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

June 23, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8101016, 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: WELCHLANDS 78BW
Farm Name: WESTERN POCAHONTAS
API Well Number: 47-8101016
Permit Type: Plugging
Date Issued: 06/23/2016

Promoting a healthy environment.

8201016P

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.

8201016f

WW-4B
20
Rev. 2/01

1) Date 5/1/2016
2) Operator's
Well No. Welchlands 78-BW
API Well No. 47- 081-01016
-

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 2156 Watershed Grave Fork
District Slab Fork County Releigh Quadrangle Beckley

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 Put up lots of Ribbon
Remove all equipment used to produce well
Gel hole TD 2775
Cement 2775 to 2456 over 41/2 seat, top of cement on 4 1/2
Freepoint, Cut and pull 41/2 at +/-2400
Cement over cut +/- 2450 to 2350
Gel to 2350 to 1568
Cement 1568 tyo 1468 over 7" seat
Gel to 1468 to 725
Cement 725 to 625 over salt water
Gel 625 to364
Cement 364 to 264 over 95/8 seat
Gel 264 to 100
Cement 100 ft to surface
Set monument with proper API

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Signature Gary Kennedy Date 6/11/2016

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WR-35

12-Sep-95
API # 47- 81-01016

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

Well Operator's Report of Well Work

Farm Name: WESTERN POCAHONTAS CORP. Operator's Well No.: 78-BW

Location: Elevation: 2156.00 Quadrangle: McGRAWS
District: SLAB FORK County: RALEIGH

Latitude: 2500 feet south of 37 Deg. 42 Min. 30 Sec.
Longitude: 300 feet west of 81 Deg. 22 Min. 30 Sec.

1016

Company: PEAKE ENERGY, INC.
P.O. BOX 8
RAVENSWOOD, WV 26164

Agent : Thomas S. Liberatore

Inspector: RODNEY DILLON
Permit Issued: 09/12/95
Well Work Commenced: 09/12/95
Well Work Completed: 09/15/95
Verbal Plugging
Permission granted:_____
Rotary:_X_ Cable:____ Rig
Total Depth (ft): 2725'
Fresh Water Depths:_____
98' 170'
Salt Water Depths:_____
2 675'
Ia Coal being mined ? No
Coal Depths:See log on back

Casing & Tubing	Used in Drilling	Left in Well	Cement Fillup (sx)
Size			
12 3/4	24	24	2 Class A
9 5/8	314	314	110 Class A
7	1508	1508	220 Class A
			45
4 1/2	2669	2669	Class A

OPEN FLOW DATA

Producing Formation Ravencliff Sand Pay Zone Depth:1719-1747
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 inital and final tests --- Hours
Static rock pressure * psig (surf. pressure) after --- Hours

Lower Maxon Siltstone 2566-2580
2nd Producing Form: Middle Maxon Sand Pay Zone Depth:2274-2304
Gas: Initial open flow --- Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 353 * Mcf/d Final open flow 0 Bbl/d
Time of open flow between inital and final tests 4 Hours
Static rock pressureest.250*psig (surf. pressure) after 12 Hours
*Rock pressures & open-flows are combined.

NAL 1016

NOTE: Details of Fracturing, Perforating, & Well Log on Back.

For: PEAKE ENERGY, INC.

By: Thomas S. Liberatore, General Manager
Date: October 17,1995

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FORM WR-35
(Reverse)

PERMIT #: 47-081-1016
CO. WELL #: 78-BW
ELEVATION: 2156 GL, 2161 KB

DETAILS OF PERFORATIONS, FRACTURING, OR PHYSICAL CHANGE, ETC.

10/06/95: PERFORATED THE LOWER MAXON FROM 2566-2580, 42 HOLES.
FRAC. THE LOW. MAX. USING 500 GAL 15% ACID, 235
BBL OF WATER, 432,000 SCF OF NITROGEN.
PERF'D THE MID. MAX. FROM 2274-2304, 58 HOLES.
FRAC. MID. MAX USING 500 GAL ACID, 264 BBL OF WATER,
59,000 # OF SAND, & 445,000 SCF OF NITROGEN.
PERF'D. THE RAVENCLIFF FROM 1719-47, 54 HOLES.
FRAC THE RAV.SD. USING 500 GAL. ACID,
48,000 # SAND & 537,000 SCF OF NITROGEN.

WELL LOG (all depths taken from KB)

ROCK TYPE OR FORMATION	TOP	BOTTOM	REMARKS
SHALE & SAND	0	96	
COAL	96	97	
SHALE	97	300	WTR.@ 98'
SAND	300	348	170'
SHALE & SAND	348	410	
COAL	410	411	
SAND & SHALE	411	480	
COAL	480	481	
SHALE	481	670	
COAL	670	671	
SHALE	671	760	DAMP @ 675'
COAL	760	761	
SAND & SHALE	761	1505	
PRINCETON SAND	1505	1558	
SHALE	1558	1702	
RAVENCLIFF SAND	1702	1760	
SHALE	1760	1770	
AVIS LIMESTONE (L. Stone Gap)	1770	1810	
SHALE	1810	2185	
MIDDLE MAXON STRAY	2185	2198	
SHALE	2198	2272	
MIDDLE MAXON SAND	2272	2316	S/GAS
SHALE	2316	2556	
LOWER MAXON SILTSTONE	2556	2664	S/GAS
LITTLE LIME (Reynolds)	2664	2725	
TOTAL DEPTH	2725		

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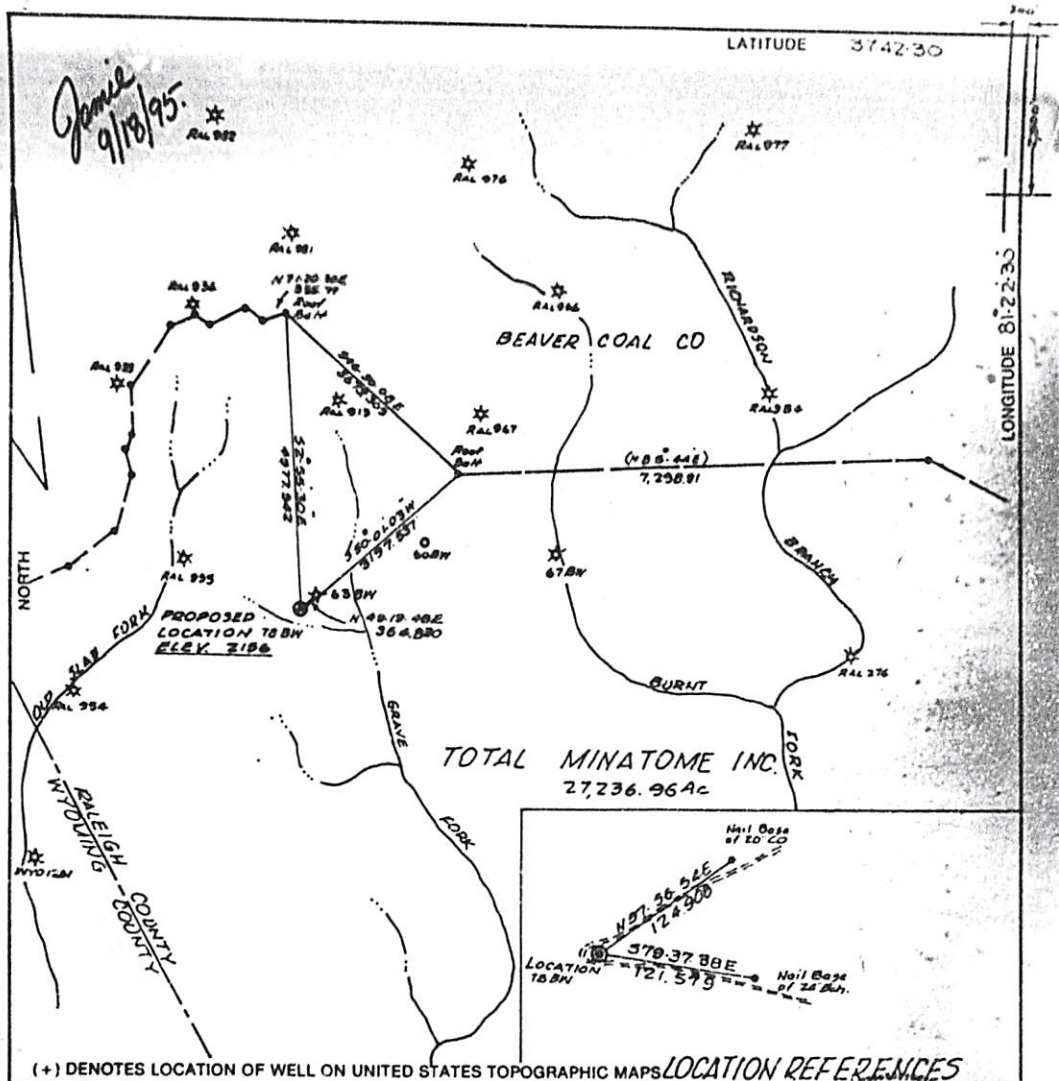
Welchlands 78 BW
8201016P

Jamie 9/18/95.



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

FILE NO. _____
DRAWING NO. _____
SCALE 1"=2000'
MINIMUM DEGREE OF ACCURACY 1: 10000
PROVEN SOURCE OF ELEVATION KNOB 2563

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.
(SIGNED) Frank N. Barker
R.P.E. _____ L.L.S. _____

FRANK N. BARKER LICENSED No. 289 STATE OF WEST VIRGINIA LAND SURVEYOR
PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE SEPT 7, 19 95
OPERATOR'S WELL NO. 78 BW
API WELL NO. 47 - 081 - 01016
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 2156 WATER SHED GRAVE FORK
DISTRICT SLAB FORK COUNTY RALEIGH
QUADRANGLE MC GRAWS
SURFACE OWNER WESTERN POCAHONTAS ACREAGE 27,236.96
OIL & GAS ROYALTY OWNER TOTAL MINATOME INC. LEASE ACREAGE 27,236.96
LEASE NO. _____
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION RAVENCLIFF/MASSIVE ESTIMATED DEPTH 2700'
WELL OPERATOR PEAKE ENERGY INC. DESIGNATED AGENT TOM LIBERATORE
ADDRESS P.O. BOX B ADDRESS P.O. BOX B
RAVENSWOOD, WV 26164 RAVENSWOOD, WV 26164

FORM WW-6
HALLS INC.

RAL COUNTY NAME
016 PERMIT

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JUN 09 2016
WV Department of Environmental Protection

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WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Welchlands 78-BW

3) API Well No.: 47 - 081-01016

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

4) Surface Owner(s) to be served:
(a) Name Western Pocahontas Properties, LP
Address 5260 Irwin Road, Huntington, WV 25705

(b) Name
Address

(c) Name
Address

5) (a) Coal Operator
Name Beaver Coal Company
Address 115 ½ Kanawha St. Beckley, Wv 25801

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

Address

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

(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

Official Seal
Notary Public, State of West Virginia
Kathryn Shafer
4427 Charleston Road
Ripley WV 25271
My Commission Expires May 9, 2024

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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JUN 09 2016
WV Department of
Environmental Protection

Subscribed and sworn before me this 7th day of June 2016
Notary Public
My Commission Expires 5/9/24

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.

8201016P

WW-9
(5/13)

Page _____ of _____
API Number 47 - 081 - 01016
Operator's Well No. Welchlands 78BW

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) Grave Fork Quadrangle MC Graws

Elevation 2156 County Raleigh District Slab Fork

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 X

If so, please describe anticipated pit waste: NO LAND APPLICATION.

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

Proposed Disposal Method For Treated Pit Wastes: MUST CONTAIN ANY WELL EFFLUENT IN TANKS AND DISPOSE OF PROPERLY.

_____ Land Application
_____ Underground Injection (UIC Permit Number_____)
_____ Reuse (at API Number_____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
X Other (Explain no flluids are expected in return_____

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 Sheets

Company Official (Typed Name) Randall Sheets

Company Official Title Supervisor

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WV Department of Environmental Protection

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

Kathryn Shafer Notary Public

My commission expires 5/9/24

Official Seal
Notary Public, State of West Virginia
Kathryn Shafer
4427 Charleston Road
Ripley WV 25271
My Commission Expires May 9, 2024

8201016P

Form WW-9

Operator's Well Welchlands 78BW

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: Jay Kennedy

Comments:

Title: Inspector Date: 6/7/2016

Field Reviewed? ( ) Yes ( ) No

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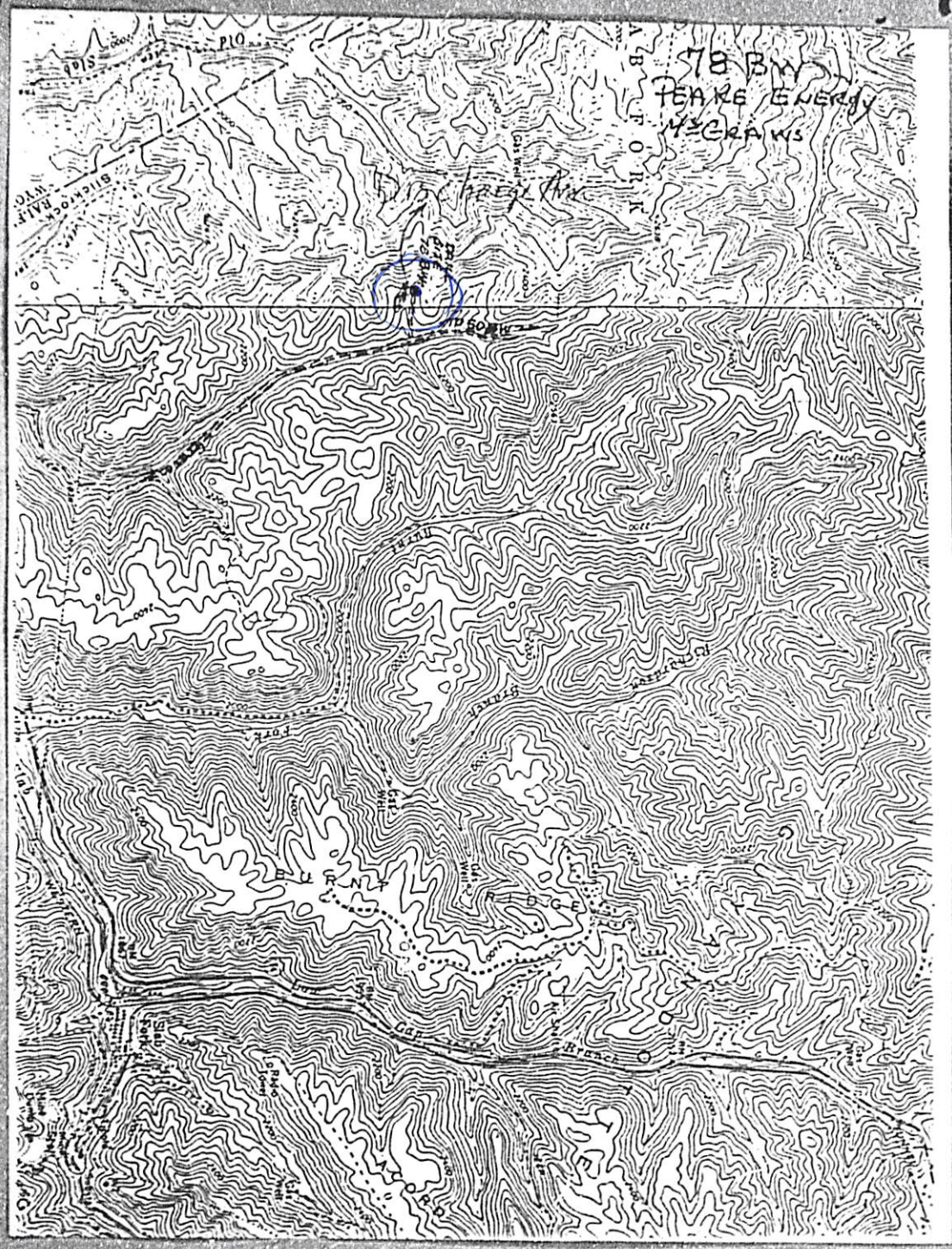

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WW-7
8-30-06

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

API: 47 082 01016 **WELL NO.:** Welchland 78 BW

FARM NAME: Western Pocahontas

RESPONSIBLE PARTY NAME: Exco Resources (PA) LLC

COUNTY: Releigh **DISTRICT:** Slab Fork

QUADRANGLE: MC Graw

SURFACE OWNER: Western Pocahontas

ROYALTY OWNER: Total Minatome, INC.

UTM GPS NORTHING: 4172793.5

UTM GPS EASTING: 466878 **GPS ELEVATION:** 2156

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 _____

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.

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Randall [signature] Supervisor 6/7/16

Signature Title Date