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**west virginia** department of environmental protection

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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 14, 2016

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-8101293, 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: 321-C  
Farm Name: BEAVER COAL COMPANY  
**API Well Number: 47-8101293**  
**Permit Type: Plugging**  
Date Issued: 07/14/2016

## 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.

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### CONDITIONS

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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.

1) Date 5/1/2016

2) Operator's

Well No. Beaver Coal 321-C

3) API Well No. 47- 081-1293-c

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 2368 Watershed Shockley Branch  
District Trap Hill County Releigh Quadrangle LESTER 7.5

6) Well Operator EXCO Resources (PA), LLC 7) Designated Agent Diana Stampler/C.T.Corp.  
Address PO Box 8. Address 5400 D Big Tyler Road  
Ravenswood, WV 26164 Charleston, WV 25301

Oil and Gas Inspector to be notified  
Name GARY KENNEDY  
Address po.box 268  
Nimiyz, 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* *Put up cots of ribbon*  
Remove all equipment used to produce well,  
Pull 1941' of tubing on sub & Anchor  
Fill with water over sump and laterals  
Set cast iron bridge plug in 7 5/8 at +/- 2000 *MO*  
Cement 100' plug over cast iron plug 2000 to 1900  
Gel '1900 to 400'  
Cement 400' to 280'  
Gel 280' to 100'  
Cement 100' to surface  
set Monument with Proper API,

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SIGNATURE

*Gary Kennedy*

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

07/15/2016



8101293c P

WR-35  
Rev (5-01)

DATE: 05/10/2004  
API #: 47-081-01293

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

*Ant*

Well Operator's Report of Well Work  
Farm name BEAVER COAL Operator Well No. #321-C

LOCATION: Elevation: GL 2368' Quadrangle: LESTER

District: TRAP HILL County: RALEIGH  
Surface Latitude: 1100 Feet South of 37 Deg. 45 Min. 00 Sec.  
Surface Longitude: 7750 Feet West of 81 Deg. 15 Min. 00 Sec.

Company: ENERGY SEARCH, INC.

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: <u>88 Products Lane, Marietta, Ohio 45750</u>	16"	24'	24'	
Agent: <u>Dave Perkinson</u>	11 3/4"	339'	339'	157sks
Inspector: <u>Rick Campbell</u>				
Date Permit Issued: <u>10/28/2002</u>	7 5/8"	2053'MD	2053'MD	248sks
Date Well Work Commenced: <u>04/02/2003</u>				
Date Well Work Completed: <u>04/28/2003</u>	5 1/2"	1320'MD	Pulled Out	
Verbal Plugging:				
Date Permission granted on:	2 3/8" tubing		1890'MD to 1941'MD w/sub & anchor	
Rotary XX Cable Rig				
<b>Total Depth (feet)</b> TD Branch 1 @ 3371'MD, 921'TVD, VS 2578, South 2007', East 1629' TD Branch 2 @ 2782'MD, 932' TVD, VS 1964, South 693', East 1838' TD Branch 3 @ 4300'MD, 915'TVD, VS 3382, South 3164', East 1377'				
Fresh Water Depth (ft.): <u>N/A</u>				
Salt Water Depth (ft) <u>N/A</u>				
Is coal being mined in area (N/Y)? <u>No</u>				
Coal Depths (ft.):				

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Office of Chief  
MAY 12 2004  
WV Department of Environmental Protection

OPEN FLOW DATA

Producing formation: Poca #3 Pay zone depth (ft) 915 -932 TVD  
Gas: Initial open flow:      MCF/d Initial open flow      Bbl/d  
Final open flow: 32 MCF/d Final open flow 350 Bbl/d Water  
Time of open flow between initial and final tests      Hours  
Static rock Pressure:      psig (surface pressure) after      Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed: [Signature]  
By: Geologist  
Date: 05/11/2004

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# DAILY OPERATIONS REPORT

3/20/2003

## DRILLING

<b>WELL NAME :</b> BEAVER COAL 321C	<b>EVENT NO. :</b> 1	<b>DIVISION :</b> PITTSBURGH
<b>OPERATOR :</b> EOG RESOURCES, INC.	<b>WELL TYPE :</b> DEVG	<b>WELL CLASS :</b> DRIL
<b>FIELD :</b>	<b>DISTRICT :</b> PITTSBURGH	<b>TVD/MD :</b> /
<b>COUNTY,ST. :</b> RALEIGH , WV	<b>API # :</b> 47-810-1293	<b>TAX/CREDIT :</b> N
<b>PROPERTY # :</b> 051733	<b>WI % :</b>	<b>NRI % :</b>
<b>AFE# :</b> 722364	<b>AFE TOTAL :</b> \$768,800	<b>DHC :</b> \$674,300 <b>CWC :</b> \$94,500
<b>REPORTED BY:</b> MIKE BROGAN (BLACKGOLD)	<b>LAST CSG :</b>	<b>SHOE TVD/MD :</b> /
<b>RIG CONTR. :</b>	<b>RIG NAME :</b>	<b>WATER DEPTH :</b>
<b>LOCATION :</b>		<b>KB ELEV :</b> <b>GL ELEV :</b>
<b>SPUD DATE :</b>	<b>RIG RELEASE :</b>	<b>1ST SALES :</b>

<b>REPORT DATE:</b> 3/20/2003	<b>MD :</b> 0	<b>TVD :</b> 0	<b>PROGRESS :</b>	<b>DAYS :</b>	<b>MW :</b>	<b>VISC :</b>
<b>DAILY: DC:</b> \$24,336	<b>CC :</b> \$0	<b>TC :</b> \$24,336	<b>CUM : DC :</b> \$24,336	<b>CC :</b> \$0		<b>TC :</b> \$24,336
<b>FORMATION:</b>		<b>PBTD :</b>		<b>PERF :</b>		<b>PKR. DPTH :</b>

ACTIVITY AT REPORT TIME : BUILDING LOCATION


DAILY DETAILS : Hauled 15 loads of stone and put on lease road. Cut in location and worked on pad. Pad is 70% finished.

<b>WELL NAME :</b> DROP 6	<b>EVENT NO. :</b> 1	<b>DIVISION :</b> PITTSBURGH
<b>OPERATOR :</b> EOG RESOURCES	<b>WELL TYPE :</b> DVCG	<b>WELL CLASS :</b> DRIL
<b>FIELD :</b> HERMINE	<b>DISTRICT :</b> PITTSBURGH	<b>TVD/MD :</b> / 4000
<b>COUNTY,ST. :</b> WASHINGTON , PA	<b>API # :</b> 37-129-24730	<b>TAX/CREDIT :</b>
<b>PROPERTY # :</b> 051183	<b>WI % :</b> 100	<b>NRI % :</b> 87.5
<b>AFE# :</b> 722155	<b>AFE TOTAL :</b> \$185,000	<b>DHC :</b> \$111,100 <b>CWC :</b> \$73,900
<b>REPORTED BY:</b> DAVE O'SHURAK (NECI)	<b>LAST CSG :</b>	<b>SHOE TVD/MD :</b> /
<b>RIG CONTR. :</b> FALCON	<b>RIG NAME :</b> FALCON 7	<b>WATER DEPTH :</b>
<b>LOCATION :</b>		<b>KB ELEV :</b> <b>GL ELEV :</b>
<b>SPUD DATE :</b> 4/29/2002	<b>RIG RELEASE :</b>	<b>1ST SALES :</b>

<b>REPORT DATE:</b> 3/20/2003	<b>MD :</b> 3930	<b>TVD :</b> 0	<b>PROGRESS :</b>	<b>DAYS :</b> 10	<b>MW :</b>	<b>VISC :</b>
<b>DAILY: DC:</b> \$2,950	<b>CC :</b> \$0	<b>TC :</b> \$2,950	<b>CUM : DC :</b> \$132,416	<b>CC :</b> \$0		<b>TC :</b> \$132,416
<b>FORMATION:</b>		<b>PBTD :</b>		<b>PERF :</b>		<b>PKR. DPTH :</b>

ACTIVITY AT REPORT TIME : BEGAN RECLAIMING LOCATION

DAILY DETAILS : PU drill tools. Tagged top of final cement plug @ 2529'. PU swab tools w/ 7" swab cups. Swabbed off fluid inside 7" csg to 2450'. PU bailer. Bailed 7" csg dry to 2529'. P&A operations complete. RDMO Falcon Service Rig. Emptied pit. Falcon hauled 320 bbl of pit water to treatment plant. Began reclaiming location. Put as much of the location back as possible. Still have frac tank & pipe trailer on location. Will remove today (03/20/03) and finish reclamation (weather permitting). Prep to install permanent P&A marker.

  
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WELL OPERATOR ENERGY SEARCH, INC.  
 ADDRESS ROUTE 11, BOX 41  
 MARIETTA, OH 45750

DESIGNATED AGENT DAVE PERKINSON  
 ADDRESS 377 EASTVIEW DRIVE  
 PARKERSBURG, WV 26104

WELL TYPE: OIL  LIQUID WASTE  GAS  INJECTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 2,368' TRAP HILL DISTRICT BEAVER COAL COMPANY SURFACE OWNER BEAVER COAL COMPANY ROYALTY OWNER BEAVER COAL COMPANY

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

FORMATION: PERFORMATE NEW FORMATION  TARGET FORMATION POCAHONTAS NO. 3 ESTIMATED DEPTH 1,300'

COUNTY NAME: LESTER COUNTY QUADRANGLE: 303.58 ACREAGE: 4,022.29 LEASE NO. 1402229

WV Department of Environmental Protection

MINIMUM DEGREE 1 / 2500 FILE NO. 3639P231CR (133-2-g & 16) SCALE 1" = 1000' JUNCTION OF ROADS ELEVATION 2,387'

PROVEN SOURCE OF ELEVATION

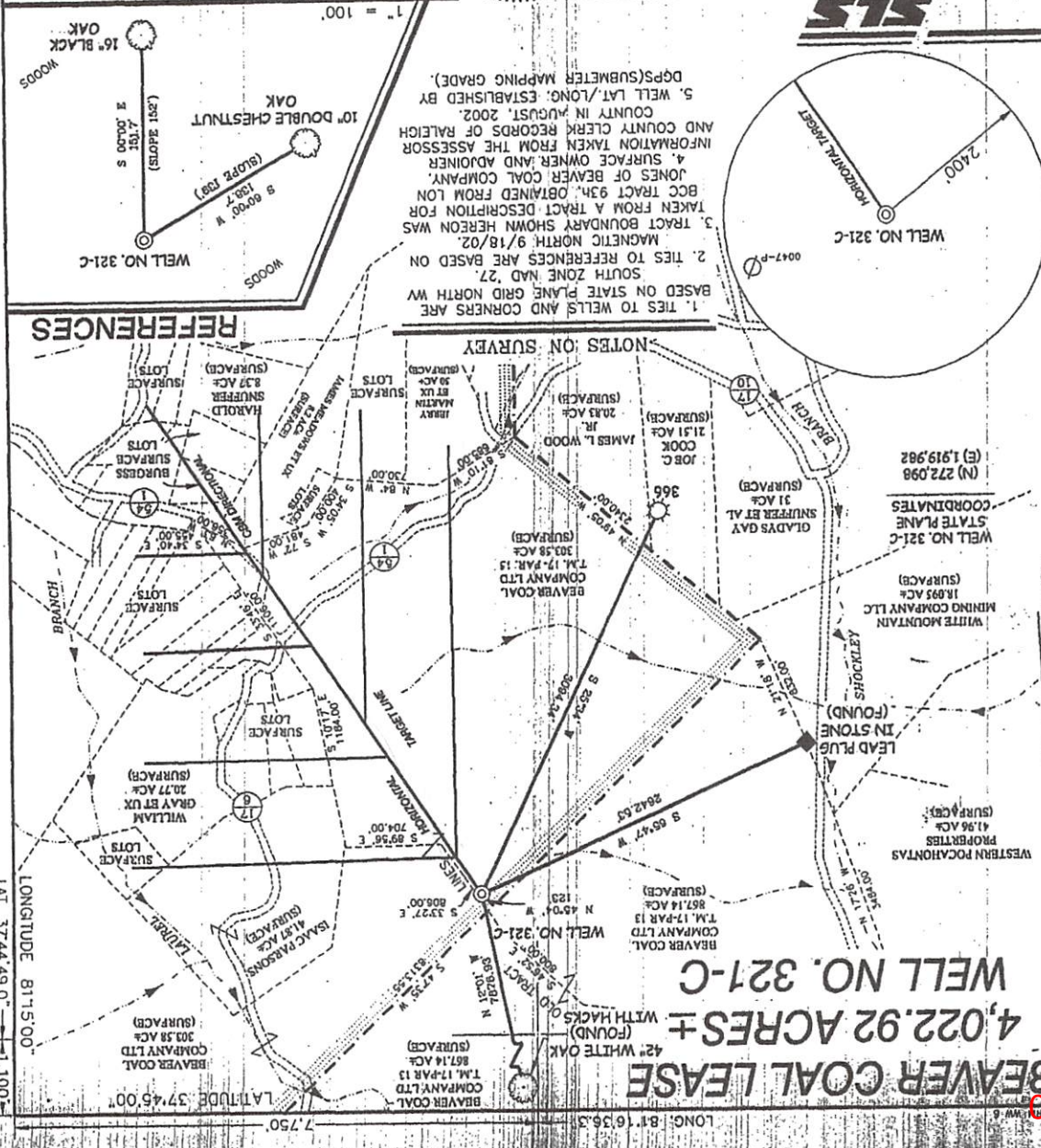
STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR \* GREGORY A. SMITH LICENSED \* No. 677 STATE OF WEST VIRGINIA

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677  
*Gregory A. Smith*  
 PROFESSIONAL SURVEYOR

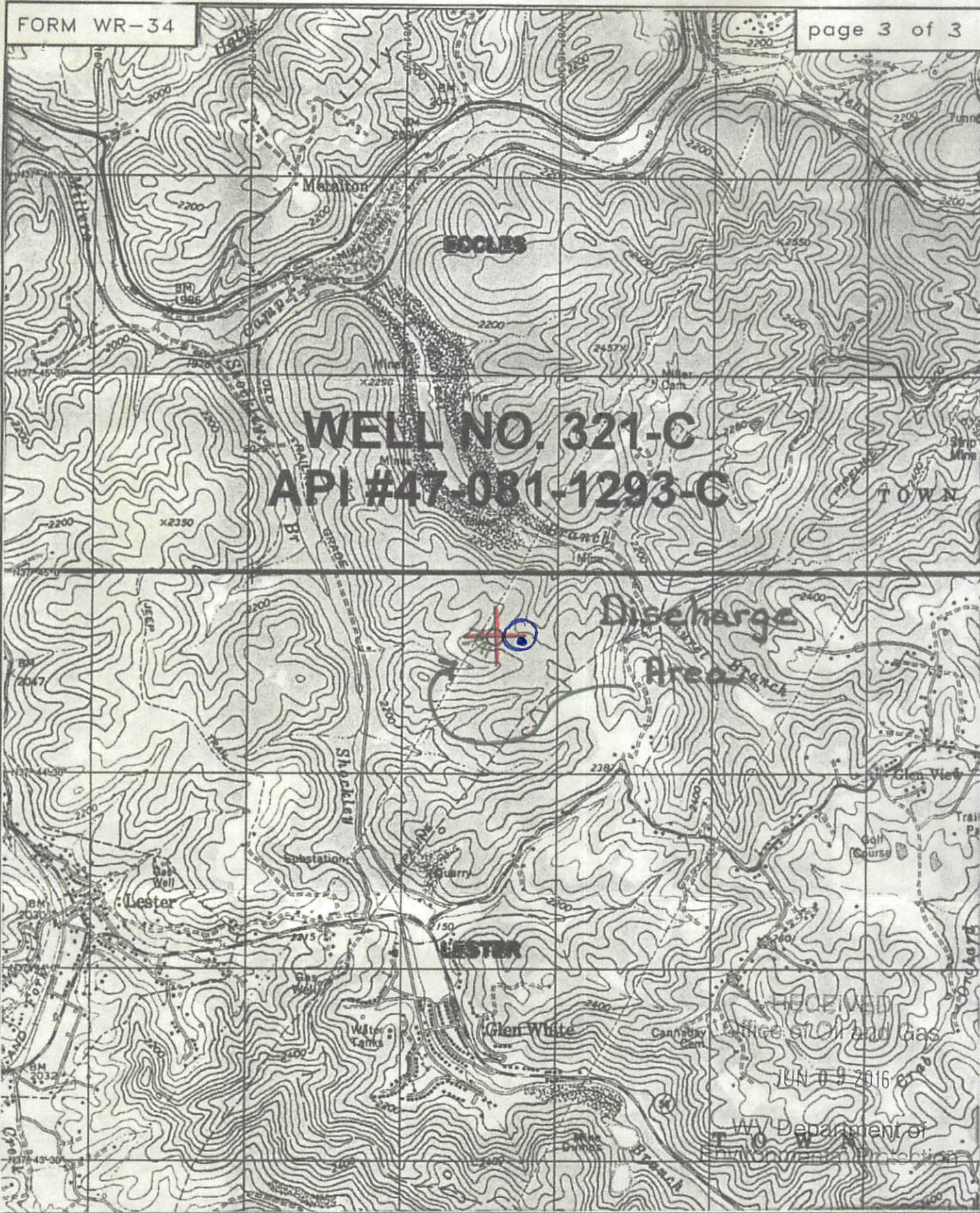
DATE: SEPTEMBER 19, 2002  
 OPERATORS WELL NO. 321-C  
 AP# 47-81  
 WELL NO. 01293C PERMIT



8101293C

07/15/2016





**WELL NO. 321-C**  
**API #47-081-1293-C**



Discharge  
Area Branch

HECZIMAD  
Office of Oil and Gas  
JUN 09 2016

WV Department of  
Environmental Protection



SMITH LAND SURVEYING  
P.O. BOX 150 GLENVILLE, WV. 26351

TOPO SECTION OF LESTER 7.5'

*NAK*

FILE NO. 1470 P DATE 9/4/03 SCALE 1"=3000'

07/15/2016



WW-4A  
Revised 6-07

1) Date: 5/1/2016  
2) Operator's Well Number  
Beaver Coal 321-C  
3) API Well No.: 47 - 081-1293-C

**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>Beaver Coal Co.</u>	Name <u>Beaver Coal Co.</u>
Address <u>115 1/2 Kanawha ST. Beckley, Wv 25801</u>	<u>115 1/2 Kanawha ST, Beckley Wv 25801</u>
(b) Name	(b) Coal Owner(s) with Declaration
Address	Name _____
	Address _____
(c) Name	
Address _____	Address _____
6) Inspector	(c) Coal Lessee with Declaration
Address <u>Gary Kennedy</u>	Name _____
<u>P.O. Box 268</u>	Address _____
<u>Nimitz, WV 25978</u>	
<u>Ph. (304) 382 8402</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 Dep

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 *Randall Sheets*

Its: Supervisor *Office of Oil and Gas*

Address P O BOX 8

RAVENSWOOD, WV 26164 JUN 09 2016

Telephone 304-273-5371

Subscribed and sworn before me this 7th day of June 2016

5/9/24

My Commission Expires \_\_\_\_\_

Kathryn Shafer Notary Public

**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](mailto:depprivacyofficer@wv.gov).

07/15/2016



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) Shockley Branch Quadrangle Lester 7.5

Elevation 2368 County Releigh District Trap Hill

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

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

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)
- Other (Explain no fluids are expected in return \_\_\_\_\_)

*ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. GMM*

Will closed loop system be used? \_\_\_\_\_

Drilling medium anticipated for this well? 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? \_\_\_\_\_

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 JUN 09 2016

Company Official (Typed Name) Randall Sheets

Company Official Title Supervisor WV Department of Environmental Protection

Subscribed and sworn before me this 7th day of June, 20 14

Kathryn Shafer

My commission expires 5/9/24



Operator's Well No. Beaver Coal 321-C  
Prevegetation Ph 6.0

Proposed Revegetation Treatment: Acres Disturbed  
0.5

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
KENTUCKY FESCUE	4	SAME	
ALSIKE CLOVER	5		
ANNUAL RYE	16		

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: \_\_\_\_\_

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

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WV Department of  
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Title: Inspector

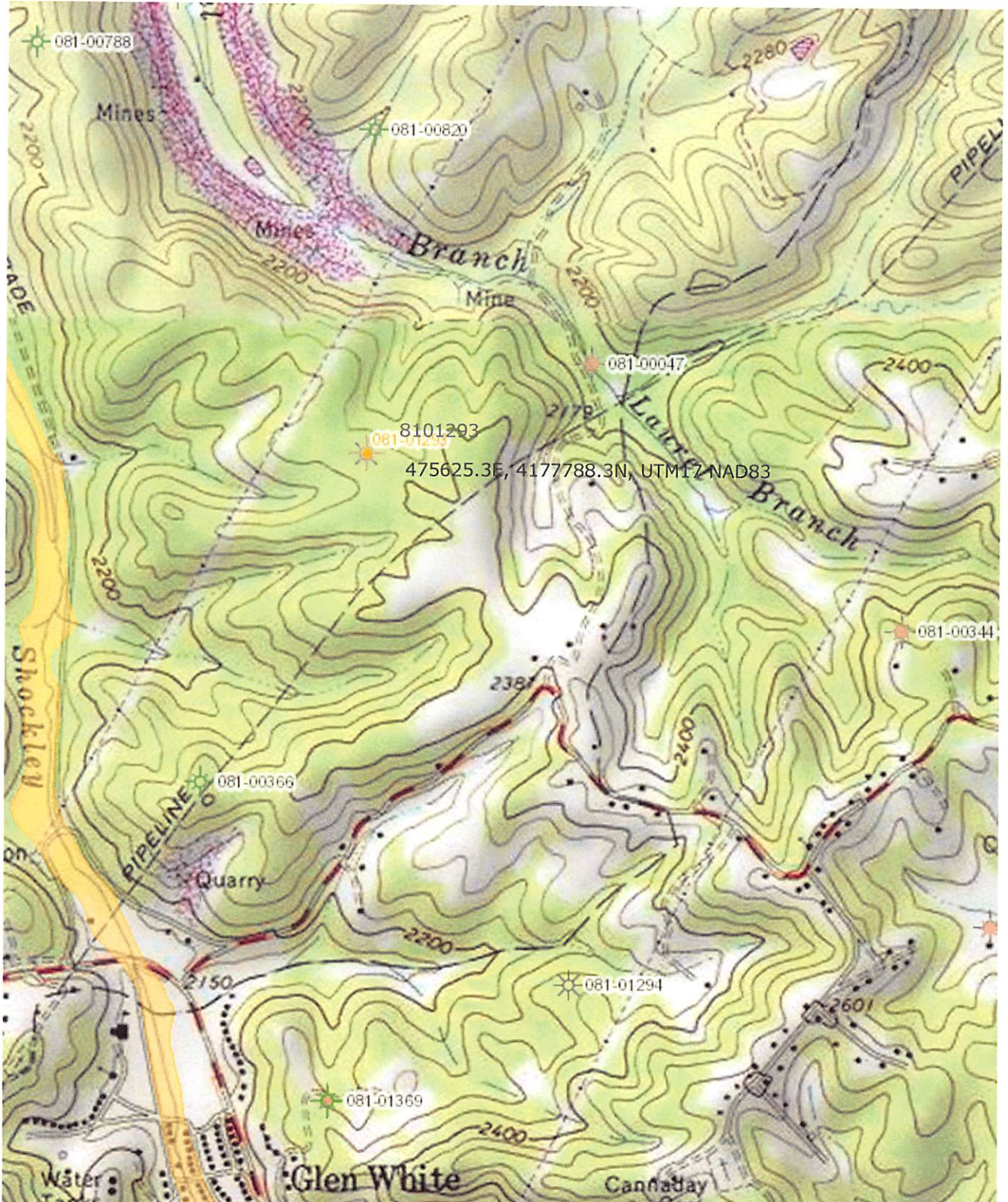
Date: 6/7/2016

Field Reviewed? (    ) Yes

SIGNATURE [Signature]

07/15/2016





07/15/2016

WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47 081 01293 WELL NO.: 321 C

FARM NAME: Beaver Coal

RESPONSIBLE PARTY NAME: EXCO Resources (PA), LLC

COUNTY: Releigh DISTRICT: Town

QUADRANGLE: Beckley 7.5

SURFACE OWNER: Beaver Coal

ROYALTY OWNER: Beaver Coal Co.

UTM GPS NORTHING: 4177788.3

UTM GPS EASTING: 475625.3 GPS ELEVATION: 2368

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

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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 prescribed by the Office of Oil and Gas.

July 9 2016  
West Virginia Department of Environmental Protection

Russell D. Stewart  
Signature

Supervisor  
Title

6/7/16  
Date