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

Wednesday, August 03, 2016
WELL WORK PERMIT
Vertical / Plugging - 2

EXCO RESOURCES (PA), LLC
260 EXECUTIVE DRIVE

CRANBERRY TOWNSHIP, PA 16066

Re: Permit approval for ROBINSON 1
47-085-03293-00-00

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: ROBINSON 1
Farm Name: ROBINSON, D.
U.S. WELL NUMBER: 47-085-03293-00-00
Vertical / Plugging - 2
Date Issued: 8/3/2016

Promoting a healthy environment.

8503293P

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 within two years of the date of issuance of this permit.

WW-4B
20
Rev. 2/01

1) Date 5/1/2016 85003293P

2) Operator's
Well No. Robinson D1
API Well No. 47- 085 03293
-

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 828 Watershed Hughes River
District Clay County Ritchie Quadrangle Harrisville

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 Mike Goff
Address PO Box 134, PULLMAN wv 26421
PHONE 304 549 9823

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
Gel hole TD 1960
CEMENT 1960 TO 1760 OVER 4 ½ CSG AND perfs
Freepoint, cut and pull 4 ½ csg
Gel to 50'of cut of 4 ½
Cement 100'across cut
Gel to 880
Cement 880 to 780 across elevation
Gel to 250'
Cement 250 to surface
set monument with proper API

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Signature MGG 6/29/16 Date

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

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Form 00-10

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Rotary ☐
Spudder ☐
Cable Tools ☒
Storage ☐

Quadrangle Harrisville
Permit No. RTT 3293

Oil or Gas Well (Gas) or Oil (Kind)

Company Robinson Gas Company
Address 5945-Wilson Drive-Huntington, W.Va. 25705
Farm Denzil Robinson Acres 101
Location (waters) Hughes River
Well No. -1- Elev. 828'
District Clay County Ritchie
The surface of tract is owned in fee by Denzil Robinson
Address Harrisville, W.Va.
Mineral rights are owned by Denzil Robinson
Address Harrisville, W.Va.
Drilling commenced 12-6-68
Drilling completed 1-16-69
Date Shot From To
With
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume 10000 Estimated Cu. Ft.
Rock Pressure lbs. hrs.
Oil bbls. 1st 24 hrs.
WELL ACIDIZED (DETAILS)

Casing and Tubing	Used in Drilling	Left in W'll	Packers
Size			
16 11"	18'	18'	Kind of Packer
13			
10	368'	-0-	Size of
8¼ 8"	1022'	-0-	
6⅝			Depth set
5 3/16			
4½	1960'	1960'	
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Attach copy of cementing record.
CASING CEMENTED 4½" SIZE 1960' No. Ft. 1-17-69 Date
Amount of cement used (bags) 75-Bags Expando Cement
Name of Service Co. Lawson Oil and Gas Well Com. Co.
COAL WAS ENCOUNTERED AT FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES

WELL FRACTURED (DETAILS) 250 Gals Acid-28000# 20/40 Sand-510 Bbls. Water.

RESULT AFTER TREATMENT (Initial open Flow or bbls) 1,200,000 3 BOPD 1,200 Mcf + 3 BOPD
ROCK PRESSURE AFTER TREATMENT 600 HOURS 24
Fresh Water 3 bbls. Feet 80' Salt Water Feet 1270'
Producing Sand Injun Depth 1016-34

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil			0	10			
Black Slate			10	80			
Sand			80	103			
Grey Shale			103	180			
Red Rock			180	190			
Lime			190	200			
Sand			200	250			
Red Rock			250	280			
Lime			280	290			
Slate			290	320			
Sand			320	355			
Slate Shells			355	390			
Sand			390	420			
Slate Shells			420	440			
Red Rock			440	455			
Slate			455	470			
Red Rock			470	480			
Slate			480	500			
Red Rock			500	525			
Slate Shells			525	620			
Red Rock			620	745			
Slate Shells			745	770			
Lime Gritty			770	790			
Black Slate			790	815			
Slate Shells			815	989			
Black Slate			989	1000			
Slate and Shells			1000	1055			
Sand			1055	1190			
Slate Shells			1190	1200			

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Dept. of Mines

APR 08 1969

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Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			1200	1270			
Slate			1270	1300			
Sand			1300	1310			
Black Slate			1310	1325			
Slate and Shells			1325	1355			
Sand			1355	1386			
Slate			1386	1425			
Sand Broken			1425	1580			
Sand			1580	1600			
Sand Broken			1600	1654			
Sand Hard			1654	1670			
Sand Broken			1670	1705			
Dark Gritty Lime			1705	1782			
Sand Big Injun			1782	1878	Gas 1801-10	Oil 1810-17	pred in town
Slate			1878	1880			
Sand Squaw			1880	1915	Gas and Oil 1879-93		shew
Slate			1915	1960.			
	Total Depth			1960			

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Date 3-11, 1969

APPROVED Robinson Gas Company, Owner

By _____ (Title) Agent

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FORM WW-2(B) FILE COPY
(Obverse)
7/85

RECEIVED
JAN 09 1987
DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

1) Date: Jan 7. 19 87
2) Operator's Well No. D. Robinson #1
3) API Well No. 47 085 3293 -F
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
APPLICATION FOR A WELL WORK PERMIT

4) WELL TYPE: A Oil ____ / Gas X /
B (If "Gas", Production X / Underground storage ____ / Deep ____ / Shallow X /)

5) LOCATION: Elevation: 828' Watershed: North Fork of Hughes River
District: Clay / County: Ritchie 085 Quadrangle: Harrisville 7.5' 393

6) WELL OPERATOR United Operating CODE: 5080 7) DESIGNATED AGENT Lyle Coffman
Address Suite 930 Commerce Sq. Address 527 Norris Rd.
Charleston, WV 25301 Glenville, WV 26351

8) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Samuel Hersman
Address P.O. Box 66
Smithville, WV 26178

9) DRILLING CONTRACTOR:
Name
Address

10) PROPOSED WELL WORK: Drill ____ / Drill deeper ____ / Redrill ____ / Stimulate X /
Plug off old formation ____ / Perforate new formation X /
Other physical change in well (specify) ____

11) GEOLOGICAL TARGET FORMATION, Irjun
12) Estimated depth of completed well, 1960 feet
13) Approximate trata depths: Fresh, 80 feet; salt, ____ feet.
14) Approximate coal seam depths: N/A Is coal being mined in the area? Yes ____ / No X /

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS Size	Grade	Weight per ft.	New	Used	FOOTAGE INTERVALS For drilling	Left in well	CEMENT FILL-UP OR SACKS (Cable feet)	PACKERS
Conductor									Kinds
Fresh water									
Coal									Sizes
Intermediate		EXISTING - SEE WELL RECORD							
Production									Depths set
Tubing									
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-085-3293-F January 9 19 87
Date

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector (See Condition No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires Janaury 9, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent	Plat:	Casing	Fee	WPCP	SUR	Other
✓	AGB	AB	AB	12361 165	AB	AB	

John D. Johnston
Director, Division of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

File

9526

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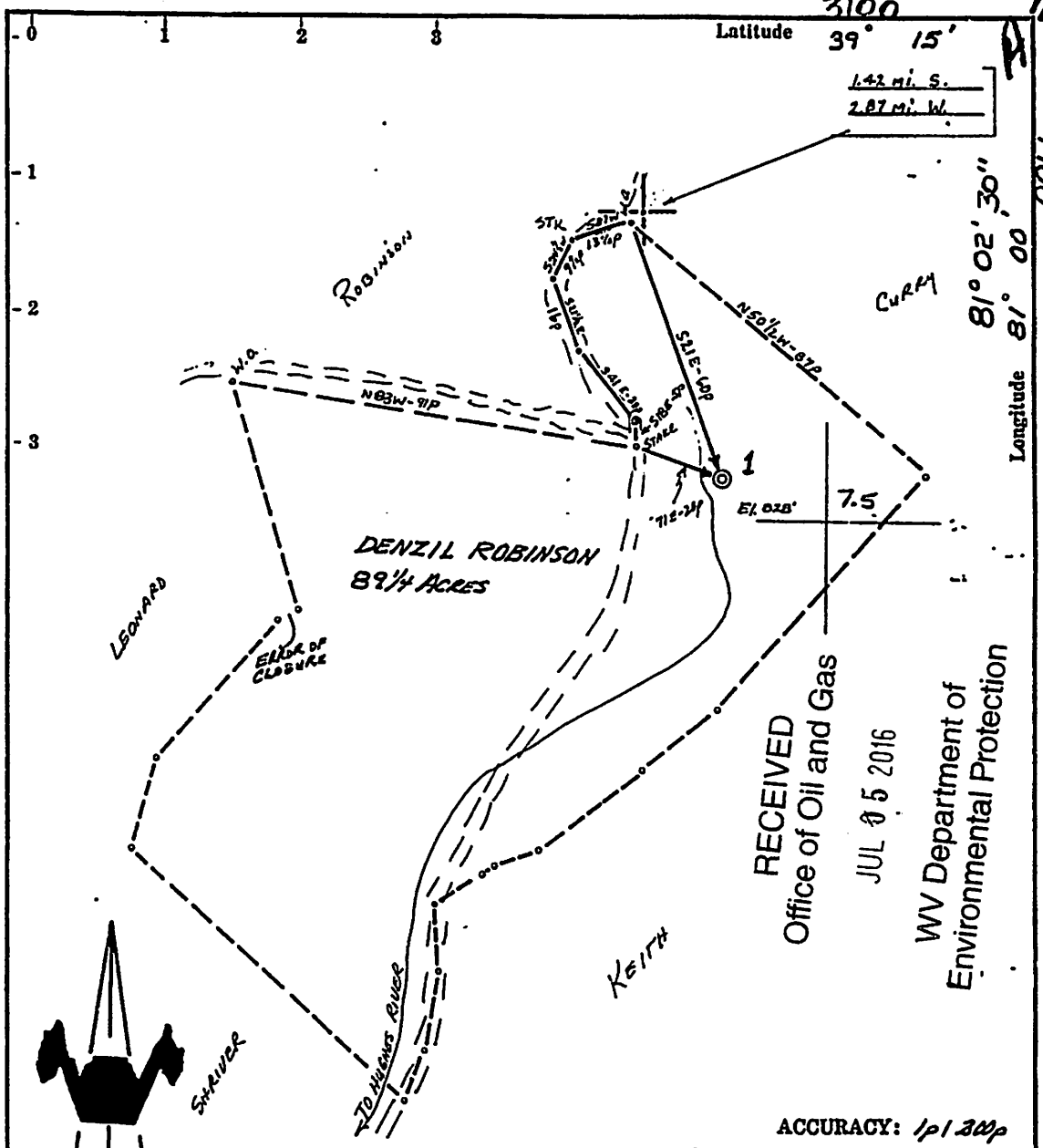
12/5/18 CEN 8503293P

3100



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ACCURACY: 1p/200p

Source of Elevation ROAD INTERSECTION (848')

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Chet Waterman

New Location ■
Drill Deeper □
Abandonment □
Fracture □
Redrill □

Company United Operating
Address Charleston, WV 25301
Farm DENZIL ROBINSON
Tract Acres 89¼ Lease No.
Well (Farm) No. 1 Serial No.
Elevation (Spirit Level) 828'
Quadrangle HARRISVILLE
County RITCHIE District CLAY
Engineer CHET WATERMAN
Engineer's Registration No. 3788
File No. 68003-198 Drawing No.
Date 11/13/68 Scale 1" = 30p

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP

FILE NO. RIT-3293-F
FRAC CANCELLED

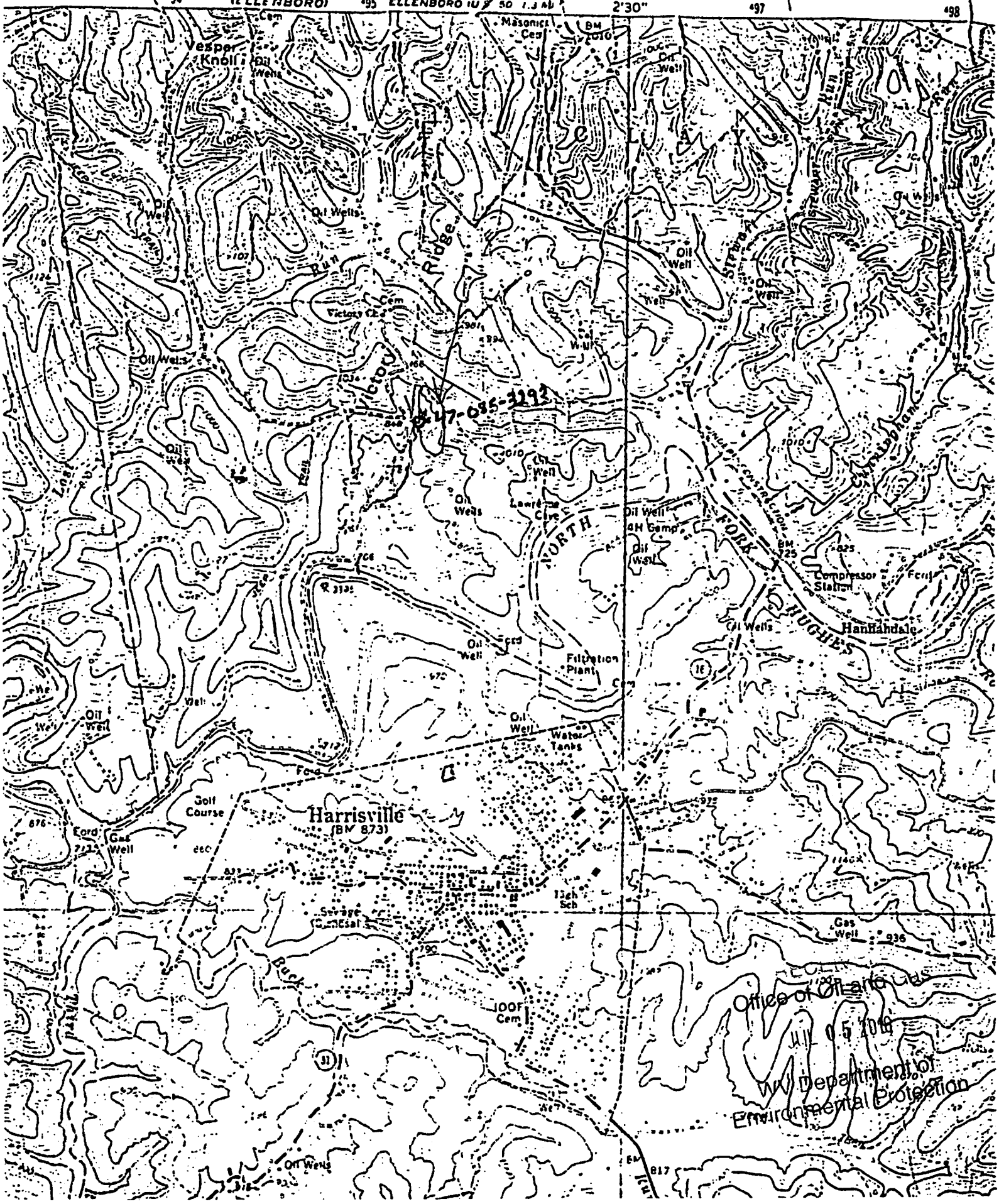
+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.

Rit 3293-F

STATE OF WEST VIRGINIA
REPRESENTED BY THE
STATE OF WEST VIRGINIA GEOLOGICAL SURVEY
AND OTHER STATE AGENCIES

SS-OD 2938



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JUL 05 2011
WV Department of
Environmental Protection

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WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Robinson D1

3) API Well No.: 47 - 085 3293 _____ - _____

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 See Attachment
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 Mike Goff
Address PO BOX 134
Pullman WV 26421
Telephone 304 549 9823

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 Randall D. Sheets
Its: Supervisor
Address P O BOX 8
RAVENSWOOD, WV 26164
Telephone 304-273-5371

Subscribed and sworn before me this 29th day of June 2016
Notary Public

My Commission Expires 6/11/18

Jerry M. Tephabock

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 questions about our use of your personal information, please contact DEP's Chief Privacy Officer at privacy@wv.gov.

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Attachment for Denzil Robinson #1, Surface Owners

Map 33 par 19 Ronald Dale and Kathryn Jean Woodford

%Corelogic TaxService

1 Corelogic Way

West Lake TX 76262-5310

Map 33 Par 19.1 Mary McDonald

%Ronald and Kathy Woodford

2300 Vicrtory Ridge RD.

Harrisville WV 26362-7432

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WW-9
(5/13)

Page _____ of _____
API Number 47 - 085 - 03293
Operator's Well No. Robinson D1

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) Huhes River Quadrangle Harrisville

Elevation 828 County Ritchie District Clay

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 ✓

ANY WELL EFFLUENT WILL BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. JMM MAG 6/20/16

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 flluids are expected in return Captured & Disposed

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? _____

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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 R. Sheets

Company Official (Typed Name) Randall Sheets

Company Official Title Supervisor

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

Subscribed and sworn before me this 29th day of June, 20 16

Jerry M. Tephabock Notary Public

My commission expires 6/11/18

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Form WW-9

Operator's Well Robinson D1

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.

Plan Approved by: Michael Daff

Comments: Reclaim disturbed areas

Title: Oil & Gas Inspector Date: 6/24/16

Field Reviewed? (✓) Yes ( ) No

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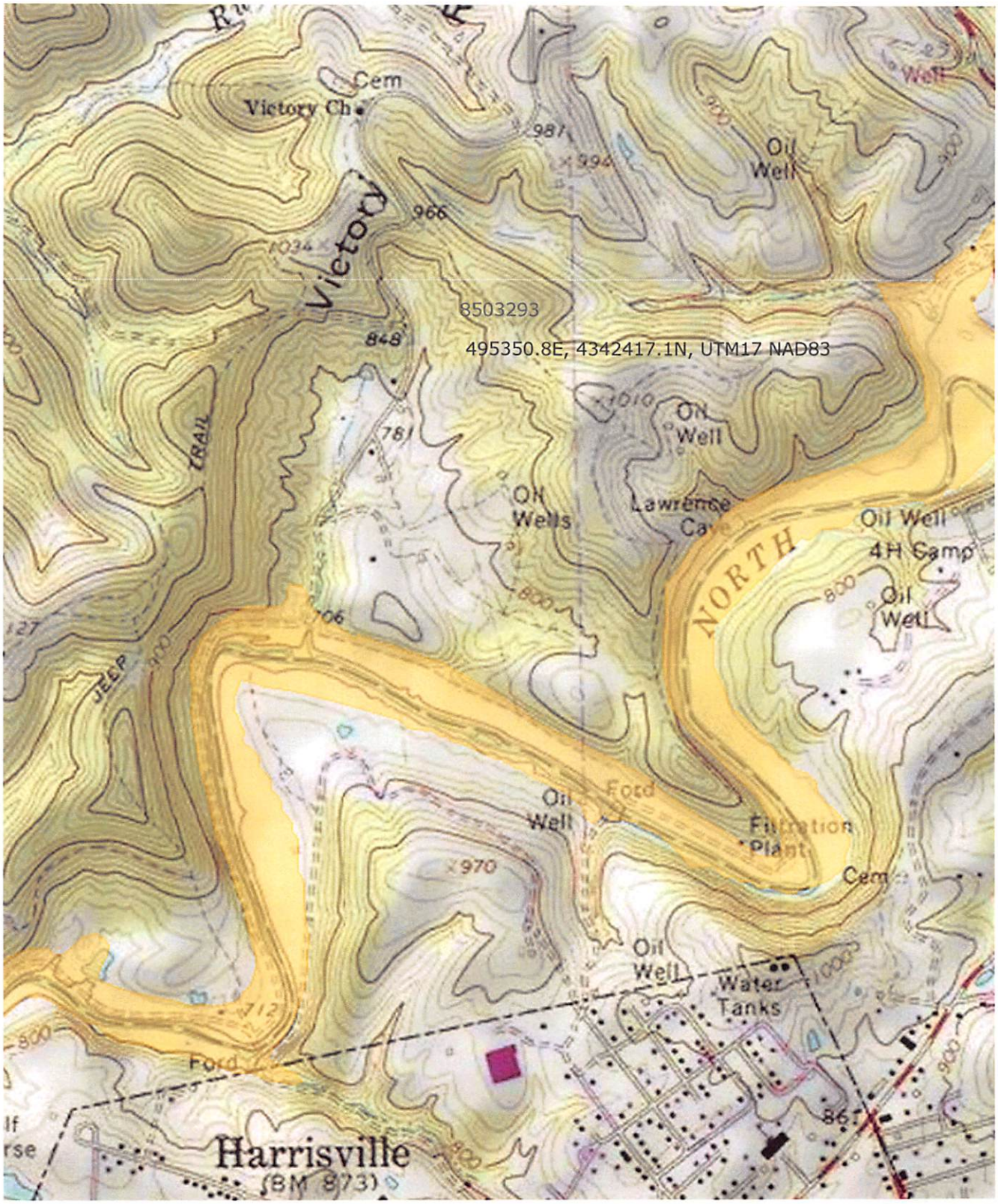
Cem
Victory Ch
Victory
Oil Well
8503293
495350.8E, 4342417.1N, UTM17 NAD83
Oil Well
Oil Wells
Lawrence Cave
NORTH
Oil Well
4H Camp
Oil Well
TRAIL
JEEP
Oil Well
Ford
Filtration Plant
Cem
Oil Well
Water Tanks
Ford
Harrisville
(BM 873)

8503293P

WW-7
8-30-06

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

API: 47 085 03293 **WELL NO.:** Robinson D1

FARM NAME: Denzil Robinson

RESPONSIBLE PARTY NAME: EXCO Resources (PA),LLC

COUNTY: Ritchie **DISTRICT:** clay - 01

QUADRANGLE: Harrisville - 393

SURFACE OWNER: Sean Tallman, Linda McDonald, Nellie Robinson

ROYALTY OWNER: Ronald D. and Kathryn J.Woodford, Etal

UTM GPS NORTHING: 4342417.1

UTM GPS EASTING: 495350.8 **GPS ELEVATION:** 787

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 D Slevin — Supervisor — 6/29/16

Signature — Title — Date