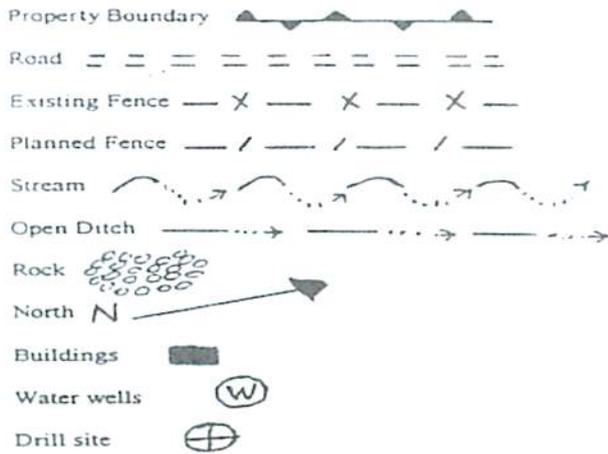
Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 25th day of February, 2014 ~~15~~

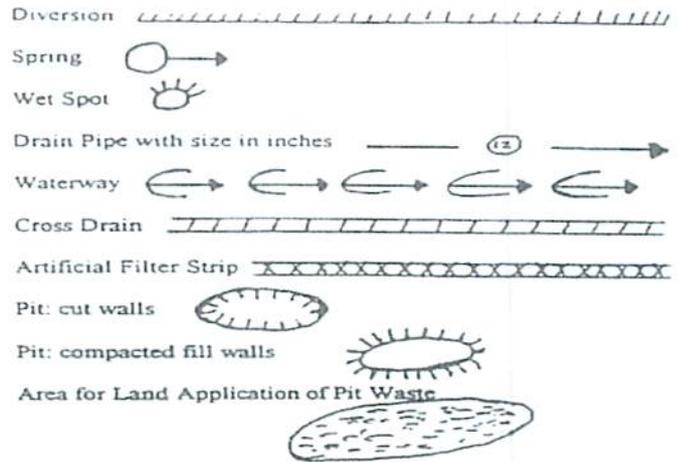
Constance C. Carden Notary Public

My commission expires November 16, 2017





LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1.5 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: *Amy D. [Signature]*

Comments: *Well in Cedar Grove (Kelley Creek) Horse Hollow*

Title: *Field Inspector & Ord. Ins.* Date: *3-3-15*

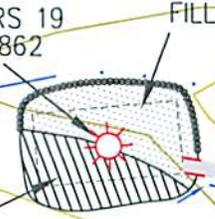
Field Reviewed? () Yes () No

3902862P

Surface Owner
TM 10, TP 1
Robin Land Company
8,997.75 Ac.

APPLY CULVERTS
AS NEEDED

WILLIAM BOWERS 19
API 039-02862



EXISTING ROAD
+11% TO +14%
110'±

EXISTING ROAD
+15% TO +18%
185'±

EXISTING ROAD
+17% TO +20%
90'±

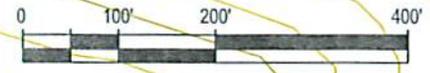
EXISTING ROAD
+12% TO +15%
165'±

EXISTING ROAD
+8% TO +11%
210'±

TM 5, TP 31
David A. Upton, et ux

Mile

Branch



GRAPHIC SCALE

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	

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.

 Cabot Oil & Gas Corporation

WILLIAM BOWERS 19
CONSTRUCTION & RECLAMATION SITE PLAN

SITUATED ON THE WATERS OF AN UNNAMED TRIBUTARY OF MILE BRANCH
CABIN CREEK DISTRICT, KANAWHA COUNTY, WV
CEDAR GROVE QUADRANGLE

SHEET NUMBER 1 OF 1	SCALE: 1"=200'	DRAWN BY: G. PERKINS	DATE: 10-05-14	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.

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

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]

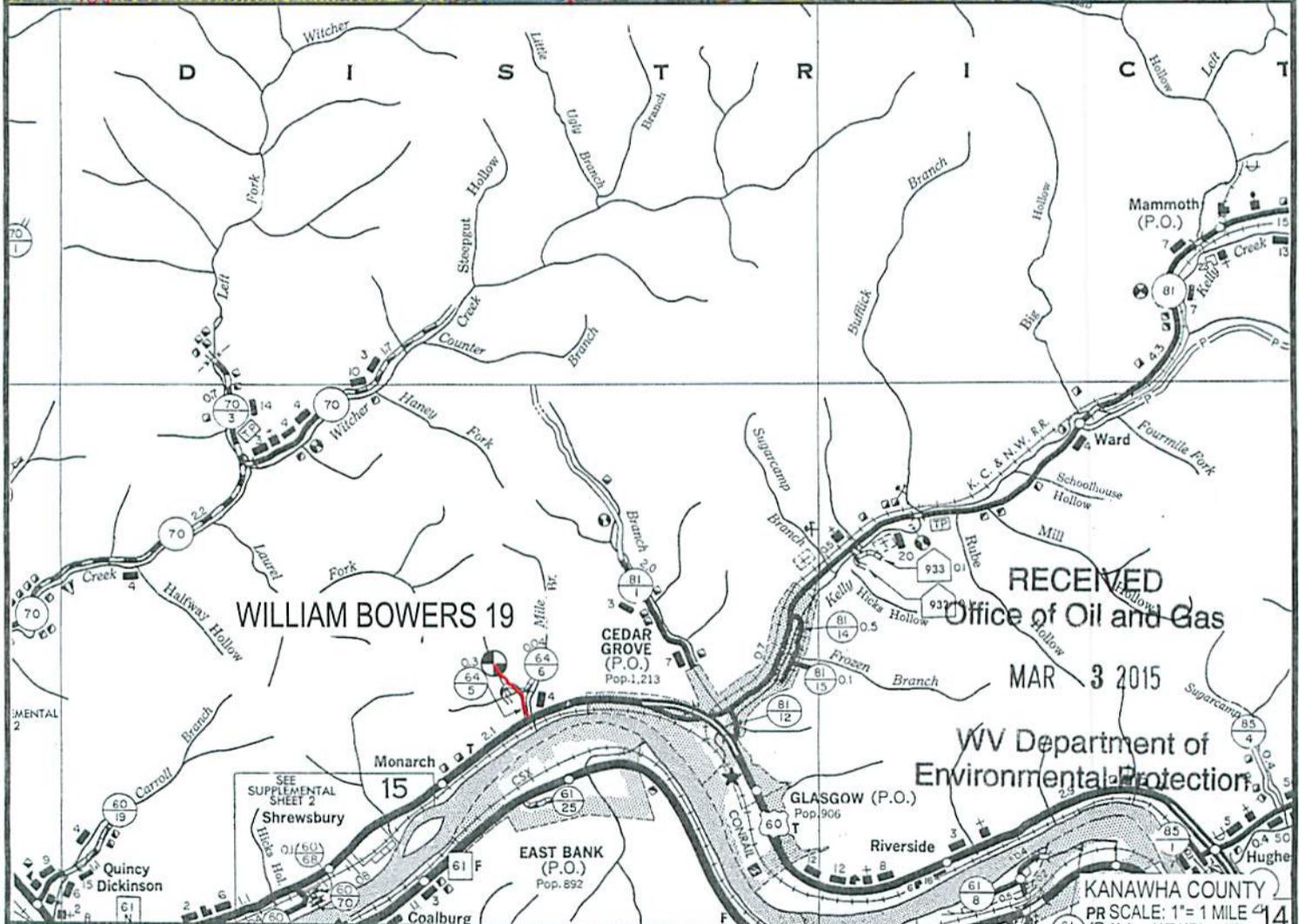
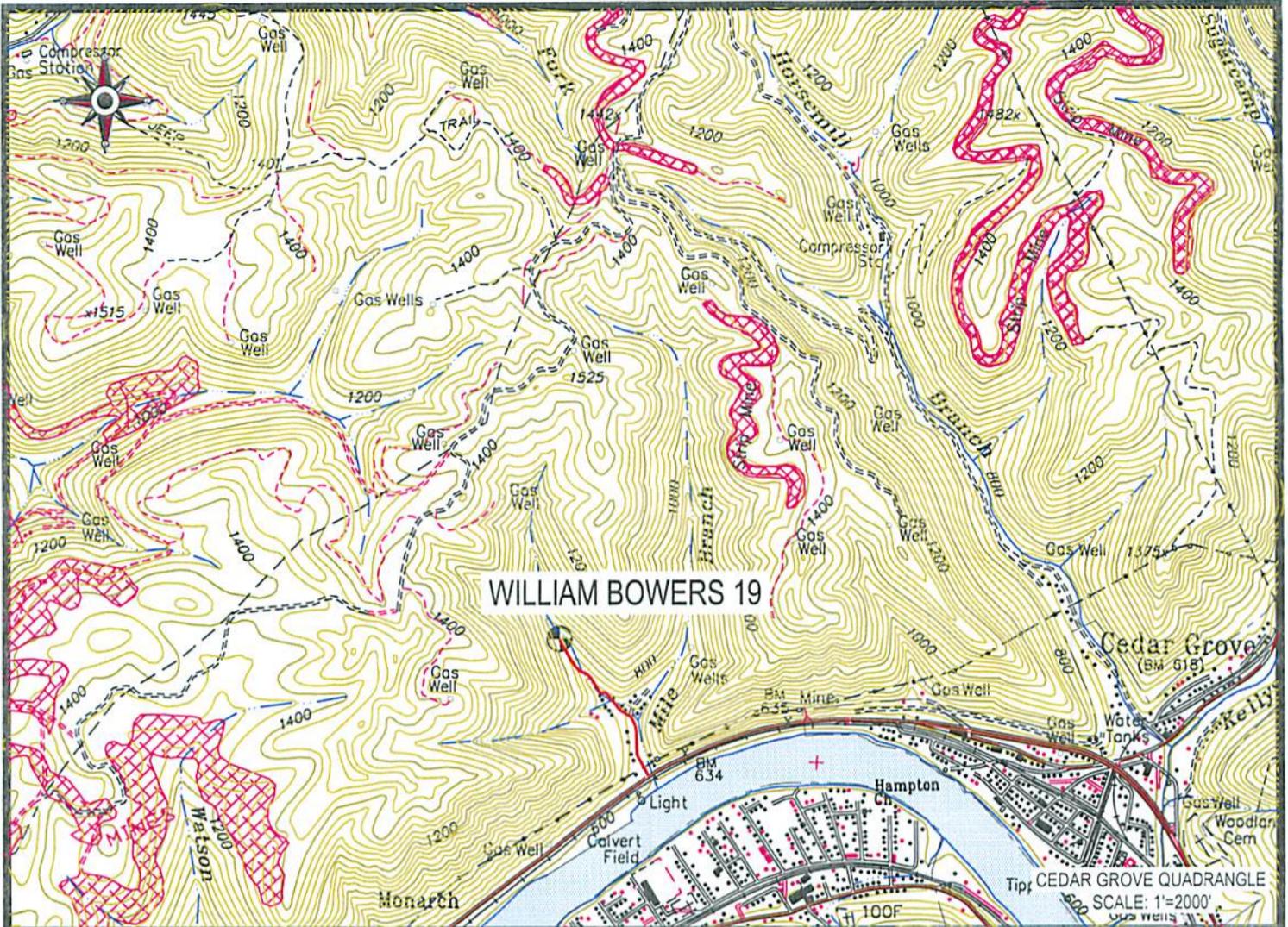
DRIVING DIRECTIONS FOR WILLIAM BOWERS 19

- 1.) FROM CHARLESTON, WV, GO EAST ON U.S. RT. 60 FOR APPROXIMATELY 12.8± MILES TO SECONDARY ROUTE 64/5, IN CEDAR GROVE.
- 2.) TURN LEFT ONTO SECONDARY ROUTE 64/5 AND GO APPROXIMATELY 0.2± MILE TO THE BEGINNING OF THE ACCESS ROAD LOCATED ON THE RIGHT-HAND SIDE OF THE ROAD.
- 3.) FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ROAD FOR APPROXIMATELY 0.15± MILE TO THE EXISTING WELL SITE AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN".

RECEIVED
Office of Oil and Gas

MAR 3 2015

WV Department of
Environmental Protection



 Cabot Oil & Gas Corporation

WILLIAM BOWERS 19
LOCATION MAP

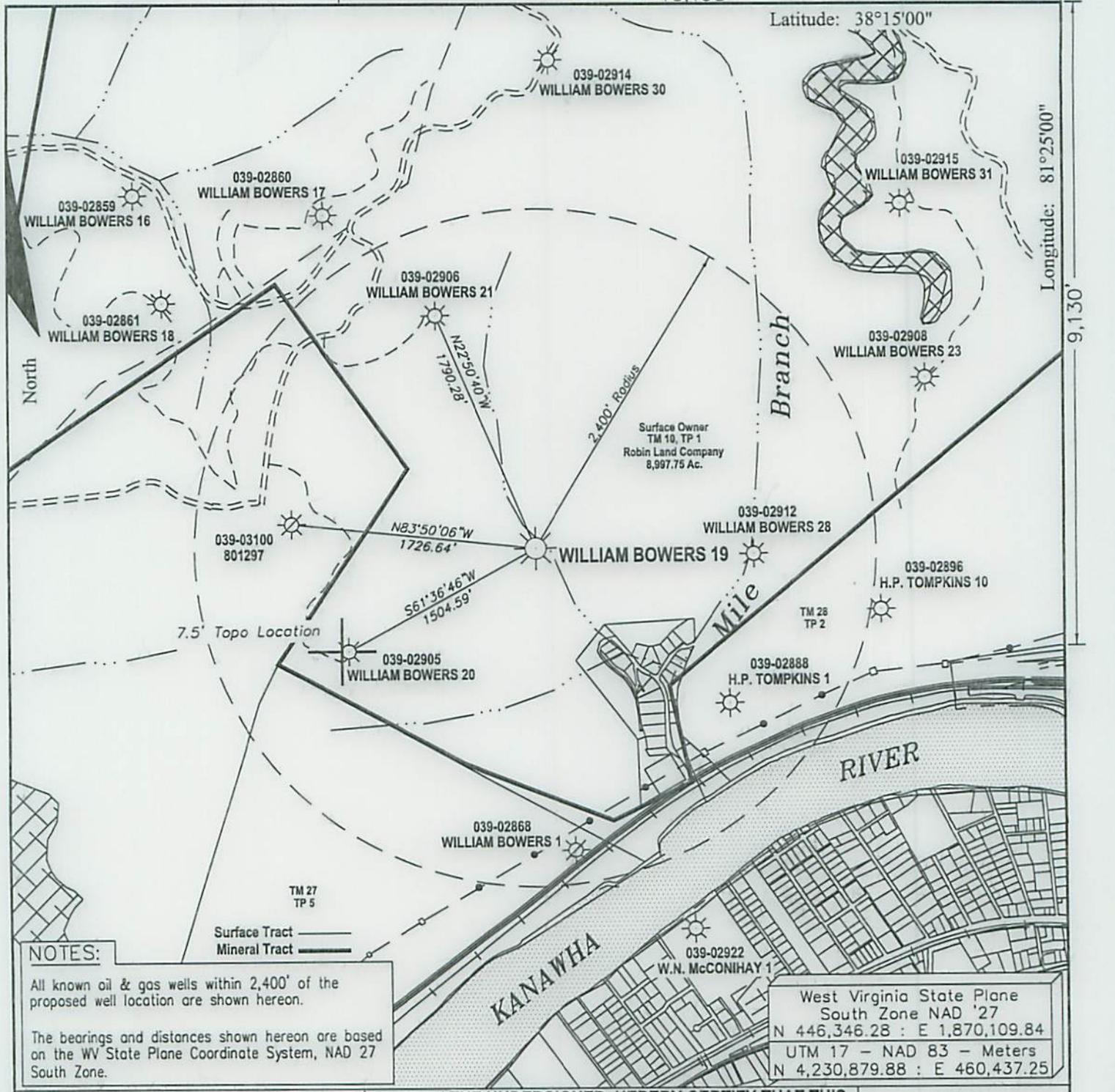


CUNNINGHAM
LAND SURVEYING & MAPPING SERVICES, LLC

• 5213 STEPHEN WAY •
• CROSS LANES, WEST VIRGINIA 25313 •
• VOICE (304) 561-4129 • FAX (304) 776-0708 •
• E-MAIL ADDRESS • DKCUNNINGHAM@SUDDENLINK.NET •

LOCATED ON THE WATERS OF AN UNNAMED TRIBUTARY
OF MILES BRANCH
CABIN CREEK DISTRICT, KANAWHA COUNTY, WV
CEDAR GROVE 7.5' QUADRANGLE

PROJECT NO. CABOT	DWG. BOWERS 19 LOC
DATE: 10-06-14	SCALE: AS NOTED
CHK'D BY: D.K.C.	
DRAWN BY: G. PERKINS FILE: C:\PROJECT FOLDER\CABOT	



NOTES:

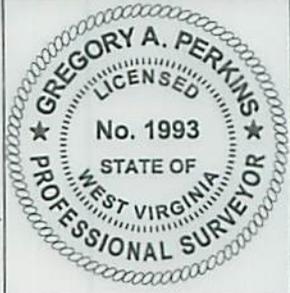
All known oil & gas wells within 2,400' of the proposed well location are shown hereon.
 The bearings and distances shown hereon are based on the WV State Plane Coordinate System, NAD 27 South Zone.

West Virginia State Plane
 South Zone NAD '27
 N 446,346.28 : E 1,870,109.84
 UTM 17 - NAD 83 - Meters
 N 4,230,879.88 : E 460,437.25

FILE #: _____
 DRAWING #: Bowers 19.dwg
 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: _____
 R.P.E.: _____ L.L.S.: 1993



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

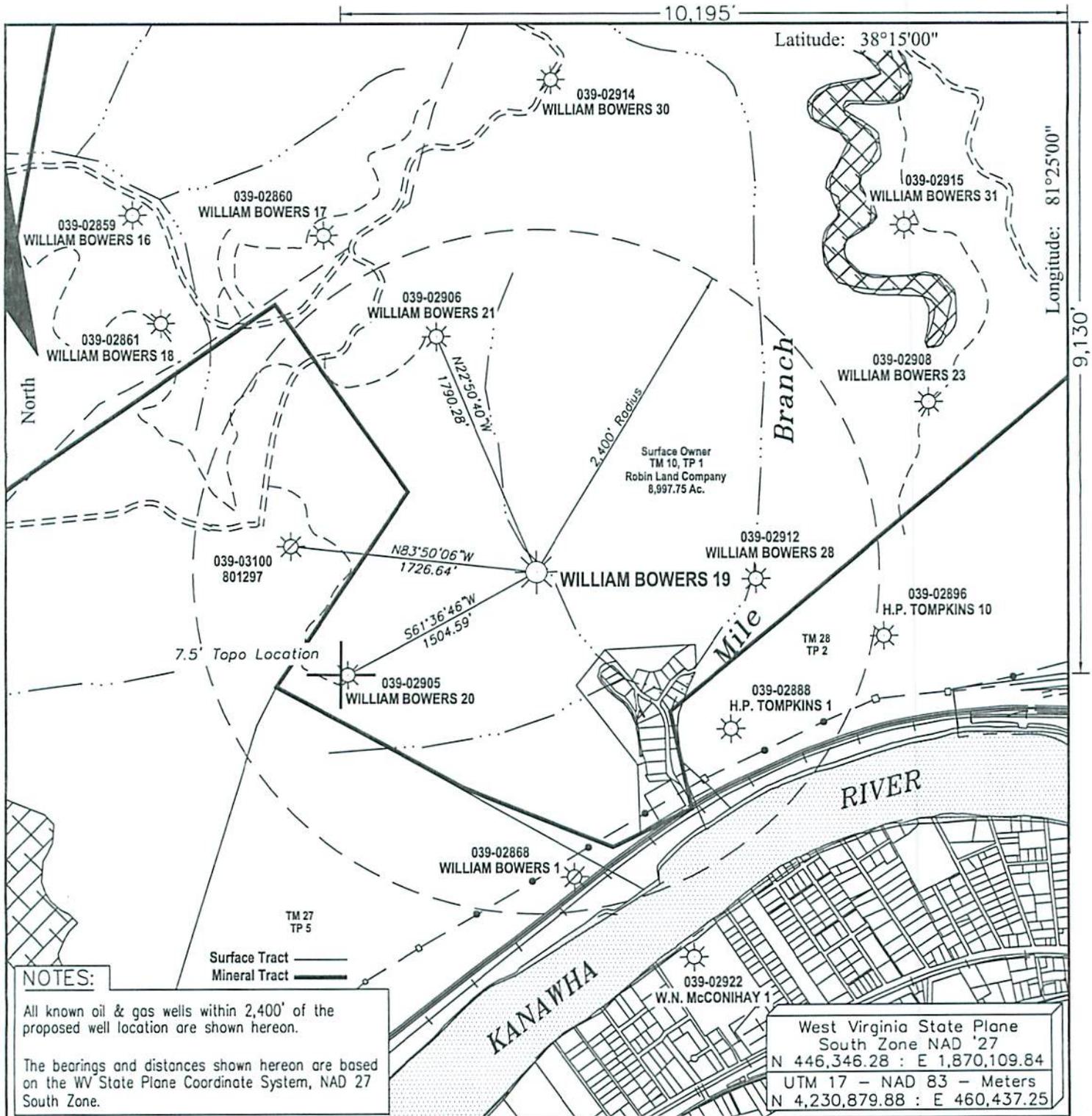


DATE: October 6, 2014
 OPERATOR'S WELL #: William Bowers 19
 API WELL #: 47 039 02862 P
 STATE COUNTY PERMIT

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

WATERSHED: Unnamed Tributary of Mile Branch ELEVATION: 825.33'
 COUNTY/DISTRICT: Kanawha / Cabin Creek QUADRANGLE: Cedar Grove
 SURFACE OWNER: Robin Land Company ACREAGE: 8,997.75
 OIL & GAS ROYALTY OWNER: William Bowers Estate ACREAGE: 1,532
 LEASE #: 47-0618 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 Whitney Johnson
 Address Five Penn Center West, Suite 401 Address P.O. Box 450
 City Pittsburgh State PA Zip Code 15276 City Glasgow State WV Zip Code 25086



NOTES:

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

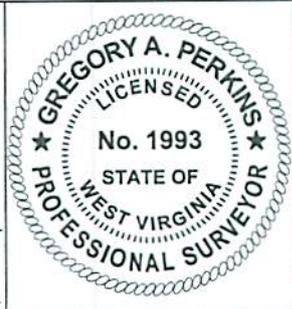
The bearings and distances shown hereon are based on the WV State Plane Coordinate System, NAD 27 South Zone.

West Virginia State Plane
South Zone NAD '27
N 446,346.28 : E 1,870,109.84
UTM 17 - NAD 83 - Meters
N 4,230,879.88 : E 460,437.25

FILE #: _____
DRAWING #: Bowers 19.dwg
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 ENVIROMENTAL PROTECTION.

Signed: _____
R.P.E.: _____ L.L.S.: 1993



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



DATE: October 6, 2014
OPERATOR'S WELL #: William Bowers 19
API WELL #: 47 039 02862 P
STATE COUNTY PERMIT

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

WATERSHED: Unnamed Tributary of Mile Branch ELEVATION: 825.33'
COUNTY/DISTRICT: Kanawha / Cabin Creek QUADRANGLE: Cedar Grove
SURFACE OWNER: Robin Land Company ACREAGE: 1.73
OIL & GAS ROYALTY OWNER: William Bowers Estate ACREAGE: 1.532
LEASE #: 47-0618 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): WV Department of Environmental Protection

TARGET FORMATION: _____ ESTIMATE: _____
WELL OPERATOR Cabot Oil & Gas Corp. DESIGNATED AGENT Whitney Johnson
Address Five Penn Center West, Suite 401 Address P.O. Box 450
City Pittsburgh State PA Zip Code 15276 City Glasgow State WV Zip Code 25086

3902862P



February 25, 2015

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

RE: William Bowers #19
Cabin Creek District, Kanawha County, WV
API # 47-039-02862
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.

Notices of our intention to plug this wellbore 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
Office of Oil and Gas
MAR 3 2015
WV Department of
Environmental Protection