



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

Friday, September 02, 2016
WELL WORK PERMIT
Vertical / Plugging - 2

EXCO RESOURCES (PA), LLC
260 EXECUTIVE DRIVE

CRANBERRY TOWNSHIP, PA 16066

Re: Permit approval for ROBINSON 2
47-085-03296-00-00

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 2
Farm Name: ROBINSON, D.
U.S. WELL NUMBER: 47-085-03296-00-00
Vertical / Plugging - 2
Date Issued: 9/2/2016

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

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.

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 7) Designated Agent Diana Stampler/C.T.Corp.
Address PO Box 8. Address 5400 D Big Tyler Road
Ravenswood, WV 26164 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 1922
- CEMENT 1922 TO 1722 OVER 4 1/2 CSG AND perfs
- Freepoint, cut and pull 4 1/2 csg
- Gel to 50' of cut of 4 1/2
- Cement 100' across cut
- Gel to 880
- Cement 880 to 780 across elevation
- Gel to 250'
- Cement 250 to surface

*SET 100' CIA CEMENT AUG
FROM 1659' TO 1559' (OK SHOW)

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set monument with proper API

Signature _____ Date _____

notification must be given to the district oil and gas inspector 24 hours before permitted work is to begin.

Work order approved by
inspector Michael Goff

Date 6/24/16
09/02/2016



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

853294

- Rotary
- Spudder
- Cable Tools
- Storage

Quadrangle Harrisville 115 3-22

Permit No. RIT 3296

WELL RECORD

Oil or Gas Well Gas
(KIND)

Company <u>Robinson Gas Company</u>	Casing and Tubing <u>3 3/8"</u>	Used In Drilling	Left In Well	Packers
Address <u>5945 Wilson Drive - Huntington, W. Va.</u>	Size			
Farm <u>Denzil Robinson</u> Acres				
Location (waters) <u>Hughes River</u>	16			Kind of Packer
Well No. <u>-2-</u> Elev. <u>828'</u>	13 <u>3/8"</u>	<u>17.4'</u>	<u>17.4'</u>	
District <u>Clay</u> County <u>Ritchie</u>	10	<u>333</u>	<u>-0-</u>	Size of
The surface of tract is owned in fee by <u>Denzil Robinson</u>	8 1/4	<u>104.0'</u>	<u>-0-</u>	Depth set
Address <u>Harrisville, W. Va.</u>	6 3/4		<u>333'</u>	
Mineral rights are owned by <u>Denzil Robinson</u>	5 3/16			
Address <u>Harrisville, W. Va.</u>	4 1/2		<u>1922'</u>	
Drilling commenced <u>1-30-69</u>	3			Perf. top
Drilling completed <u>2-25-69</u>	2			Perf. bottom
Date Shot From To	Liners Used			Perf. top
With				Perf. bottom

Open Flow /10ths Water in _____ Inch
 /10ths Merc. in _____ Inch
 Volume 10000 Est. Cu. Ft.
 Rock Pressure _____ lbs. _____ hrs.
 Oil _____ bbls., 1st 24 hrs.
 WELL ACIDIZED (DETAILS) _____ FEET _____ INCHES
 _____ FEET _____ INCHES
 _____ FEET _____ INCHES
 WELL FRACTURED (DETAILS) 250 Gals. Acid-28000# 20 1/4 Sand-670 Bbls. Water

RESULT AFTER TREATMENT (Initial open Flow or bbls. 1,700,000 Cu. Ft.)
 ROCK PRESSURE AFTER TREATMENT 660 HOURS 24 hrs.
 Fresh Water 5 bbls. Feet 115' Salt Water _____ Feet
 Producing Sand Injun Depth 1790-1804

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil			-0-	5			
Red Rock			5	50			
Shale-Grey			50	75			
Sand			75	115	Water		
Red Rock			115	120			
Sand			120	160			
Slate			160	185			
Red Rock			185	205			
Slate			205	280			
Red Rock			280	315			
Slate and Shells			315	560			
Sand			560	575			
Slate			575	600			
Red Rock			600	730			
Lime			730	755			
Black Slate			755	775			
Slate and Shells			775	950			
Black Slate			950	975			
Slate Shells			975	1050			
Sand			1050	1115			
Slate and Shells			1115	1215			
Black Slate			1215	1250			
Sand			1250	1270			
Black Slate			1270	1280			
Slate Shells			1280	1315			
Sand			1315	1365			
Black Slate			1365	1435			
Sand			1435	1490			
Slate			1490	1500			



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Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Broken Sand			1500	1625	Oil Show	1600-1609	
Hard Sand			1625	1644			
Broken Sand			1644	1672			
Lime-Dark-Gritty			1672	1687			
Lime Big			1687	1772			
Sand			1772	1836	Oil & Gas Show	1775-1788	
Slate			1836	1841	Oil Show	1785-1802	
Sand			1841	1855	Oil Show	1860-1865	
Slate			1885	1922			

T.D.1922

85 3296

Date 3-11, 1969

APPROVED Robinson Gas Company, Owner

By William R. Anderson Agent
(Title)

Rit 3296

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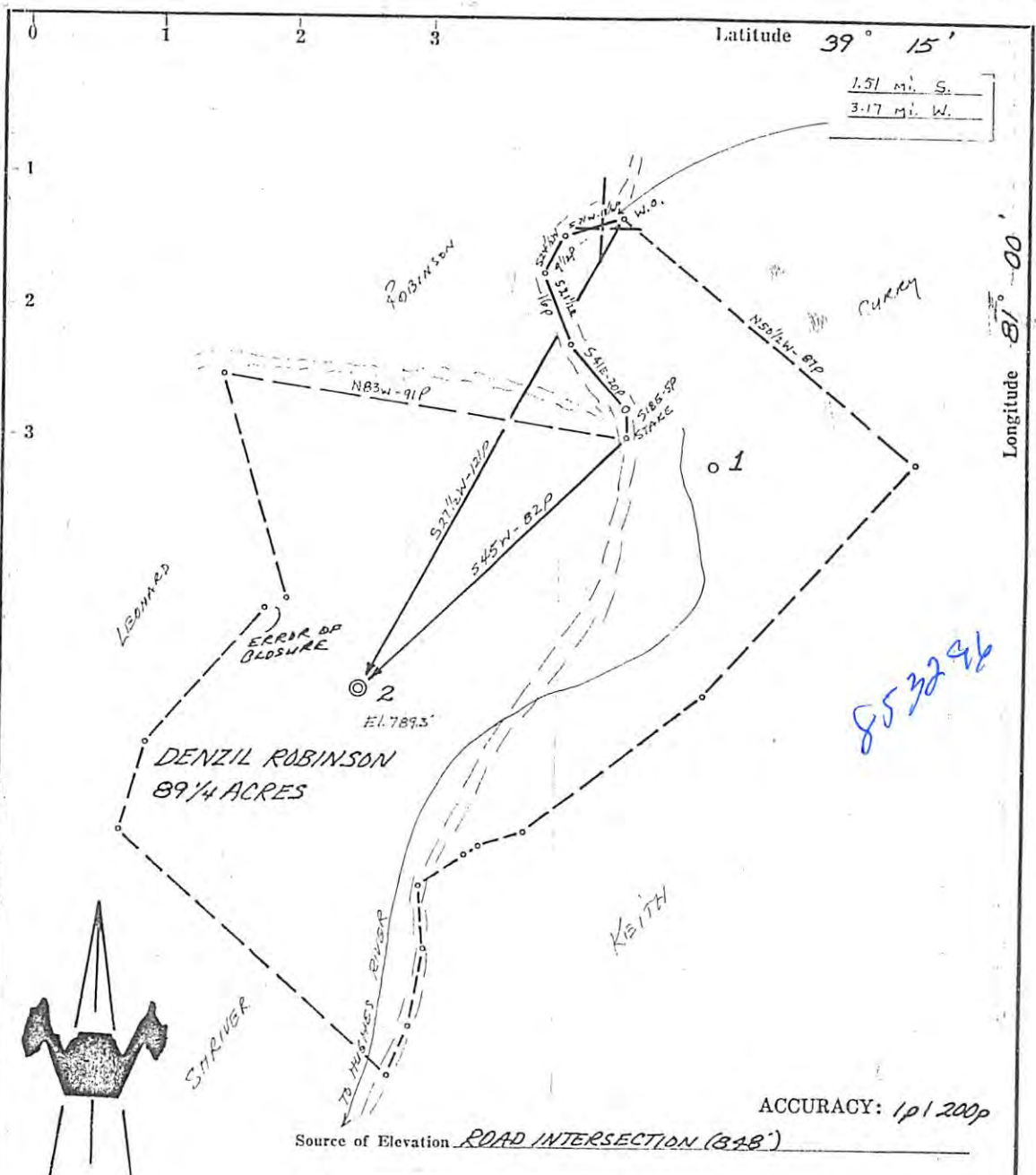
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09/02/2016

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Robinson



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.

Robinson # 2

Chet Waterman

- New Location
- Drill Deeper
- Abandonment
- Fracture
- Redrill

Company Robinson Gas Co. by WILLIAM HENSHAW, AGENT

Address HUNTINGTON, W. VA.

Farm DENZIL ROBINSON

Tract _____ Acres 89 1/4 Lease No. _____

Well (Farm) No. 2 Serial No. _____

Elevation (Spirit Level) 789.3'

Quadrangle HARRISVILLE H5 3-22

County RITCHIE District CLAY

Engineer CHET WATERMAN

Engineer's Registration No. 3788

File No. 68003-129 Drawing No. _____

Date 11/13/68 Scale 1" = 300'

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

WELL LOCATION MAP

FILE NO. RIT-3296

+ 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.

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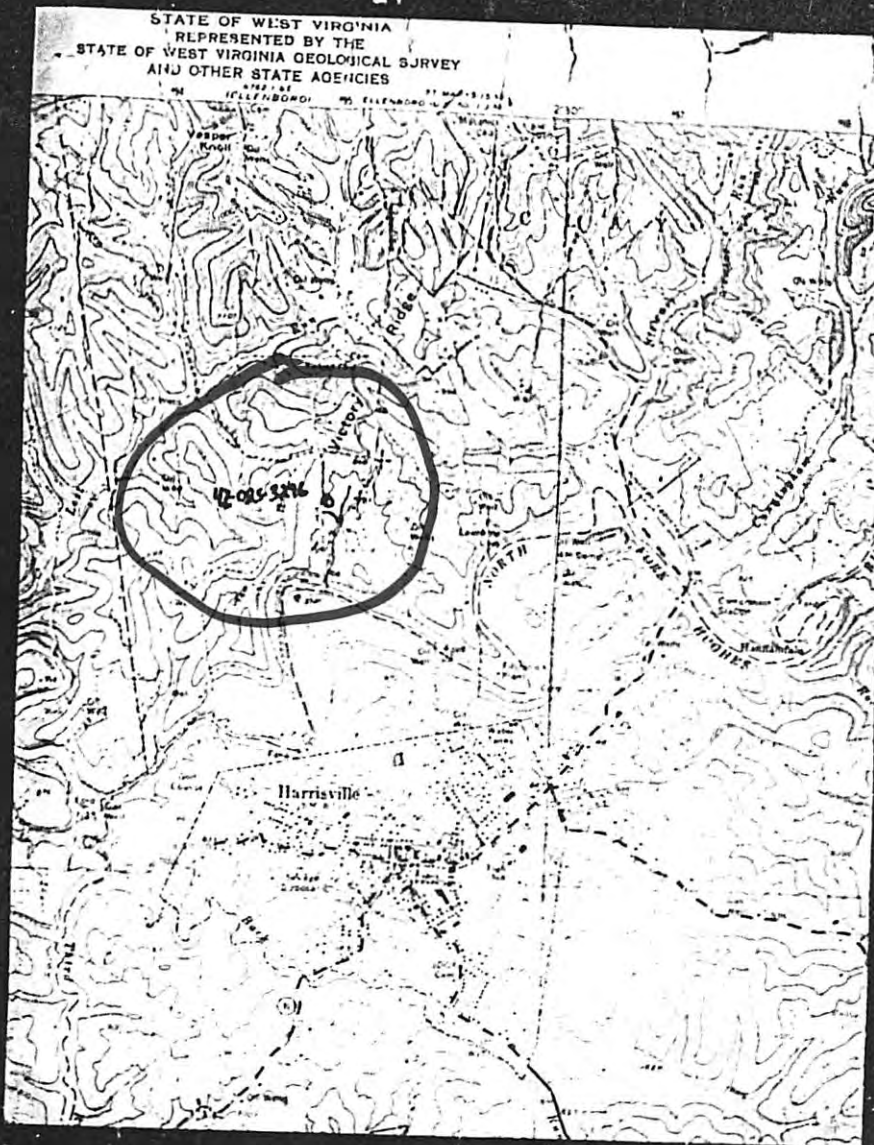
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WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Robinson D2
3) API Well No.: 47 - 085 3296

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

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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. _____
 (c) Coal Lessee with Declaration Name _____ Address _____

6) Inspector Mike Goff
 Address PO Box 134
 Pullman WV 26421 Address
 Telephone 304 549 9823

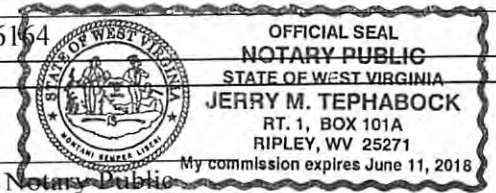
THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (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 reverse 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 Chief.

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 29th day of June, 2016

My Commission Expires 6/11/18
Oil and Gas Privacy Notice Jerry M. Tephabock

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 _____.

09/02/2016

47 85 3296

Attachment for Denzil Robinson #2, Surface Owners

Map 33/par 17, 17.7 Sean Michael Tallman /

%Carla Cottrill

458 Alleman Hill Rd.

Walker, WV 26362-7434

Map 33/Par 17.5 Nellie V. Robinson

%Carla Cottrill /

458 Alleman Hill Rd.

Walker, WV 26362-7434

Map33/Par 17.1, 17.4 Linda McDonald /

2452 Victory Ridge Rd.

Harrisville, WV 26362-7434

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09/02/2016

API Number 47 - 085 - 3296
Operator's Well No. Robinson D2

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) HUGHES RIVER Quadrangle HARRISVILLE

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 ✓

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:

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS AND DISPOSED OF OFF SITE. JMW 8/30/16

- _____ 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 EXPECTED ON RETURN, any will be captured)

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. _____

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Additives to be used in drilling medium? _____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. _____

AUG 30 2016

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

WV Department of Environmental Protection

-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 where it was properly disposed.

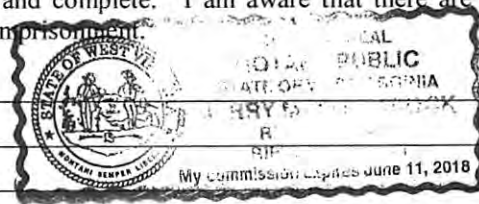
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 D Sheets

Company Official (Typed Name) RENDALL SHEETS

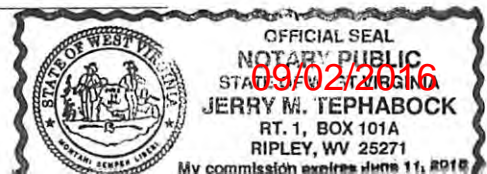
Company Official Title Supervisor



Subscribed and sworn before me this 30th day of August, 2016

Jerry M. Tephabock Notary Public

My commission expires 6/11/18



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Form WW-9

Operator's Well Robinson D2

Proposed Revegetation Treatment: Acres Disturbed 0.5 Prevegetation pH 6.0

Lime 2 Tons per Acre of correct to 6.5
Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Seed Type	Area I		Seed Type	Area II	
		lbs/acre			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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WW-7
8-30-06



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

API: 085 03296 WELL NO.: Robinson D2

FARM NAME: Denzil Robinson

RESPONSIBLE PARTY NAME: EXCO Resources (PA), LLC

COUNTY: Ritchie DISTRICT: clay

QUADRANGLE: Harrisville

SURFACE OWNER: Sean Tallman, Linda McDonald, Nellie Robinson

ROYALTY OWNER: Carla Cottrill, ETAL.

UTM GPS NORTHING: 4342130.4

UTM GPS EASTING: 495006.7 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 : 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. Shultz
Signature

Supervisor
Title

6/29/16
Date