west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Earl Ray Tomblin , Governor
Randy C. Huffman , Cabinet Secretary
www.dep.wv.gov

Tuesday, September 13, 2016
WELL WORK PERMIT
Vertical / Plugging - 2

EXCO RESOURCES (PA), LLC
260 EXECUTIVE DRIVE

CRANBERRY TOWNSHIP, PA 16066

Re: Permit approval for 1-G-28
47-107-01580-00-00

This well work permit 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 any additional specific 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: 1-G-28
Farm Name: CUNNINGHAM, ALLEN & KAREN
U.S. WELL NUMBER: 47-107-01580-00-00
Vertical / Plugging - 2
Date Issued: 9/13/2016

10701580P

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.

10701580 P

WW-4B
20
Rev. 2/01

1) Date 5/1/2016,

2) Operator's
Well No. Cunningham -G28
API Well No. 47-107 1580

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 ~~610~~ 779 Watershed Ohio River
District Harria County Wood Quadrangle Lubeck 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 Jamie Stevens
Address 105 Kentuck RD., KENNA wv
25248
PHONE 304

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:

Remove all equipment used to produce well

Run tubing to PBTD & Gel hole PBTD ≈ 4430'

cement 150 feet FROM 4380' TO 4230' WITH CIA CEMENT. (COVER PERFORATIONS & ONONDAGA)

Freepoint cut and pull 4 1/2"csg" ≈ 3700'.

Gel to 50'below cut ≈ 3750'

Cement 100 ácross cut 3750' TO 3650' 1730 7" OK.

* SEE INSERT → Gel to 1780

INSERT ☆ GEL TO BEREA @ 2040' & SET 100' CLASS A CEMENT PLUG FROM 2040 TO 1940'. gMM

Cement 1780 to 1680 over seat of 7'csg

Gel 1680 to 830 across elevation

Cement 830 to 730'

Gel 730 to 313

Signature Jamie Stevens Date 6/17/2016

Cement 313 to200

Cel 200 to 100

Cement 100'to surface

Set Monument with proper API

7-15-2016

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Office of Oil & Gas
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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

WR-35

07-Nov-96
API # 47-107-01580P

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

Well Operator's Report of Well Work

Farm name: CUNNINGHAM, ALLEN & KAREN Operator Well No.: 1-G-28

LOCATION: Elevation: 779.30 Quadrangle: LUBECK

District: LUBECK County: WOOD
Latitude: 12010 Feet South of 39 Deg. 15Min. 0 Sec.
Longitude 11640 Feet West of 81 Deg. 37 Min. 30 Sec.

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

Agent: CARRY S. RANSON

Inspector: GLEN ROBINSON
Permit Issued: 11/07/96
Well work Commenced: 11/23/96
Well work Completed: 12/11/96
Verbal Plugging
Permission granted on:
Rotary XX Cable Rig
Total Depth (feet) 4510'
Fresh water depths (ft) 60'

Salt water depths (ft) 1500'

Is coal being mined in area (Y/N)? N
Coal Depths (ft):

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9-5/8	263'	263'	circ to surface
7"	1730'	1730'	circ to surface
4-1/2	4467'	4467'	71 cu. ft.

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth (ft) 4376'
Gas: Initial open flow 120 MCF/d Oil: Initial open flow ____ Bbl/d
Final open flow 110 MCF/d Final open flow ____ Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 1375 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.

John M Johnston

For: ENERGY SEARCH, INC.

By: John M. Johnston - VP Exploration and Development
Date: 1/20/97

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Perf: 4372 - 4380 (2 shots per foot)
Acidized w/1000 gals 15% HCL

107 1580

Formations	Top	Base
Bera	2042	2044
Onodaga	4279	---
Oriskany	4376	4420

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Karen Ball
987 New England Ridge Rd
Washington WV 26181

Exhibit 'A'

Allen Cunningham Unit
Lubeck Dist. Wood Co, WV
Energy Search Inc.

107 1580

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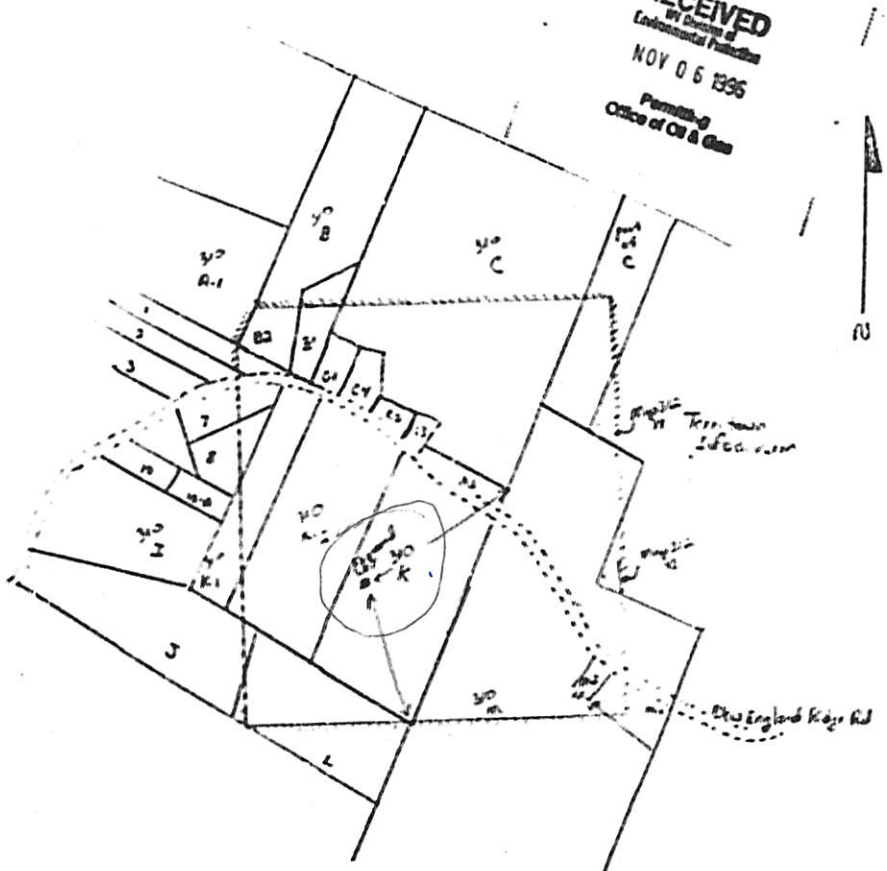
WV Division of Environmental Protection
NOV 06 1996
Permitting
Office of Oil & Gas



—— property Lines
//////// Unit Boundary

1" = 600'
Drawn from Tax maps

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10701580P

W-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Cunningham G=28

3) API Well No.: 47 - 107 1580 -

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

CK #262534
100.00

4) Surface Owner(s) to be served:
(a) Name Karen Ball, 987 Nw England Rd. , Washington WV 26101
Address

(b) Name
Address

(c) Name
Address

5) (a) Coal Operator
Name .None
Address

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

Address

(c) Coal Lessee with Declaration
Name
Address

6) Inspector Jamie Stevens
Address 105 Kentuck RD.
Kenna WV 25248

Telephone ph: 304 206 7775

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 6th day of June
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 6/11/18

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JUL 19 2016

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 .

10701580 P

WW-9
(5/13)

Page _____ of _____
API Number 47 - _____ - 107 01580___
Operator's Well No. Cunningham G28

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

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

Watershed (HUC 10 Ohio River_____ Quadrangle Lubeck 7.5

Elevation 779 County Wood District Lubeck

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 _____

If so, please describe anticipated pit waste: GEL & SALT WATER

Will a synthetic liner be used in the pit? Yes ✓ No _____ If so, what ml.? 20 MIL.

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
X Underground Injection (UIC Permit Number 34-167-29658 34-167-29395)
_____ Reuse (at API Number_____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain)_____

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Will closed loop system be used? NO

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. N/A

AUG 16 2016

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

WV Department of Environmental Protection

Additives to be used in drilling medium?_____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. NO CUTTINGS ANTICIPATED

-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 Sheets

Company Official (Typed Name) Randall Sheets

Company Official Title Supervisor

Subscribed and sworn before me this 17th day of June, 2016

Jerry Tephabock Notary Public

My commission expires 6/11/18

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

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Form WW-9

Cunningham G28_____

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 Seed Type	lbs/acre	Area II 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.

OK.

Plan Approved by: _____

Comments: _____

7-15-2016

Title: Inspector

Date: _____

Field Reviewed? (X) Yes ( ) No

Jamie Stevens

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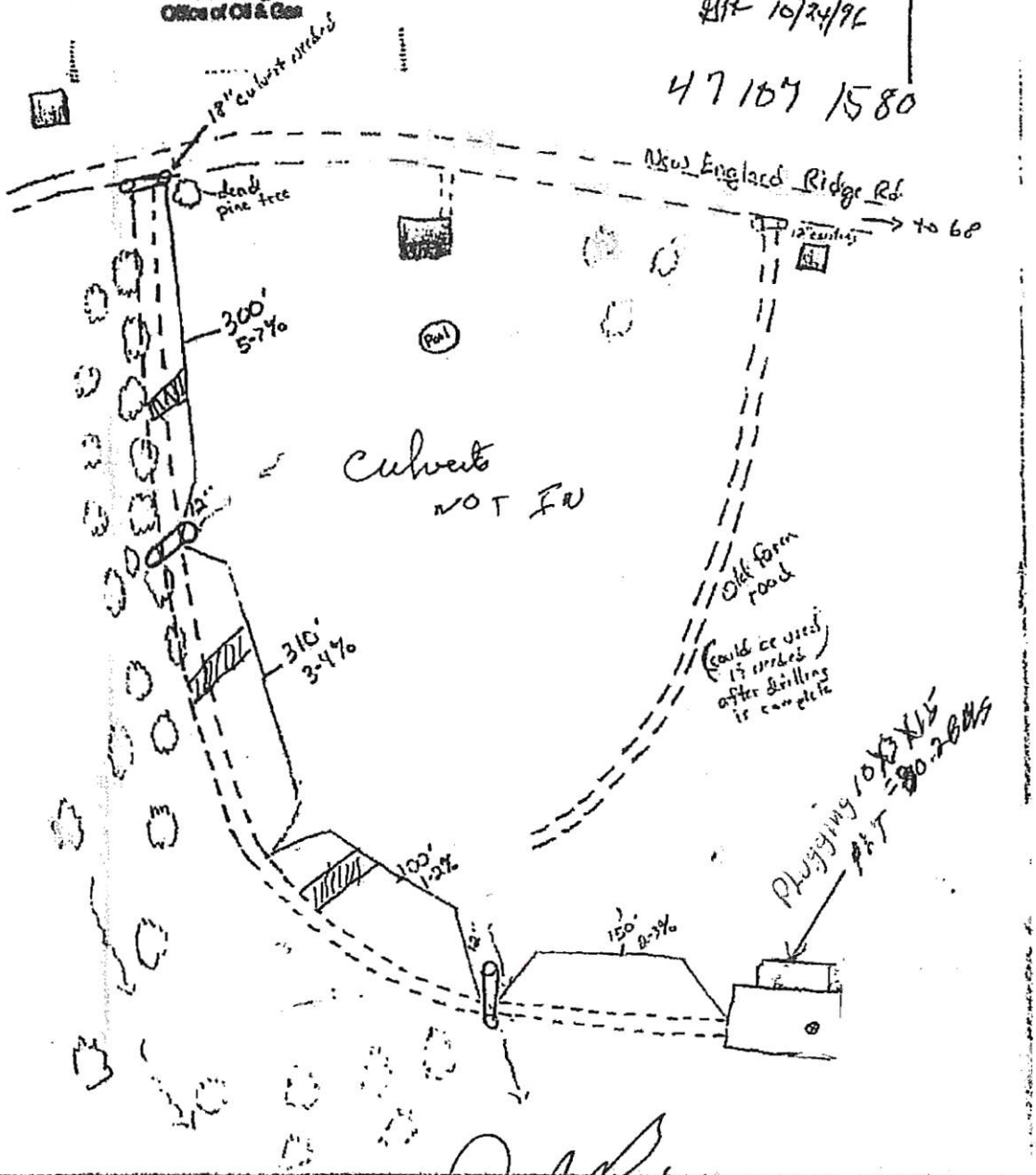
Environmental Protection
NOV 0 6 1996
Permitting
Office of Oil & Gas

Original Rec Plan

Proposed Well Location
Allen E Cunningham
Lubeck Dist Wood Co

JPR 10/24/96

47 107 1580



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Environmental Protection

7-15-2016

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Office

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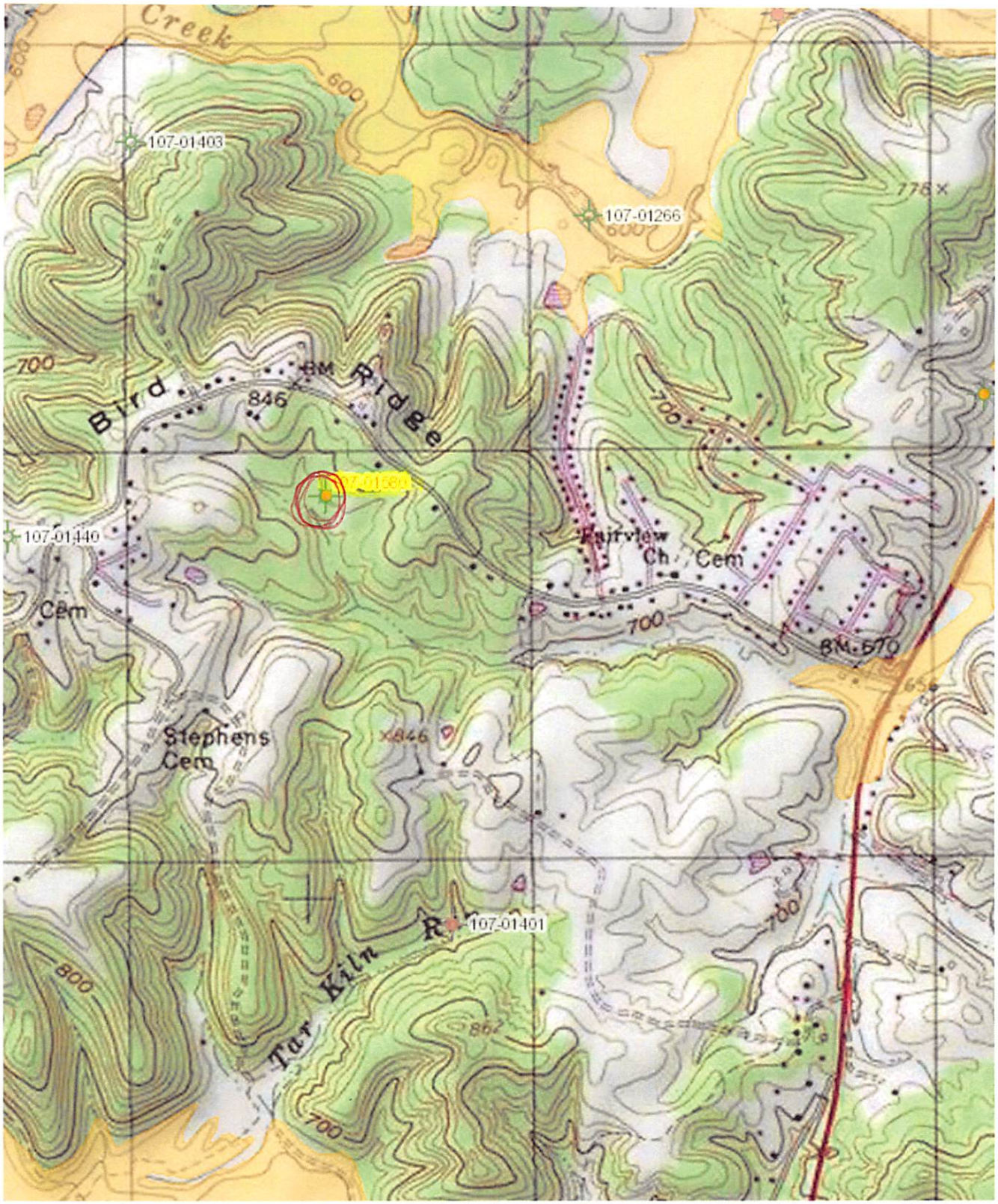
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Bird Ridge
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107-01440
Fairview
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Stephens
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Tar Kiln R
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862
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10701580 P

WW-7
8-30-06

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

API: 47 107 1580 **WELL NO.:** Cunningham g28

FARM NAME: Cunningham

RESPONSIBLE PARTY NAME: EXCO Resources (PA), LLC

COUNTY: Wood **DISTRICT:** Harris

QUADRANGLE: Lubeck 7.5

SURFACE OWNER: Karen Ball (Divorcee)

ROYALTY OWNER: Russell . Adkins, Etal

UTM GPS NORTHING: 4341101 4341101 Int. GPS

UTM GPS EASTING: 442509. 442509 **GPS ELEVATION:** 794'

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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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 R Stewart — Signature
Supervisor — Title
6/16/16 — Date