



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

July 08, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8100525, issued to EXCO RESOURCES (PA), LLC, 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: A-52
Farm Name: BEAVER COAL CO. LTD
API Well Number: 47-8100525
Permit Type: Plugging
Date Issued: 07/08/2016

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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

810052514

WW-4B
20
Rev. 2/01

1) Date 5/1/2016
2) Operator's
Well No. Beaver CoalA-52
3) API Well No. 47-081-0525

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

5) Location: Elevation 2516 3 Quadrangle Flat top, Crab Orchard
District Trap Hill

6) Well Operator EXCO Resources (PA), LLC
Address PO Box 8.
Ravenswood, WV 26164

7) Designated Agent Diana Stampler/C.T.Corp.
Address 5400 D Big Tyler Road
Charleston, WV 25301

Oil and Gas Inspector to be notified
Name GARY KENNEDY
Address PO Box 268, Nimitz WV 25978

PHONE 304 382 8402

9) Plugging Contractor
Name R & R WELL SERVICE
Address 42 LYNCH RIDGE
WALTON, WV 25286

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

Remove all equipment used to produce well

SPOT GEL.

SET BOTTOM HOLE PLUG (CIA) FROM PBTD (≈ 1330') TO 1200' (PERFORATIONS)

FREE POINT, CUT & PULL 2 7/8" TUBING.

SET 100' CIA PLUG ACROSS CUT @ ≈ 750'.

SET 100' CIA PLUG FROM 570' TO 470'. (7" CASING SHOE)

SET 100' CIA PLUG FROM 375' TO 275'.

(7" CASING APPEARS TO BE CEMENTED TO SURFACE)

Gel 276 to 100'

Cement 100' to surface

Set monument with proper API

★ Gel between all plugs

SIGNATURE Randall D. Slutz

gmm
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Office of Oil and Gas
JUN 06 2016
DATE- 5/28/16
WV Department of
Environmental Protection

07/08/2016

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

Date: September 5, 1980

FORM 1-35
(Obverse)

Operator: Beaver Coal Company, Ltd. A-52

[03-7c]

WELL OPERATOR'S REPORT
OF

ACT No. 081-525
State Agency Form

REGULATED THROUGH THE STATE DEPARTMENT OF MINES, OIL AND GAS DIVISION

WELL TYPE: Oil / Gas / Liquid Injection / Waste Disposal
(If "Gas", Production / Underground storage / Deep / Shallow)
LOCATION: Elevation: 2294.15 Watershed: Piney River
District: Town County: Raleigh Quadrangle: Crab Orchard

WELL OPERATOR Appalachian Exploration & Dev., Inc. DESIGNATED AGENT Mr. James R. Gramblett
Address P.O. Box 628 Address P.O. Box 628
Charleston, West Virginia 25322 Charleston, West Virginia 25322

PERMITTED WORK: Drill / Convert / Drill deeper / Re-drill / Fracture or stimulate
Plug off old formation / Perforate new formation /
Other physical change in well (specify) _____

PERMIT ISSUED ON February 12, 1980 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Mr. Leroy Hopkins
Address General Delivery
Ansted, West Virginia 25812

GEOLOGICAL TARGET FORMATION: Ravencliff Depth 1238 feet
Depth of completed well, 1373' feet Rotary / Cable Tools
Water strata depth: Fresh feet; salt, feet.
Coal seam depths: 323-326 Open Mine Is coal being mined in the area?
Work was commenced March 24, 1980, and completed March 28, 1980

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling		
Conductor	9-5/8"					18'	18'	7 sks. Kinds
Fresh water								
Coal	7"					519'	519'	100 sks. Sizes
Intermediate								
Production	2-7/8"					1354'	1354'	60 sks. Depths set
Tubing								
Miners								Perforations:
								Top Bottom
								1254' 1262'
								1280' 1290'
								1298' 1302'

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OIL & GAS DIVISION
DEPT. OF MINES
SEP 9 1980

OPEN FLOW DATA
Producing formation Ravencliff Pay zone depth 1254-1302 feet
Gas: Initial open flow, TSTM Mcf/d Oil: Initial open flow, Bbl/d
Final open flow, 169 Mcf/d Final open flow, Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure, 170# psig (surface measurement) after hours shut in

07/08/2016

Second producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow, _____ 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, _____ psig (surface measurement) after _____ hours shut in

FORM IV-35
(Reverse)

[08-72]

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

5/20/80 - Broke down Ravencliff with 1000 gals. 15% HCL. Break down pressure 1200#. Ran perf balls. Poor ball action to 1100#. Knocked out balls. Treated with 15,000#. 80/100 (3#/gal.); 65,000# 20/40 (3-1/2#/gal.) Average injection rate 18 BPM. Average treating pressure 2800#. Total fluid 780 bbls. (585 bbls. S/L) ISIP 2000#; 15 minutes, 1400#.

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Surface Rock			0	70	
Sandstone			70	124	
Sand and Shale			124	323	
Coal			323	326	Open Mine
Sand and Shale			326	350	
Sandstone			350	382	
Shale			382	420	
Sandstone			420	494	
Sand and Shale			494	880	
Sandstone			880	934	
Shale			934	1010	
Sandstone			1010	1058	
Shale			1058	1178	
Sand and Shale			1178	1238	
Ravencliff Sand Stone			1238	1306	
Shale			1306	1371	T.D. 1373'

(Attach separate sheets to complete as necessary)

APPALACHIAN EXPLORATION & DEVELOPMENT, INC.

Well Operator

By

James L. Cranchette

Its

Regional Manager, Drilling and Production

07/08/2016

NOTE: Regulation 2.02(f) provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the drilling of a well."

8100525P

OG-11

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

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MAR 28 1980

OIL & GAS DIVISION
DEPT. OF MINES
INSPECTOR'S WELL REPORT

Permit No. RAI 525

Oil or Gas Well GAS

Company <u>AED</u>	CASINGS AND TUBING	USED IN DRILLING	Left in Well	PACKERS
Address <u>CHARLSTON</u>	Size			
Farm <u>BEAVER COAL</u>	16			Kind of Packer
Well No. <u>A 52</u>	13			
District <u>TOWN</u> County <u>RAI</u>	12 <u>9 5/8</u>	<u>30</u>	<u>30</u>	Size of
Drilling commenced	8" <u>7</u>	<u>518</u>	<u>518</u>	<u>CEMENTED</u> Depth set
Drilling completed Total depth	5 3/16			<u>100 SWS</u>
Date shot Depth of shot	3			Perf. top
Initial open flow /10ths Water in Inch	2			Perf. bottom
Open flow after tubing /10ths Merc. in Inch	Liners Used			Perf. top
Volume Cu. Ft.				Perf. bottom
Stock pressure lbs hrs.	CASING CEMENTED <u>7</u> SIZE <u>518</u> No. FT. _____ Date			
Oil bbls. 1st 24 hrs.	NAME OF SERVICE COMPANY <u>Dowell</u>			
Fresh water <u>94</u> feet	COAL WAS ENCOUNTERED AT <u>157-153</u> FEET INCHES			
Salt water feet	FEET INCHES <u>223-226</u> FEET INCHES			
	FEET INCHES FEET INCHES			

Drillers' Names _____

Remarks: CALLIO TO RUN PIPE ON RAI 525
RAI 518' 7" CEMENTED WITH 100 SWS
50 SWS ON BOTTOM 50 SWS ON BOTTOM
ON TOP WILL STAYIO FULL PLUS DOWN 930 PM

7-26-80
DATE

Lery Hapburn
DISTRICT WELL INSPECTOR

[Handwritten initials]

8100 525P

FORM IV-9

Date: February 7, 19 80

Operator's Well No. Beaver Coal Co., Ltd. A-52

API Well No. 47 State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

RECLAMATION PLAN

WELL OPERATOR Appalachian Exploration & Development, Inc.

DESIGNATED AGENT R. P. Parsons

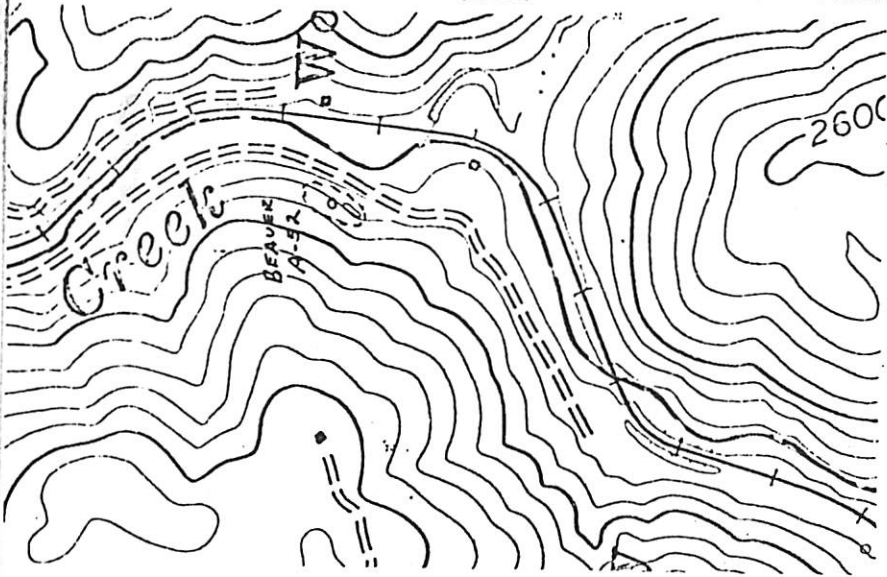
Address P. O. Box 628
Charleston, WV 25322

Address P. O. Box 628
Charleston, WV 25322

The well operator hereby agrees to carry out the reclamation requirements of Code § 22-4-12b in the manner set out below.

This plan has has not been reviewed with the district oil and gas inspector.

SKETCH: (Locate and show the (1) well location, (2) existing access road, (3) access road to be constructed, (4) well site, (5) drilling pit(s), and (6) necessary drainage features, including drains (natural and manmade), silt traps, etc.)



STATEMENT OF RECLAMATION PLAN (Complete on reverse side if necessary)

Location is staked on an abandoned strip bench adjacent to a haul road. Cover on location is primarily small brush and locust. Nearest dwelling is 600 feet south of location. Drilling pit will be lined and built on location. Location will be reclaimed when work is completed.

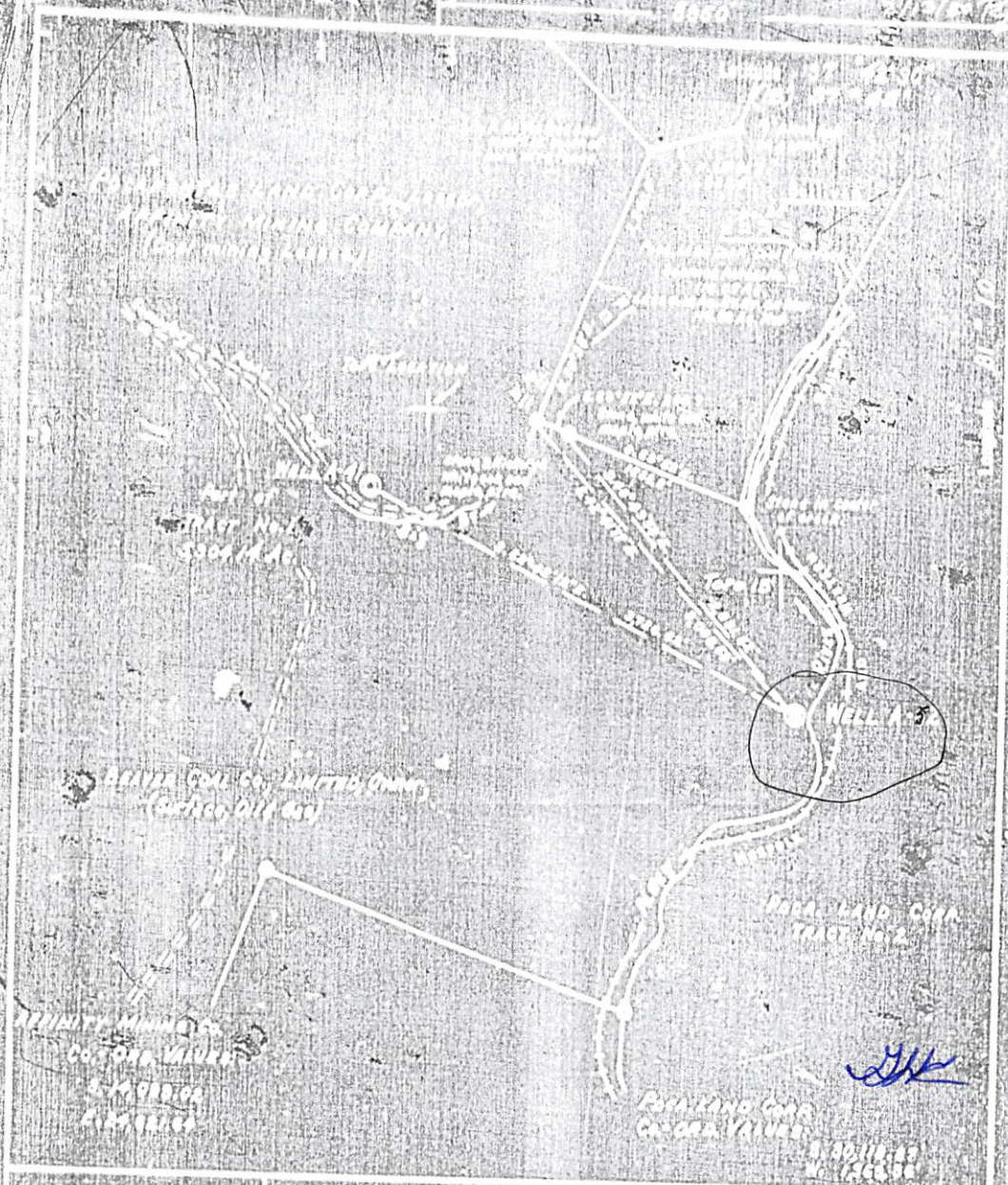
FEB 12 1980
OIL & GAS DIVISION
DEPT. OF MINES

Appalachian Exploration & Development, Inc.

By R. P. Parsons
District Production Superintendent

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Office of Oil

07/08/2016



Mining Entry of Coal **WV 4900**
 State of West Virginia **DEPARTMENT OF REVENUE**
 1500 MARKET STREET, CHARLESTON, WV 25302
 PHONE: (304) 526-3000 FAX: (304) 526-3001
 WWW: www.tax.wv.gov

Company **Continental Resources, Inc.**
 Name **Continental, Inc.**
 Address **1000 1st Street, S.E.**
 City **Atlanta, GA 30316**
 State **GA**
 Zip **30316**
 Attention **Mr. J. L. ...**
 Phone **404-525-1111**
 Fax **404-525-1111**
 E-mail **...**
 County **Putnam**
 District **...**
 Section **...**
 Township **...**
 Range **...**
 Meridian **...**

STATE OF WEST VIRGINIA
 DEPARTMENT OF REVENUE
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
FILE NO. 47-081-0525
 DATE **11/15/08**

RECEIVED
Office of Oil and Gas

JUN 06 2016

WV Department of Environmental Protection

07/08/2016

WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Beaver Coal A-52
3) API Well No.: 47 - 081-0525

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 Beaver Coal Company Limited Name Beaver Coal Company Limited
Address 115 1/2 Kanawha Street, Beckley WV 25801 Address 115 1/2 Kanawha Street, Beckley, WV 25801
(b) Name _____ (b) Coal Owner(s) with Declaration Beaver Coal Co LTD
Address _____ Name _____
P.O. _____
(c) Name _____ Address _____
6) Inspector Gary Kennedy (c) Coal Lessee with Declaration
Address P.O. Box 268 Name _____
Nimitz, WV 25978 Address _____
Telephone Ph. (304) 382 8402

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.

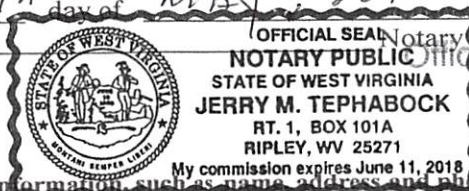
The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

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 EXCO RESOURCES (PA), LLC
By: Randall Sheets
Its: S. H. Sheets
Address P O BOX 8
RAVENSWOOD, WV 26164
Telephone 304-273-5371

Subscribed and sworn before me this 24th day of May, 2016

My Commission Expires June 11, 2018
Oil and Gas Privacy Notice



RECEIVED
Office of Oil and Gas
JUN 06 2016
Juryon Telleb

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.

WW-9
(2/15)

API Number 47 - 081 - 0525
Operator's Well No Beaver Coal A52

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name EXCO Resources (PA), LLC OP Code 307860

Watershed (HUC 10) Stover Fork Quadrangle Beckley

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

Will a pit be used? Yes No X

If so, please describe anticipated pit waste:

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)
- X Other (Explain Any fluids will be collected in a tank and Hauled)

[Handwritten signature]

Will closed loop system be used? If so, describe:

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

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

Additives to be used in drilling medium?

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

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

-Landfill or offsite name/permit number?

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

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 *Randall D. Sheets*

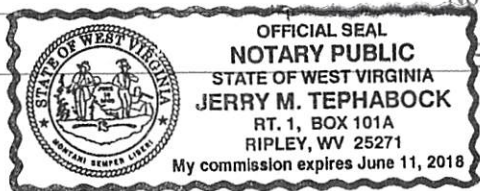
Company Official (Typed Name) RANDALL SHEETS

Company Official Title Supervisor

RECEIVED
Office of Oil and Gas

Subscribed and sworn before me this 24th day of May, 2016 JUN 06 2016

[Signature]
My commission expires June 11, 2018



Notary Public
WV Department of Environmental Protection

07/08/2016

Form WW-9

Operator's Well No. API 47-081-00525P

Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
<u>FESCUE</u>	<u>40</u>	<u>(SAME)</u>	
<u>ALSIKE CLOVER</u>	<u>5</u>		
<u>ANNUAL RYE</u>	<u>16</u>		

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

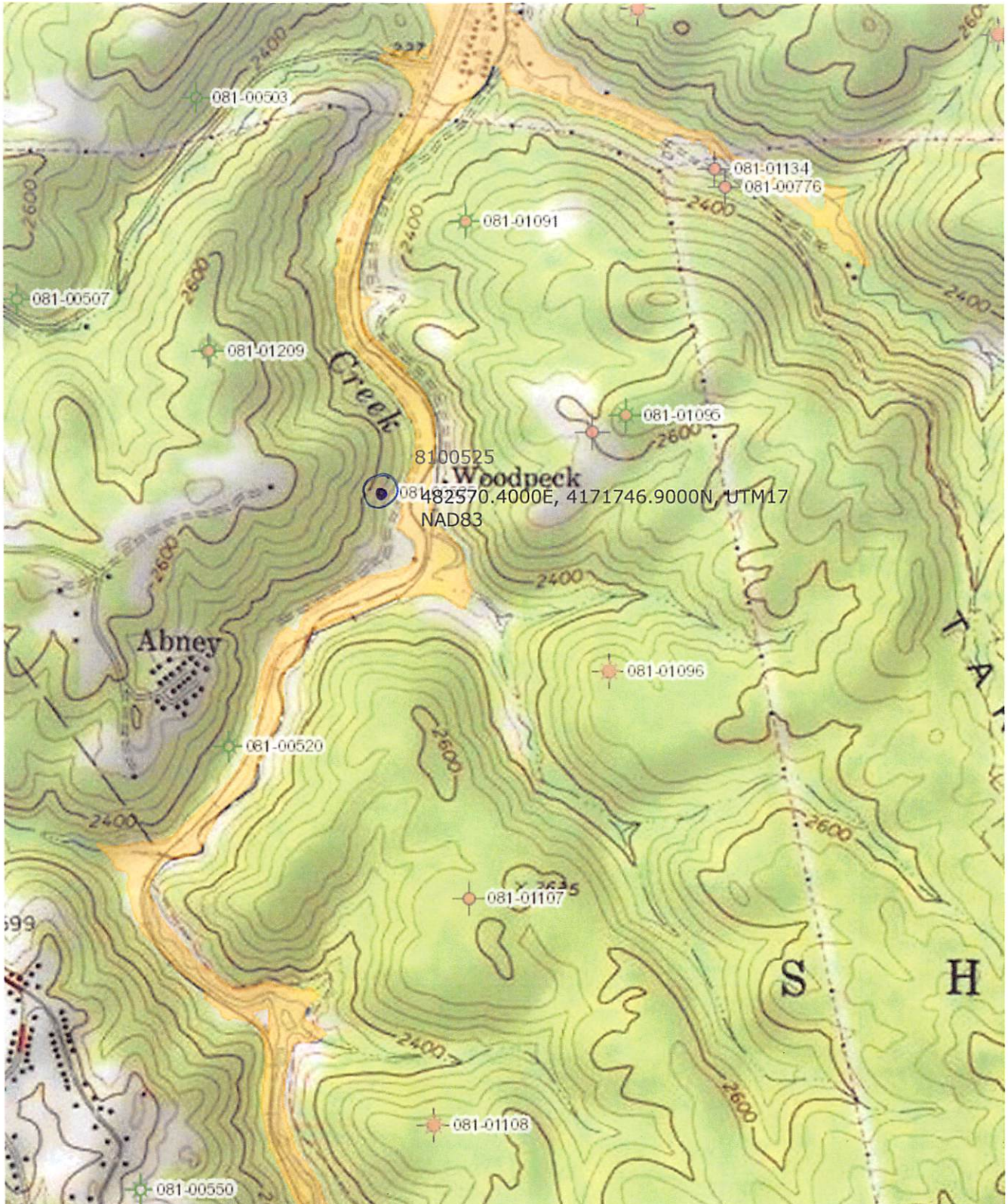
Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

Comments: _____

Title: _____ Date: _____

Field Reviewed? () Yes () No



07/08/2016

WW-7
8-30-06



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

API: 47 081 00525 WELL NO.: Beaver Coal 152

FARM NAME: Beaver Coal, LMTD

RESPONSIBLE PARTY NAME: EXCO Resources (Pa). LLC ~~Calco/late H?~~

COUNTY: Releigh DISTRICT: Town 06

QUADRANGLE: Crab Orchard (Flat Top) 310

SURFACE OWNER: Beaver Coal Limited

ROYALTY OWNER: Beaver Coal Limited

UTM GPS NORTHING: 4171746.9

UTM GPS EASTING: 482570.4 GPS ELEVATION: 2412

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS ____: Post Processed Differential ____

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.

Randall Sheely Supervisor
Signature Title

(p) 29/16
Date

RECEIVED
Office of Oil and Gas

JUL 05 2016

WV Department of
Environmental Protection