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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

June 23, 2016

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-8101270, 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: 3-C-REV  
Farm Name: WESTERN POCAHONTAS PROP.  
**API Well Number: 47-8101270**  
**Permit Type: Plugging**  
Date Issued: 06/23/2016

## 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.

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

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

9) Plugging Contractor  
Name R & R WELL SERVICE  
Address 42 LYNCH RIDGE  
WALTON, WV 25286

PHONE 304 382 8402

10) Work Order: The work order for the manner of plugging this well is as follows:

Check Rock PRESURE

*Put up lots of Ribbon*

Remove all equipment used to produce well

Run tubing to TD 976'

Gel hole

Freepoint, cut and pull 51/2'

Gel to 50' below cut of 5 1/2'

Cement 100' across cut

Gel to 100'

Cement 100' to surface

Set Monument with proper API

*CONFERENCE WITH INSPECTOR*

- IF WELL WAS DRILLED HORIZONTALLY THROUGH COAL SEAMS, (i.e. Pocahontas 3), THEN A CIBP MUST BE SET JUST ABOVE THAT SEAM AND A '100' CEMENT PLUG PLACED ON TOP.
- IF 5 1/2" WAS CEMENTED TO SURFACE, THEN GEL FROM TOP OF BOTTOM HOLE PLUG TO 287' THEN SET 100' CIA CEMENT PLUG FROM 287' TO 187'.
- GEL TO 100' & SET CIA CEMENT PLUG TO SURFACE.

*JKW*

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Office of Oil and Gas

JUN 09 2016

SIGNATURE

*Gary Kennedy*

DATE-

6/7/2016

WV Department of  
Environmental Protection

06/24/2016



**CBM Well Prognosis** Vertical Well Version 4, July 7, 2003

Well Type  
**Vertical Well**

Name: **WPP 3-C**

Surf. Loc.: **Lat** 37° 43' 48" **Vertical Well** 37.734139  
**Long** -81° 19' 48" -81.334139  
**N (UTM)**  
**E (UTM)**  
**Coord. Sys.** WV State Plane NAD 27

Staked Elev: 2,015 **As Drill Elev:**  
 PTD:

Objectives	Horizon	Vertical DD	SS	Depth Uncertainty	Thickness
	20" Bit	16" Cond. set @ 30' Drill depth (grouted w/ cuttings)			
	13 1/2" Bit	11 3/4" CSG set @ 220' Drill depth (cmt. to surface)			
	Sewell	140	1,875		
	Beckley A				
	Beckley B	488	1,527	well w/in mine pillar	1.79
	Beckley C				
	11" Bit	8 5/8" CSG if water w/in Beckley			
	Fire Creek				
	Poca 6				
	Poca 5	631	1,384		1.29
	Poca 4	649	1,366		1.58
	5 1/2" CSG set close to top Poca 3				
	Poca 3	765		5 1/2" Fiberglass Csg. over objectives if water an issue.	3.00
	Poca 2b	800			1.85
	Poca 2a	811			1.97
	7 7/8" Bit				
	<b>TD</b>	961	<b>TOTAL COAL</b>		

Prepared by: Rankin / Sinclair w/ Marshall Miller Xsecs & WVGES Quad Sheets

81-1270

2' only

1.29  
1.58  
3.00  
1.85  
1.97

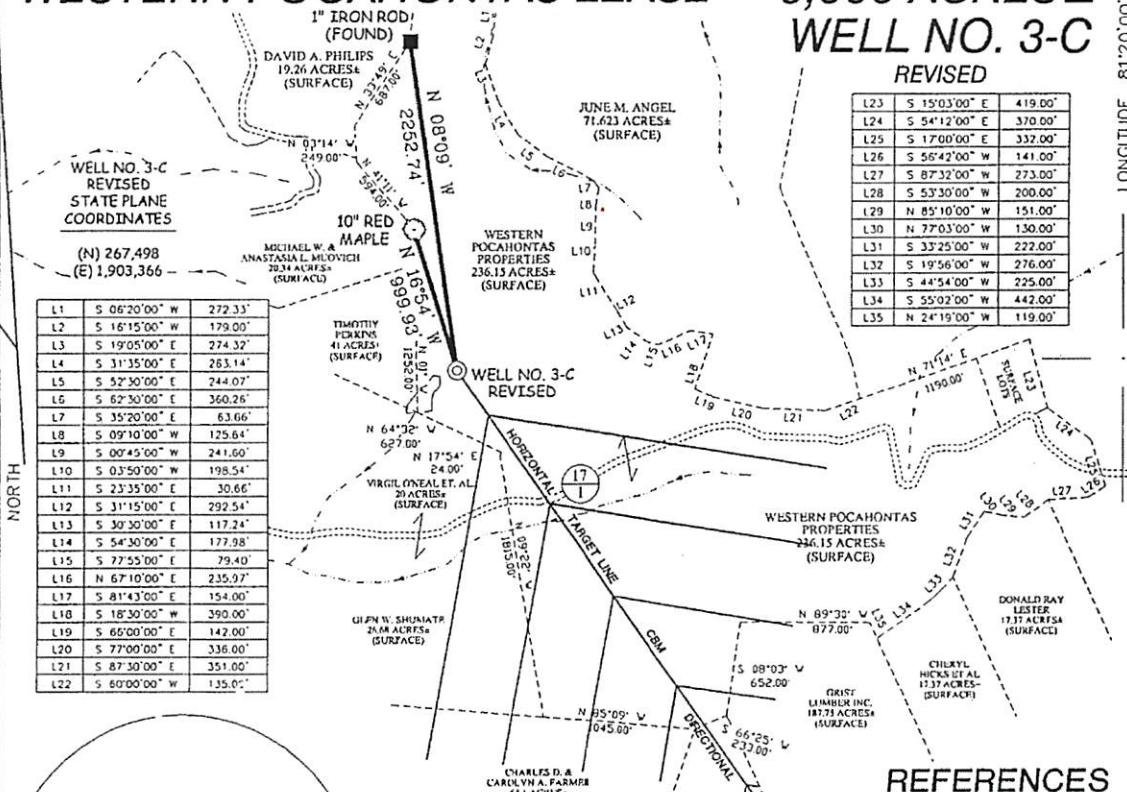
RECEIVED  
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JUN 09 2016

HC 7/05/03

WPP 30

# WESTERN POCAHONTAS LEASE

## 6,000 ACRES± WELL NO. 3-C REVISED



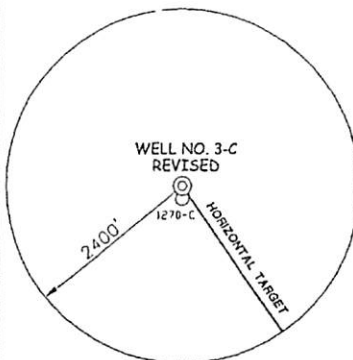
L1	S 06°20'00" W	272.33'
L2	S 16°15'00" W	179.00'
L3	S 19°05'00" E	274.32'
L4	S 31°35'00" E	263.14'
L5	S 52°30'00" E	244.07'
L6	S 62°30'00" E	360.26'
L7	S 35°20'00" E	63.66'
L8	S 09°10'00" W	125.64'
L9	S 00°45'00" W	241.60'
L10	S 03°50'00" W	198.54'
L11	S 23°35'00" E	30.66'
L12	S 31°15'00" E	292.54'
L13	S 30°30'00" E	117.24'
L14	S 54°30'00" E	177.98'
L15	S 77°55'00" E	79.40'
L16	N 67°10'00" E	235.97'
L17	S 81°43'00" E	154.00'
L18	S 18°30'00" W	390.00'
L19	S 66°00'00" E	142.00'
L20	S 77°00'00" E	336.00'
L21	S 87°30'00" E	351.00'
L22	S 60°00'00" W	135.00'

L23	S 15°03'00" E	419.00'
L24	S 54°12'00" E	370.00'
L25	S 17°00'00" E	332.00'
L26	S 55°42'00" W	141.00'
L27	S 87°32'00" W	273.00'
L28	S 53°30'00" W	200.00'
L29	N 85°10'00" W	151.00'
L30	N 77°03'00" W	130.00'
L31	S 33°25'00" W	222.00'
L32	S 19°56'00" W	276.00'
L33	S 44°54'00" W	225.00'
L34	S 55°02'00" W	442.00'
L35	N 24°19'00" W	119.00'

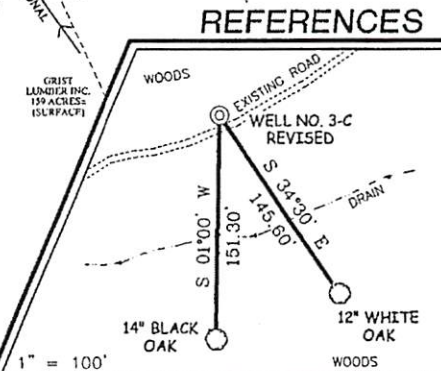
WELL NO. 3-C  
REVISED  
STATE PLANE  
COORDINATES  
(N) 267,498  
(E) 1,903,366

NORTH

LONGITUDE 81°20'00"  
5.780  
LAT. 37°44'02.9"



- ### NOTES ON SURVEY
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
  2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 12-19-01.
  3. TRACT BOUNDARY SHOWN HEREON TAKEN FROM A DEED BOOK 443 PAGE 468 TRACT NO. 3 RECORDED IN THE RALEIGH COUNTY CLERK'S OFFICE.
  4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RALEIGH COUNTY IN DECEMBER, 2001.
  5. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).
  6. WELL NO. 3-C WAS ORIGINALLY PERMITTED AS 47-081-1270-C.



### REFERENCES



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 DIVISION OF ENVIRONMENTAL PROTECTION.



P.S. *Gregory A. Smith*  
677

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE JANUARY 14 20 02  
REVISED SEPTEMBER 8 20 02  
OPERATORS WELL NO. 3-C REVISED  
API WELL NO. 47-81-01270C-REV.  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4590P3CF 33-13  
PROVEN SOURCE OF ELEVATION BENCHMARK ELEVATION 1,933' SCALE 1" = 1000'

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

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

LOCATION : ELEVATION 2,010' WATERSHED TRIBUTARY OF ROCKHOUSE FORK  
DISTRICT TRAP HILL COUNTY RALEIGH QUADRANGLE LESTER 7.5'

SURFACE OWNER WESTERN POCAHONTAS PROPERTIES ACREAGE 236.1±  
ROYALTY OWNER WESTERN POCAHONTAS PROPERTIES LEASE ACREAGE 289.1± OF 6,000±  
PROPOSED WORK : LEASE NO. \_\_\_\_\_  
DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION POCAHONTAS NO. 3  
ESTIMATED DEPTH 1,300'

WELL OPERATOR ENERGY SEARCH, INC. DESIGNATED AGENT DAVE PERKINSON  
ADDRESS ROUTE 11, BOX 41 ADDRESS 377 EASTVIEW DRIVE  
MARIETTA, OH 45750 PARKERSBURG, WV 26104

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JUN 24 2016

WV Department of Environmental Protection

06/24/2016



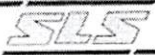
Revised To 81 1270

**WELL NO. 3-C REVISED  
API #47-081-01270C-REV.**

**Discharge  
Area**

LESTER

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NORFOLK COUNTY  
JULY 27 2016



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

TOPO SECTION OF LESTER 7.5'

FILE NO. 1759 P DATE 7/27/04 SCALE 1"=2000'

*[Signature]*  
06/24/2016



WR-35  
Rev (5-01)

DATE: 5/10/2006  
API #: 47-8101270

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

Well Operator's Report of Well Work

Farm name: Western Pocahontas Properties Operator Well No.: 3-C

LOCATION: Elevation: 2010 GL Quadrangle: Lester 7.5'  
District: Trap Hill County: Raleigh  
Latitude: 5780 Feet South of 37 Deg. 45 Min. 00 Sec.  
Longitude 210 Feet West of 81 Deg. 20 Min. 00 Sec.

Company: Energy Search, Inc.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>88 Products Lane Marietta, Ohio 45750</u>				
<u>Agent: Michael McCown</u>	<u>16"</u>	<u>25'</u>	<u>25'</u>	
<u>Inspector:</u>	<u>11 3/4"</u>	<u>237'</u>	<u>237'</u>	<u>150 sks</u>
<u>Date Permit Issued: 5/16/2002</u>				
<u>Date Well Work Commenced: 7/14/2003</u>	<u>5 1/2"</u>	<u>926'</u>	<u>926'</u>	<u>250 sks</u>
<u>Date Well Work Completed: 7/29/2003</u>				
<u>Verbal Plugging:</u>				
<u>Date Permission granted on:</u>				
<u>Rotary XX Cable Rig</u>				
<u>Total Depth (feet): 975'</u>				
<u>Fresh Water Depth (ft.): 2" strm 42-46ft</u>				
<u>Salt Water Depth (ft.):</u>				
<u>Is coal being mined in area (N/Y)?</u>				
<u>Coal Depths (ft.): 149-152; 410-420; 465-470</u>				

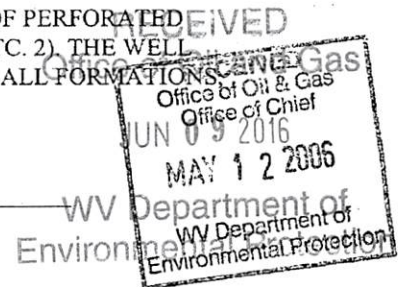
OPEN FLOW DATA

Producing formation None - to be plugged 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

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.

Signed: Kent C. Stewart  
By: Kent C. Stewart  
Date: 5/10/2006



06/24/2016

1) Date: 5/1/2016  
2) Operator's Well Number  
Beaver Coal Wpp 3-C  
3) API Well No.: 47 - 081-01270C

**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>Western Pocahontas Properties LP</u>	Name <u>Beaver Coal co.</u>
Address <u>5260 Irwin Rd., Huntington, WV 25705</u>	Address <u>115 1/2 Kanawha St Beckley, WV 25801</u>
(b) Name	(b) Coal Owner(s) with Declaration <u>Beaver Coal Co LTD</u>
Address	Name
	Address
	P.O.
(c) Name	Address
Address	
6) Inspector	(c) Coal Lessee with Declaration
Address <u>Gary Kennedy</u>	Name
	Address
Telephone	
	<u>P.O. Box 268</u>
	<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 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 Chic



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

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Office of Oil and Gas  
JUN 09 2016

Subscribed and sworn before me this 7th day of June 2016  
Kathryn Shafer 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](mailto:depprivacyoffier@wv.gov).

06/24/2016



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) Trib. Of Rockhouse Quadrangle Lester 7.5  
Fork

Elevation 2010 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 X all

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 no fluids are expected in return \_\_\_\_\_ )

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

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.

Office of Oil and Gas

JUN 09 2016

Company Official Signature Randall Sheets

Company Official (Typed Name) Randall Sheets

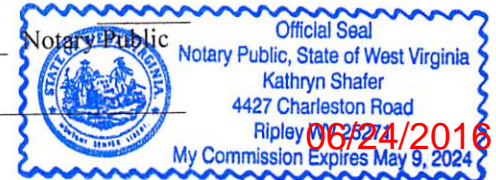
Company Official Title Supervisor

WV Department of  
Environmental Protection

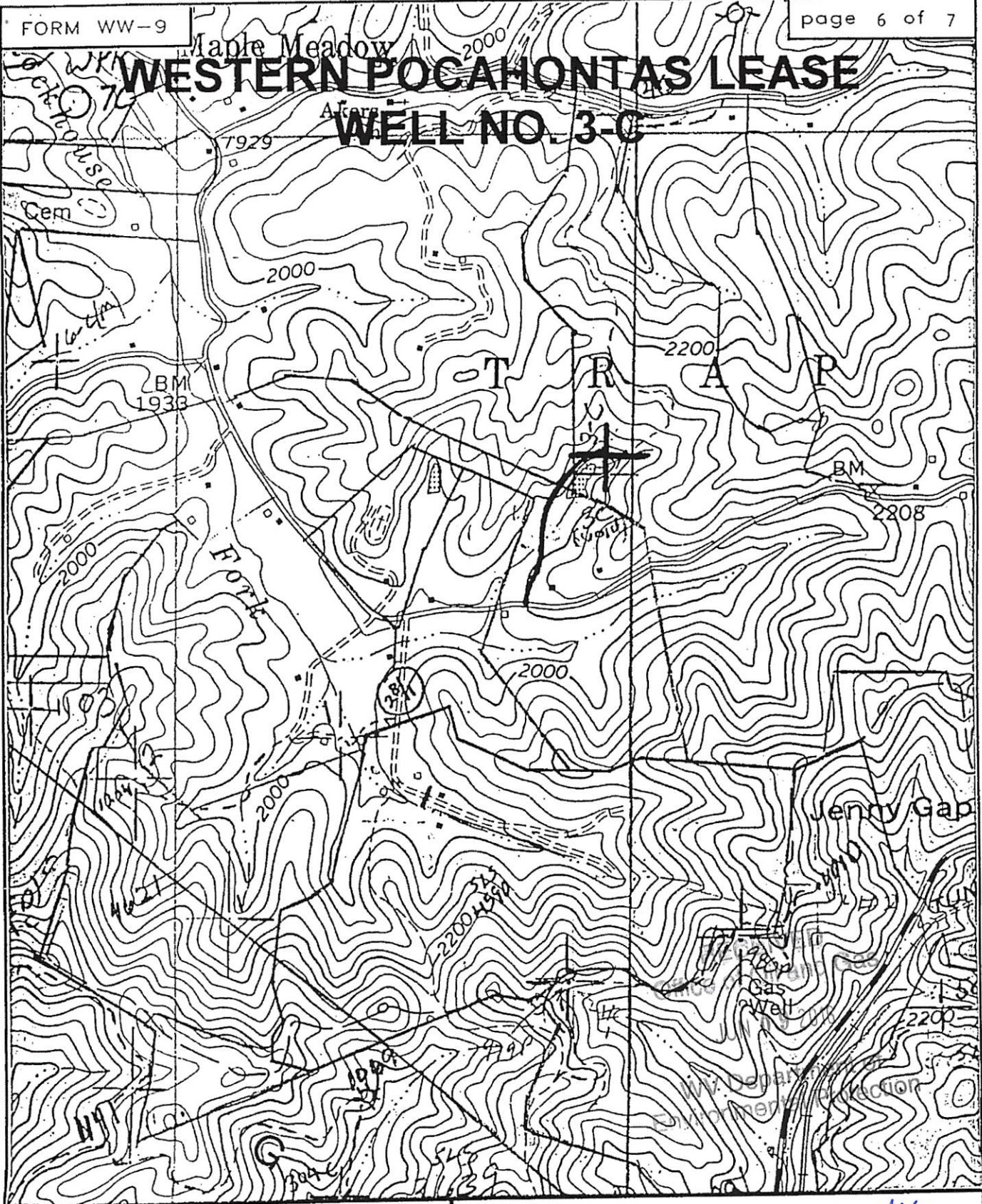
Subscribed and sworn before me this 7th day of June, 2016

Kathryn Shafer

My commission expires 5/9/24







**SLS**

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

TOPO SECTION OF Lester 7.5'

FILE NO. 4590 DATE 9/9/02 SCALE 1"=1000'

*SLK*



WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47 081 01270 C WELL NO.: WPP 3C

FARM NAME: Western Pocahontas Properties

RESPONSIBLE PARTY NAME: EXCO Resources (PA), LLC

COUNTY: Releigh DISTRICT: Trap Hill

QUADRANGLE: Lester 7.5

SURFACE OWNER: Western Pocahontas Properties

ROYALTY OWNER: Western Pocahontas Properties

UTM GPS NORTHING: 4176340.2

UTM GPS EASTING: 470579.8 GPS ELEVATION: 2010

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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Office of Oil and Gas

4. Letter size copy of the topography map showing the well location. JUN 09 2016

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.

WV Department of  
Environmental Protection

Randall D. [Signature]  
Signature

Supervisor  
Title

6/7/16  
Date