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 11, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8101131, 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: BEAVER COAL 144
Farm Name: GRAVELY, CHARLES E.& MARY
API Well Number: 47-8101131
Permit Type: Plugging
Date Issued: 07/11/2016

Promoting a healthy environment.

8101131P

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.

8101131P

WW-4B
20
Rev. 2/01

1) Date 5/1/2016
2) Operator's
Well No. Beaver Coal 144
3) API Well No. 47- 081-01131
-

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 Watershed Stover Fork
District Trap Hill County Releigh Quadrangle Beckley 7.5

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
Pull 2339 feet of tubing — open mine 1065'
★ Gel Hole
~~Run tubing to TD 2775 cement to 2675~~ — RUN TUBING TO PBTD ≈ 2480. SET CIA PLUG FROM 2400' - 2300'.
~~Cement 1850 to 1650~~ — POOH TO 1800'. WOC 4 HOURS. TAG CEMENT. ADD CIA IF NEEDED.
~~Gel 1650 to 1020~~ — ADD GEL IF NECESSARY. SET CIA CEMENT PLUG FROM 1780' - 1680'. POOH TO 1500'. WOC 4 HOURS. TAG CEMENT, ADD CIA IF NEEDED.
Cement 1100 to 675 across 7"seat and coal
Gel 675 to 175'
Cement 175' to surface — FW - 116
Set monument with proper API
Gel between all plugs

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SIGNATURE Rudall Roberts DATE- 5/24/16

PERFORATIONS: MAXTON "C" 2346' - 2364' (20 SHOTS)
RAVENCLIFF 1739' - 1742' (4 SHOTS), 1760' - 1770' (12 SHOTS), 1774' - 1777' (4 SHOTS)

APPEARS 4½" WAS CEMENTED TO SURFACE.

gMM

8101131P

WR-35

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

05-May-98
API # 47- 81-01131

Well Operator's Report of Well Work

Farm name: Charles E & Mary Gravely Operator Well No.: Beaver Coal#144

LOCATION: Elevation: 2,516.00 Quadrangle: BECKLEY
District: TRAP HILL County: RALEIGH
Latitude: 4800 Feet South of 37 Deg. 47Min. 30 Sec.
Longitude 10920 Feet West of 81 Deg. 12 Min. 30 Sec.

Company: ENERGY SEARCH, INC.
280 FT.SANDERS,W.BLVD.,STE.200
KNOXVILLE, TN 37922-0000

Agent: FRANK R. ROTUNDA

Inspector: RODNEY DILLON
Permit Issued: 05/06/98
Well work Commenced: 6/3/98
Well work Completed: 6/26/98
Verbal Plugging
Permission granted on:
Rotary XXX Cable Rig
Total Depth (feet) 2775
Fresh water depths (ft) 116'

Salt water depths (ft) no record

Is coal being mined in area (Y/N)? N
Coal Depths (ft): open mine @ 1065'

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
12-3/4	9'	9'	
7	1199'	1199'	295
4-1/2	2520'	2520'	257
2-3/8		2339'	

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OPEN FLOW DATA

Producing formation Maxton "C", Ravencliff Pay zone depth (ft) see back
Gas: Initial open flow show MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 120 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests Hours
Static rock Pressure 160 psig (surface pressure) after 24 Hours

Second producing formation Pay zone depth (ft)
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 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.

For: ENERGY SEARCH, INC. Frank R Rotunda
By: Vice President-Land, Agent
Date:

RAL 113/

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Beaver Coal #144

API 47-081-01131

Maxton "C"

2346-64' (20 shots) 75Q Foam Frac, Breakdown with 500 gal 15% HCl @ 1670 psi, ISIP 820 psi, Frac gradient .7 psi/ft. 41,750# 20/40 sand, 20 BPM, 135 bbl Total fluid, 253,329 SCF Ne; ATP 1720 psi; Max TP 1820 psi; ISIP 1578 psi, 10 min SIP 1300 psi

Ravencliff

1739'-42' (4 shots), 1760'-70' (12 shots), 1774'-77' (4 shots). Breakdown with 250 gal 15% HCl @ 650 psi, ballout with 250 gal. 15% HCL & 30 –1.3 sg perf balls @ 3500 psi, 75Q Foam Frac – 32,798# 20/40 sand; 30 BPM, 183 bbl Total fluid, 351,798 SCF N2, ISIP afte; breakdown 495 psi, frac grident .7 psi/ft.; ATP 2700 psi; Max TP 2761 psi, ISI P 2344 psi; 10 min. SIP 1950 psi.

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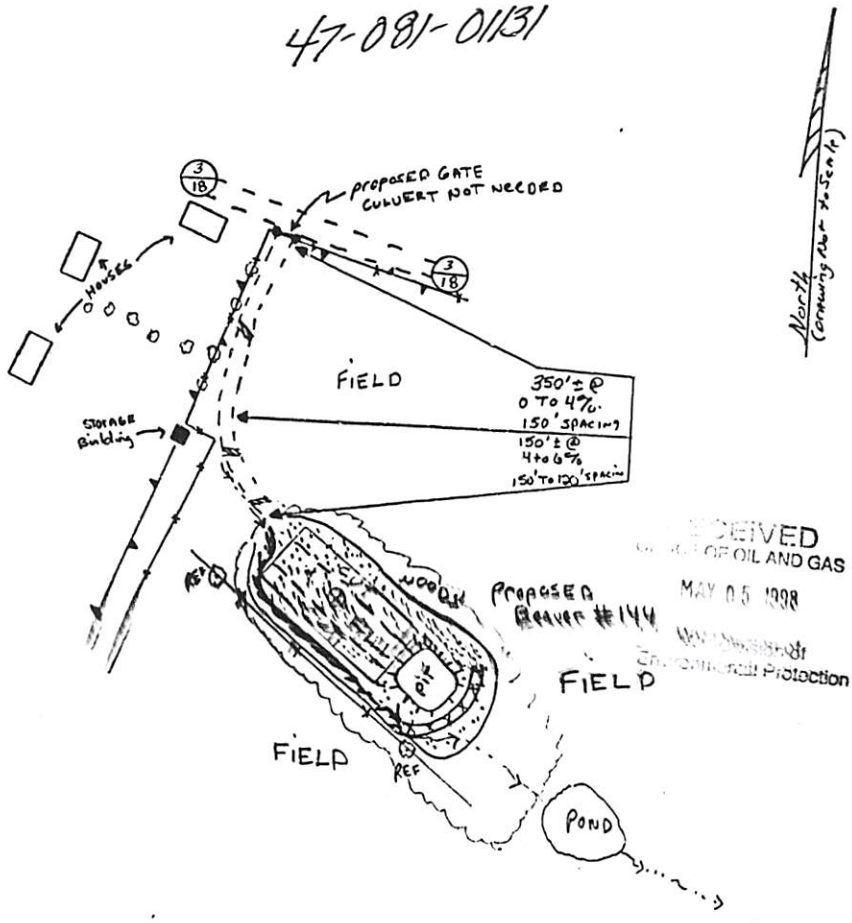
Form WW-9

BEAVER #144

47-081-01131



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MAY 05 1998
Environmental Protection

SLS SMITH LAND SURVEYING, INC.	Phone (304) 462-5656 or 462-5634
P.O. BOX 150, GLENVILLE, WV 26351	DRAWN BY J.L. DATE 4-1-98 FILE NO. 3639

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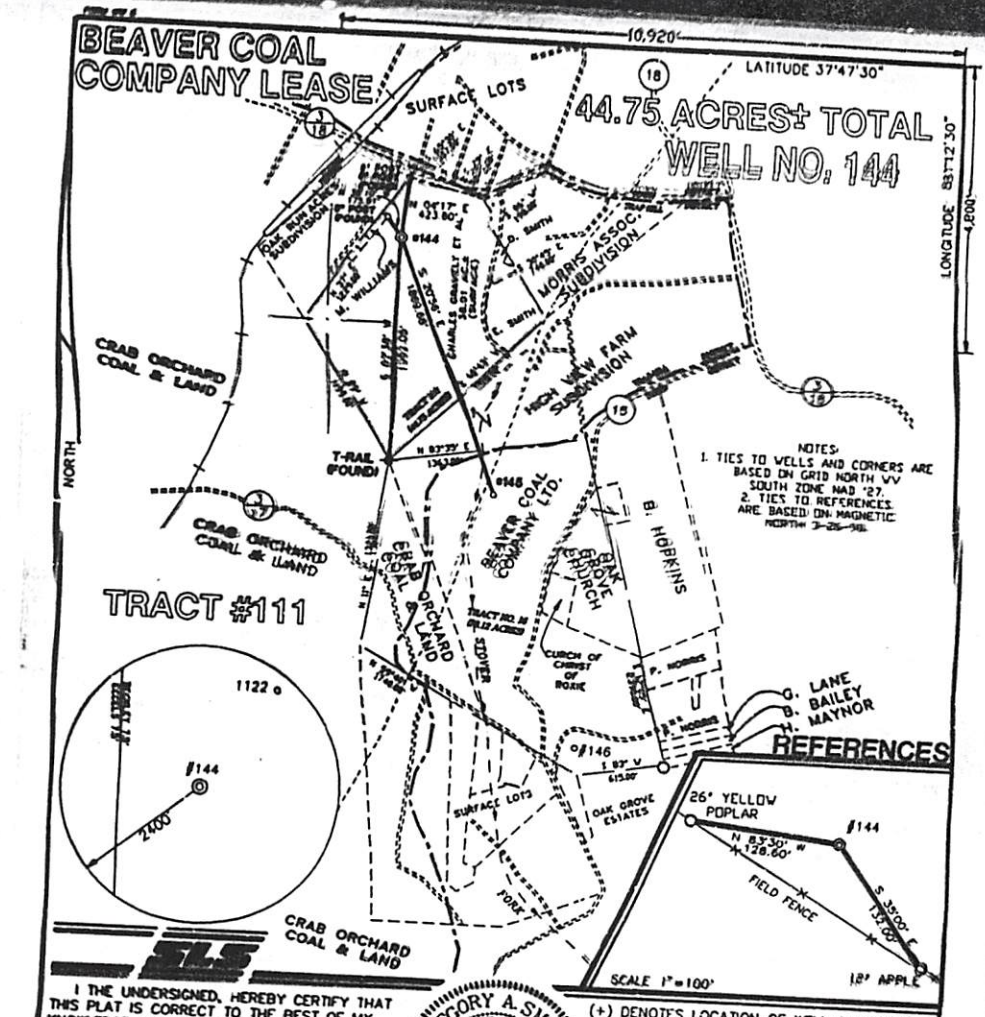

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

P.S. 677 Gregory A. Smith

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

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE MARCH 30, 19 98

OPERATORS WELL NO. BEAVER # 144

API WELL NO. 47 - 081 01131
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 3639P144 (61-63)

PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION 2489' SCALE 1" = 800'

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

WELL TYPE : OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION :
ELEVATION 2516' WATERSHED STOVER FORK
DISTRICT TRAP HILL COUNTY RALEIGH QUADRANGLE BECKLEY 7.5'
SURFACE OWNER CHARLES E. AND MARY GRAVELY ACREAGE 38.01
ROYALTY OWNER BEAVER COAL COMPANY LTD. LEASE ACREAGE 44.75' (TRACT #111)
PROPOSED WORK : LEASE NO. ___
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION BIG LIME & WEIR
ESTIMATED DEPTH 4500'

COUNTY NAME PERMIT

WELL OPERATOR ENERGY SEARCH, INC. DESIGNATED AGENT FRANK ROTUNDA
ADDRESS 280 SANDERS W. BVLD.SUITE 200 KNOXVILLE, TN 37922 ADDRESS 1613 GREENMONT HILLS DR. VIENNA, WV 26105

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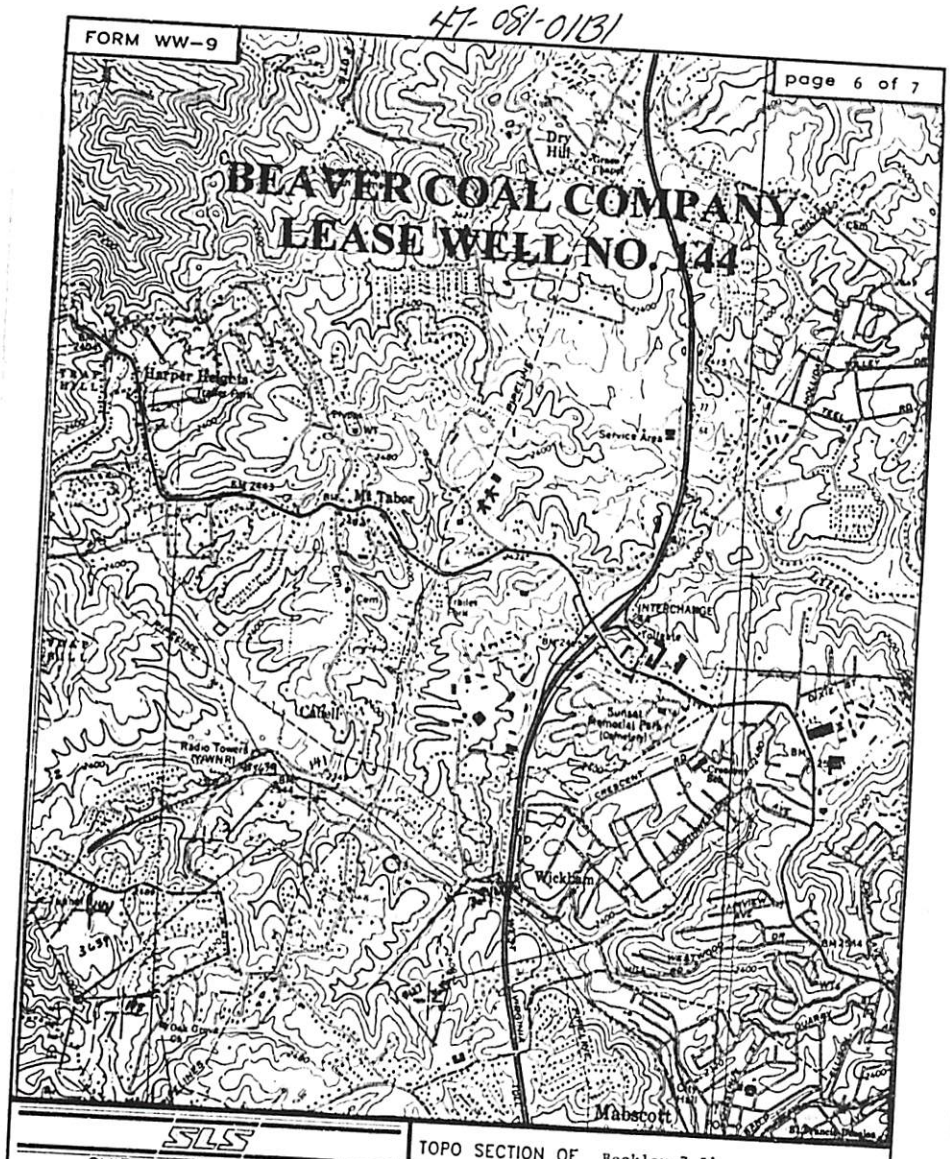
47-081-0131

FORM WW-9

BEAVER COAL COMPANY
LEASE WELL NO. 144



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

TOPO SECTION OF Beckley 7.5'

FILE NO. 3639 DATE 4/06/98 SCALE 1"=2000'

8101131P

WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Beaver Coal 144

3) API Well No.: 47 - 081-01131

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 Charles E. Gravley, widower.
Address 1131 Old Eccles Rd. Beckley, WV 28501

(b) Name
Address

(c) Name
Address

6) Inspector
Address
Gary Kennedy
P.O. Box 268
Nimitz, WV 25978
Ph. (304) 382 8402

Telephone

5) (a) Coal Operator
Name Beaver Coal Co.
Address 115 1/2 Kanawha St., Beckley Wv 25801

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

Address

(c) Coal Lessee with Declaration
Name
Address

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

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WV Department of
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Subscribed and sworn before me this 24TH day of MAY 2016
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

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.

8101131P

WW-9
(2/15)

API Number 47 - 081 - 01131
Operator's Well No Beaver Coal 144

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 7.5

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

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued

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.

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.

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Company Official Signature Randall D Sheets

Company Official (Typed Name) RANDALL SHEETS

Company Official Title Supervisor

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

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

8101131P

Form WW-9

Operator's Well No.Beaver Coal 144

Proposed Revegetation Treatment: Acres Disturbe 0.5 Prevegetation pH 6.0

Lime 2 Tons per Acre of correct to 6.5

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

Mulch 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
KENTUCKY FESCUE	40	SAME AS #1	
~~ALSIKE CLOVER~~	~~5~~		
ANNUAL RYE	16		

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jeremy Kennedy

Comments:

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Title: Inspector Date: 5/25/16

Field Reviewed? (X) Yes ( ) No

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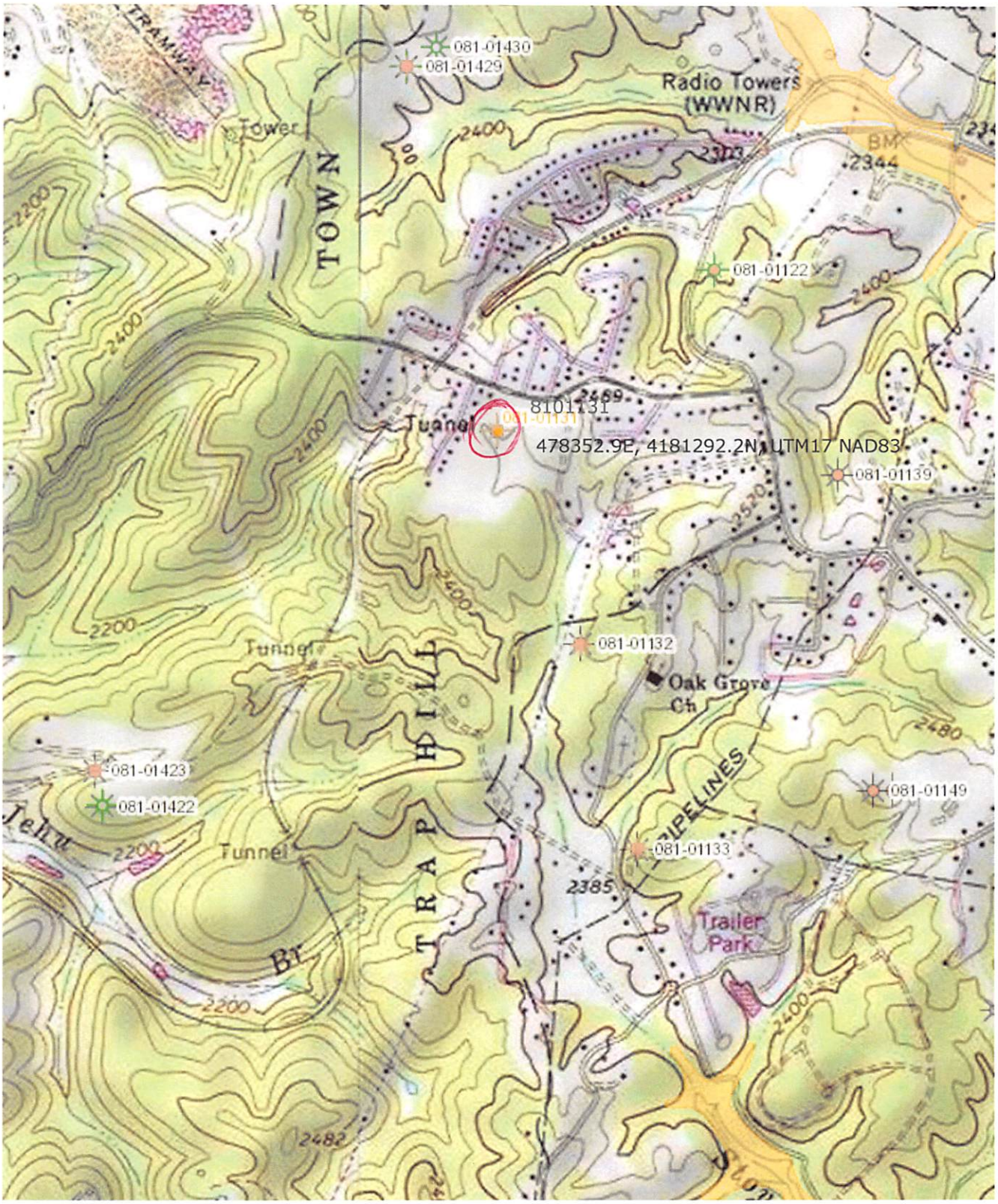
081-01430
081-01429
Radio Towers
(WWNR)
Tower
TOWN
2400
2303
BM
2344
081-01122
2400
2469
8101131
Tunnel
478352.9E, 4181292.2N, UTM17 NAD83
081-01139
2520
2200
Tunnel
081-01132
Oak Grove
Ch
2480
TRAP HILL
081-01423
081-01422
081-01149
PIPELINES
Tunnel
081-01133
2385
Trailer
Park
Br
2200
2482

8101131P

WW-7
8-30-06

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

API: 47 081 01131 **WELL NO.:** Beaver Coal144

FARM NAME: Beacer Coal, LMTD

RESPONSIBLE PARTY NAME: EXCO Resources, (PA), LLC

COUNTY: Releigh **DISTRICT:** Trap Hill

QUADRANGLE: Beckley 7.5

SURFACE OWNER: Charles E. Gravely, Widower

ROYALTY OWNER: Beaver Coal

UTM GPS NORTHING: _____

UTM GPS EASTING: _____ **GPS ELEVATION:** 2512

The Responsible Party named above has chosen to submit GPS coordi preparing a new well location plat for a plugging permit or assigned A above well. The Office of Oil and Gas will not accept GPS coordinates the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: met 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 _____

ERIS coordinates 8101131
4181292.2
478352.9
UNGES 4181293. N
478354.4 E
these put it in Raleigh Co.

Office of Oil and Gas
JUN 06 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 D [signature] Supervisor 5/26/16

Signature Title Date