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 penalities 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

Promoting a healthy environment.

8100525P

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.

8100525P

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 ? 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
AddressPO 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 t0 100'

Cement 100' to surface

Set monument with proper API

★ Gel between all plugs

9 N M

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JUN 06 2016
WV Department of
Environmental Protection

SIGNATURE Randall D. Slack

DATE- 5/9/16

8100525P

FORM IV-35
(Obverse)

[03-78]

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

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

Date: September 5, 1980
Operator's Beaver Coal
Well No. Company, Ltd. A-52
API Well No. 47 - 081 - 525
State County Permit

WELL TYPE: Oil ____ / Gas X / 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 X / Convert ____ / Drill deeper ____ / Redrill ____ / Fracture or stimulate ____
Plug off old formation ____ / Perforate new formation ____ /
Other physical change in well (specify) ____

PERMIT ISSUED ON February 12, 1980

(IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ____, 19____

OIL & GAS INSPECTOR FOR THIS WORK:
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 X / 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 Size	Grade	Weight per ft	New	Used	FOOTAGE INTERVALS For drilling	Left in well	CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
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									
Liners									Perforations:
									Top / Bottom
									1254' / 1262'
									1280' / 1290'
									1298' / 1302'

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SEP 9 1980
OIL & GAS DIVISION
DEPT. OF MINES

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

[If applicable due to multiple completion--]

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

8100525P

FORM IV-35
(Reverse)

[08-78]

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. Cramblett
Its Regional Manager, Drilling and Production

NOTE: Regulation 2.01(i) 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. RAL 525

Oil or Gas Well (KIND) GAS

Company A ED
Address CHARLESTON
Farm BEAVER COAL
Well No. A 52
District TEWN County RAL
Drilling commenced
Drilling completed Total depth
Date shot Depth of shot
Initial open flow /10ths Water in Inch
Open flow after tubing /10ths Merc. in Inch
Volume Cu. Ft.
Rock pressure lbs. hrs.
Oil bbls., 1st 24 hrs.
Fresh water 94 feet feet
Salt water feet feet

CASING AND TUBING	USED IN DRILLING	Left in well	PACKERS
Size			
16			Kind of Packer
13			
10 9⅝	30	30	Size of
8¼			
6¾ 7	518	518	Depth set CEMENTED
5 3/16			100 SKS
4			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED 7 SIZE 518 No. FT. Date
NAME OF SERVICE COMPANY Dowell
COAL WAS ENCOUNTERED AT 151-153 FEET INCHES
FEET INCHES 223-226 FEET INCHES
FEET INCHES FEET INCHES

Drillers' Names

Remarks: CALLED TO RUN PIPE ON RAL 525
RAN 518' 7" CEMENTED WITH 100 SKS
50 SKS ON BOTTOM 50 SKS ON BASKET
ON TOP WELL STAYED FULL PLUG DOWN 930 PM

3-26-80
DATE

Larry Hopkins
DISTRICT WELL INSPECTOR

Department of Environmental Protection

8100525P

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

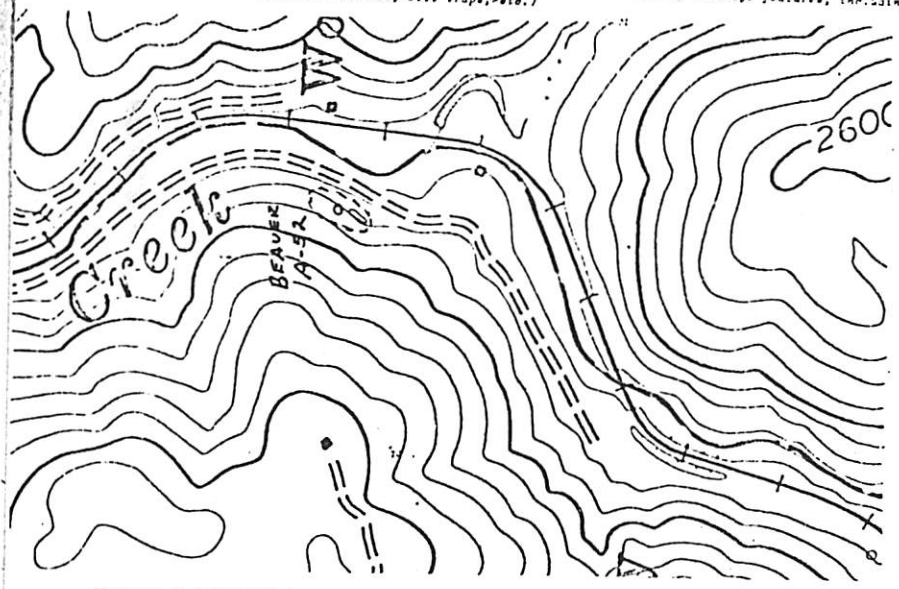
WELL OPERATOR Appalachian Exploration & Development, Inc.
Address P. O. Box 628
Charleston, WV 25322

DESIGNATED AGENT R. P. Parsons
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.
Well Operator

By R P Parsons
Its District Production Superintendent

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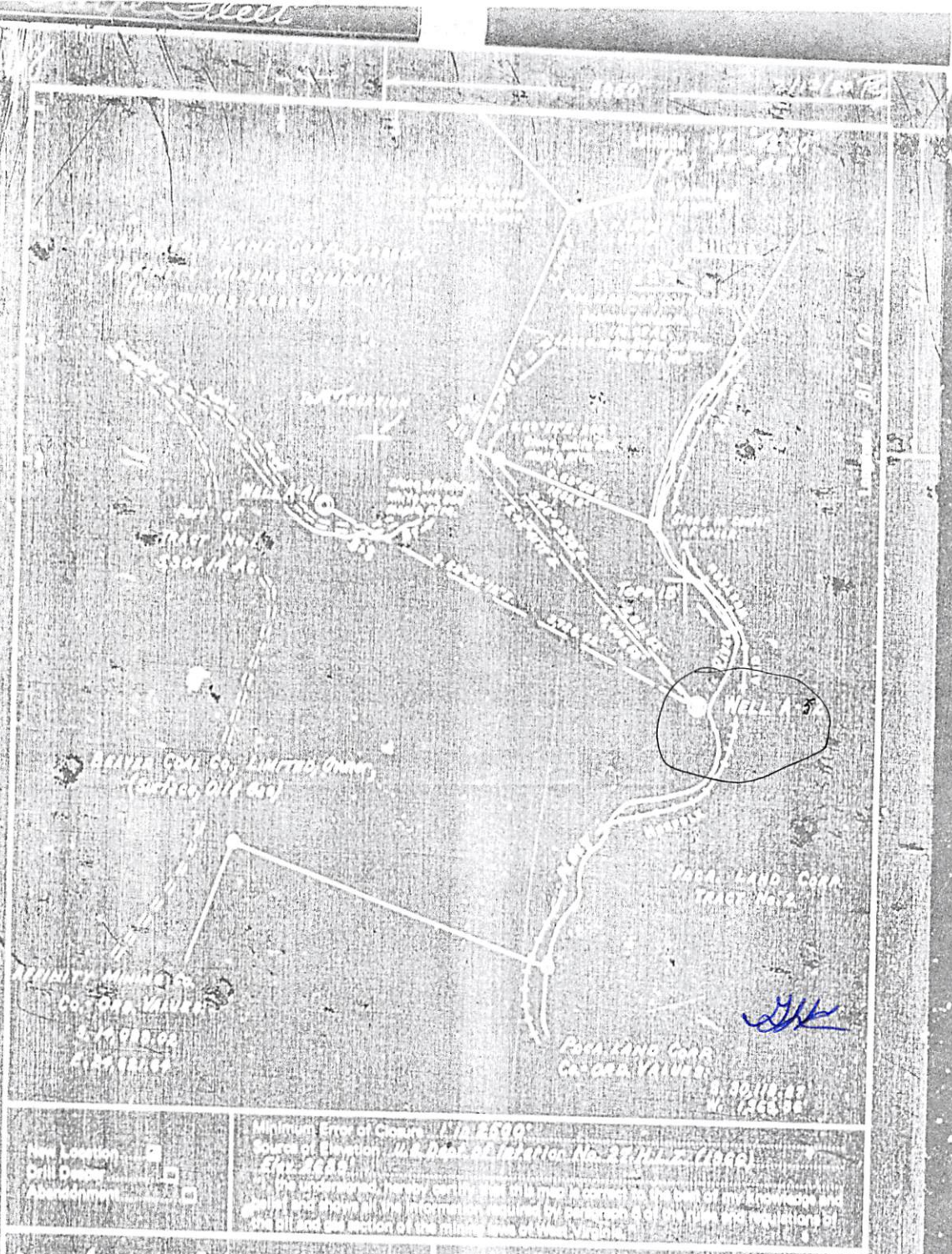
Office of Oil & Gas

A52 81 00525P



Minimum Error of Closure 1" in 2500'
Source of Elevation U.S. Dept. of Interior No. 27 H.L.Z. (1960)
Elev. 2655'

New Location ☐
Drill Deeper ☐
Abandonment ☐

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Company Appalachian Exploration & Development Inc.
Address Charleston, W.Va.
Farm Beaver Coal Co. Limited
Tract No. 1 Acres 5304.14 Lease No.
Well (Farm) No. A-52 Serial No.
Elevation (Spot) Level 2254.15'
Quadrangle Cab Orchard, W.Va. 7½' Min.
County Raleigh District Town
Surveyor Kenya H. Tolley
Engineer's Registration No. 34681
File No. Drawing No.
Date Sept. 28, 1973 Scale 1" = 1000'

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

WELL LOCATION MAP
FILE NO. 47-081-0526

Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by corner lines as shown.

Denotes one inch spaces on corner lines of original drawing.

1360 Rev. 2-1-73

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JUN 06 2016
WV Department of
Environmental Protection

8100525P

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 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name Beaver Coal Company Limited
Address 115 ½ Kanawha Street, Beckley WV 25801

(b) Name
Address

(c) Name
Address

5) (a) Coal Operator
Name Beaver Coal Company Limited
Address 115 ½ Kanawha Street, Beckley, WV 25801

(b) Coal Owner(s) with Declaration Beaver Coal Co LTD
Name
Address
P.O.

Address

(c) Coal Lessee with Declaration
Name
Address

6) Inspector Gary Kennedy
Address P.O. Box 268
Nimitz, WV 25978
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 Chie

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

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

Notary Public

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
JERRY M. TEPHABOCK
RT. 1, BOX 101A
RIPLEY, WV 25271
My commission expires June 11, 2018

My Commission Expires June 11, 2018

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Office of Oil and Gas
JUN 06 2016
WV Department of Environmental Protection

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.

8100525P

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

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

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Office of Oil and Gas
JUN 06 2016
WV Department of Environmental Protection

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

Jerry M Tephabock Notary Public

My commission expires June 11, 2018

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
JERRY M. TEPHABOCK
RT. 1, BOX 101A
RIPLEY, WV 25271
My commission expires June 11, 2018

81 00525P

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
FESCUE	40	(SAME)	
ALSIKE CLOVER	5		
ANNUAL RYE	16		

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.

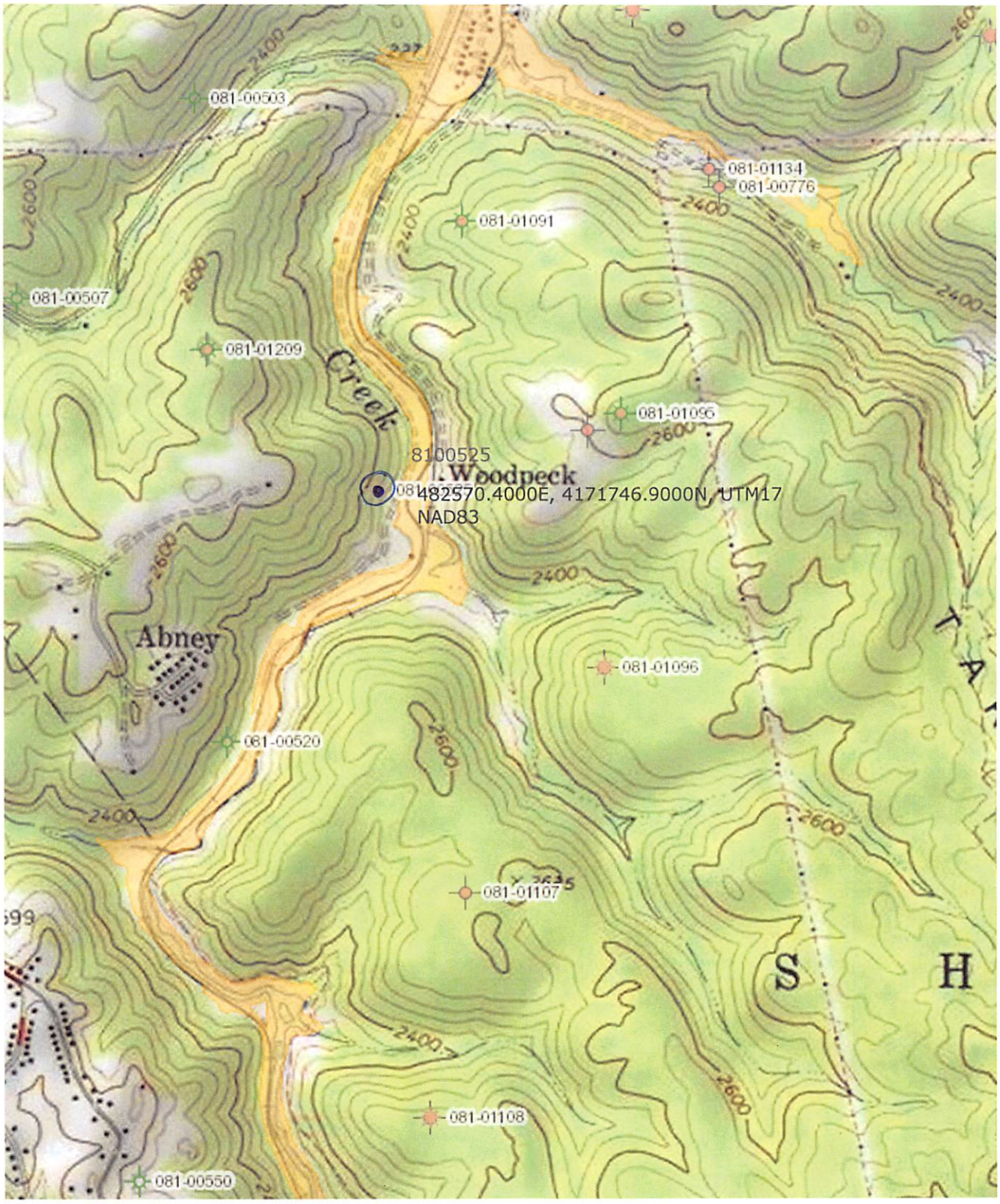
Plan Approved by: _____

Comments: _____

Title: _____ Date: _____

Field Reviewed? (_____) Yes (_____) No

81 00525P


081-00503
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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 A52

FARM NAME: Beaver Coal, LMTD

RESPONSIBLE PARTY NAME: EXCO Resources (Pa), LLC (about well?)

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 X: Post Processed Differential _____

Real-Time Differential _____

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Office of Oil and Gas
JUL 05 2016
WV Department of
Environmental Protection

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 Sheets Supervisor (6) 29 16

Signature Title Date