

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 12, 2014

WELL WORK PERMIT

Rework-Brine Disposal

This permit, API Well Number: 47-3902327, 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

Chief

James Martin

Operator's Well No: W. C. BOOKER 1

Farm Name: PRITT, CALVIN E. & PATRICIA

API Well Number: 47-3902327

Permit Type: Rework-Brine Disposal

Date Issued: 06/12/2014

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. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

CONDITIONS

- 1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
- 2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
- 3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
- 4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 5. 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.
- 6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
- 7. Well work activities shall not constitute a hazard to the safety of persons.

WW - 2B (Rev. 8/10)

Depths Set 1156'

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

5) Proposed Targ	Oil	er: <u>47-03</u> or Ga	39-02327	Operator ID	County 3) Elevation:	District	Quadrangle
(b) Well Type: (a) (b) (b) Proposed Targ (c) Proposed Tota	Oil If Gas:	_ or Ga			3) Elevation:	716'	
(b) i) Proposed Targ i) Proposed Tota	If Gas:		as X			710	
i) Proposed Targ		Produ					
) Proposed Tota	et Form		ction/ Un		rage X	_	
) Proposed Tota	et Form						
) Approximate s	I Depth esh wa	: 1815 ter strata	Feet a depths: 75 feet	Formation at I	Proposed Tar Proposed Tota		
) Approximate c	oal sea	m depths	s: N/A				
0) Approximate	void de	oths.(co	al, Karst, other):	N/A			
2 3 2 4 5 5			3.00		I/A		_
1) Does land co	main co	ai Seam	s tributary to ac	uve mine?	", "		_
2) Describe propo			성기 없는 아이들이 있다. 그런 사람들이 없는데 없었다.				A STATE OF THE PARTY OF THE PAR
ump 1500 gallon acid jo	b to fractu	re acidize ti	ne injection formation	to clean up perforat	ions. Will use appr	oximately 7.5% F	ICL and fresh wa
					1		1 / / / / /
						17 1	M
3)		CA	SING AND TU	BING PROGR	AM A	Wy 6.4	-14
3) TYPE SP	ECIFIC	<u>CA</u> ATIONS	ASING AND TU	BING PROGR	AM		NT
TYPE SP	ECIFIC	1.74					
TYPE SP		ATIONS		FOOTAGE	INTERVALS	CEME	
TYPE SP		ATIONS Grade		FOOTAGE	INTERVALS	CEME	. Ft.)
TYPE SP S Conductor Fresh Water 8	<u>Size</u>	ATIONS Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu	. Ft.)
TYPE SP	<u>Size</u>	ATIONS Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu	. Ft.)
TYPE SP Second	<u>Size</u>	ATIONS Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu	ı. Ft.)
TYPE SP Conductor Fresh Water 8 Coal Intermediate Production 4	<u>Size</u> 3 - 5/8	Grade J-55	Weight per ft 24#	For Drilling 246'	Left in Well 246'	Fill -up (Cu	ı. Ft.)

UIC Permit ID: 2D0392327 UIC Permit #: 1

WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION SECTION OF OIL AND GAS UNDERGROUND INJECTION CONTROL PROGRAM

UIC ROUTINE INSPECTION FORM

Operator:

EXCO RESOURCES (WV), INC.

Farm Name:

PRITT, CALVIN E.

Well Number:

W. C. BOOKER 1

WELL DATA

County:

Kanawha

Latitude:

38° 30 min 0 sec 14000 feet

District:

Elk

Longitude:

-81° 27 min 30 sec 8100 feet

Quad Number:

Quad Name: BLUE CREEK

Well Status:

258

Well Status:

Well Use Type:

Active Well Waste Disposal

Date of Last

Fluid Type:

Salt Water/Brine

Inspection:

Jun 29, 2011

Comments:

Injecting at 270psi / No Flow or Pressure on annulus

Elevation:

715 feet

Fresh water Casing: 8 5/8 in. @ 246 ft./Cement to Surface

Injection Casing: 2 3/8 in. @ 1140 ft./ 0 (sks)

Injection Formations:

#1 - 3rd Salt Sand - Top @ 1210 ft./Bottom @ 1340 ft.

MIT Test Type: Annulus pressure passed

MIT Test Date:

Jun 17, 2008

WELL OPERATION

Surface Injection Pressure: 350

Psi

Gauged:

Injection Rate: 100

Observed:

Annulus Monitoring:

Size:

Size:

Flow or Pressure:

-Passed

Signed:

District Oil and Gas Inspector

Date:

WW-2A (Rev. 6-07)

1). Date:	April 2	2014			
2.) Operator	's Well	Number	W.C. Boo	ker#1	
		State	County	Permit	
3.) API Well	No.:	47-	039	- 02327	

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE AND APPLICATION FOR A WELL WORK PERMIT

	ner(s) to be served	:	5) (a) Coal Op	perator
(a) Name	Calvin & Patricia Pritt.	-/-	Name	N/A
Address	649 Equine Drive	V	Address	(A
W 519 Let 4	Elkview, WV 25071			
(b) Name				Owner(s) with Declaration
Address			Name	N/A
			Address	
(c) Name			Name	VIII TO THE TOTAL THE TOTAL TO THE TOTAL TOT
Address	-		Address	·
Addiess			_ //40/000	
6) Inspector	Terry Urban		(c) Coal L	Lessee with Declaration
Address	P.O. Box 1207		Name	N/A
	Clendenin, WV 25045		Address	
Telephone	304-549-5915			
_ 22,000 14.00				TAKE NOTICE THAT:
Included is the	he lease or leases or	other continuing	contract or contr	tracts by which I hold the right to extract oil and gas
issued under this I certify this application f obtaining the info	Publication (No ead and understand Os s application. under penalty of law form and all attachment promation. I believe that	tice of Publication Chapter 22-6 and that I have persents, and that ba at the information inficant penalties	onally examined used on my inqui	nd I agree to the terms and conditions of any permedian am familiar with the information submitted curry of those individuals immediately responsible for
	OF PENNSYLVANIA	Well Operator	EXCO Resources (P/	PA), LLC
Notar	(al Seal	By:	Brian E. Rushe, P.E.	- Bum E Lusiu
Rebecca Shrur	n, Notary Public Allegheny County	Its:	Designated Agent	
TA. Commission Ev	mires March 9, 2010	Address	260 Executive Drive, S	
MEMBER, PENNSYLVANIA	ASSOCIATION OF NOTARIES	~ 1 3 3 3 3	Cranberry Township, I	, PA 16066
	to dear and this	Telephone 3 RD day of	724-720-2590	2414
Subscribed and	sworn before me this	day of	April	. 2014
the horas	12			Notary Public ECEIVED
My Commission	Expires March	9 2016		Office of Oil and Gas
	The state of the s	1,aura		
Oil and Gas Privacy	Honce			APR 0 4 2014

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 depprivacyofficer@wv.gov

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the revers 	A. Signature
so that we can return the card to you. Attach this card to the back of the mailplet or on the front if space permits.	B. Received by (Printed Name)
Article Addressed to:	D. Is delivery address different from item 1?
Calvin & Patricia Prit	
049 Equine Live	In Contraction
Elkview, WV 25071	3. Service Type Certified Mall Registered Return Receipt for Merchandi Insured Mail C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
2. Article Number 701	2210 0001 9317 3621
(Transfer from service label) PS Form 3811, February 2004 Doi	estio Return Receipt W. C. Booker #1 102595-02-M-1
14/11 14/11	Postal Service RTIFIED MAIL RECEIPT estic Mail Only; No Insurance Coverage Provided) livery information visit our website at www.usps.com OFFICIAL USE Postage NC. Bookel #1
E E	Certified Fee
F.F.	m Receipt Fee
Re (Endors	m Heceipt Fee Here
Re (Endors	Here Here d Delivery Fee nent Required)
Received the second of the sec	nent Required)
Re (Endors)	d Delivery Fee nent Required) stage & Fees \$ Calvin & Patricia Prit

Operato	r's V	Vell	Number	W.C. Booker#
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INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE Chapter 22, Article 6, Section 8(d) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that -

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.

Grantee, Lessee, etc.

Royalty

Book/Page

See Attached Land Owner Agreements

Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application he reby a cknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

RECEIVED The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be ac quired from the appr opriate aut hority before the affected activity is WV Department of initiated.

Well Operator:

By:Its:

Brian E. Rushe, P.E.

Environmental Protection

260 Executive Drive, Suite 100 Cranberry Township, PA 16066

06/13/2014

EXCO Resources (PA), LLC

WW-9 Rev, 5/10

Page	of
API Number 47 - 039	- 02327
Operator's Well No. W.C	Booker#1

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

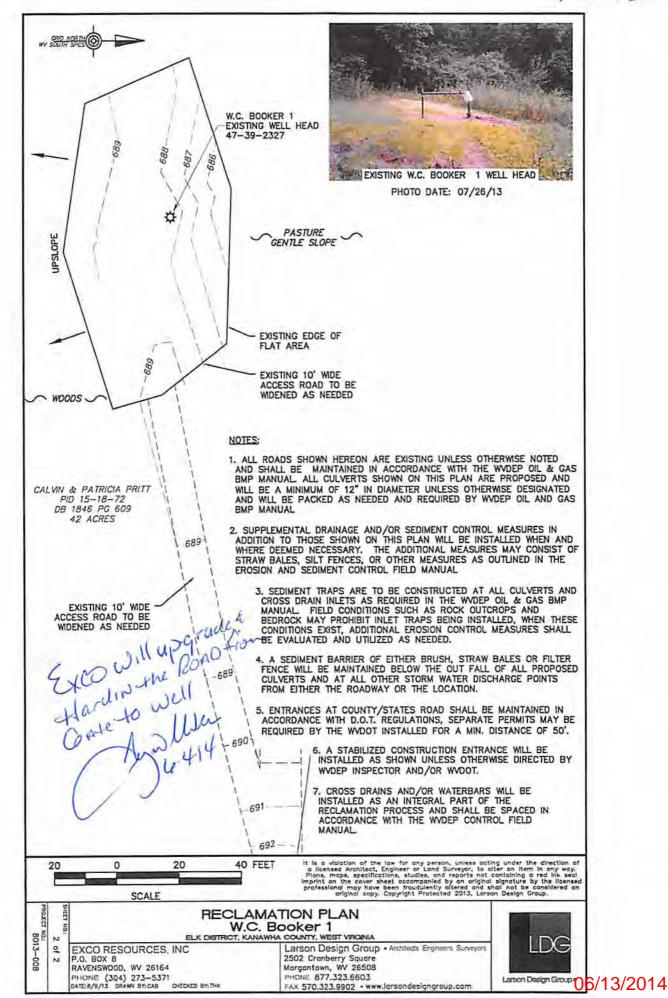
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

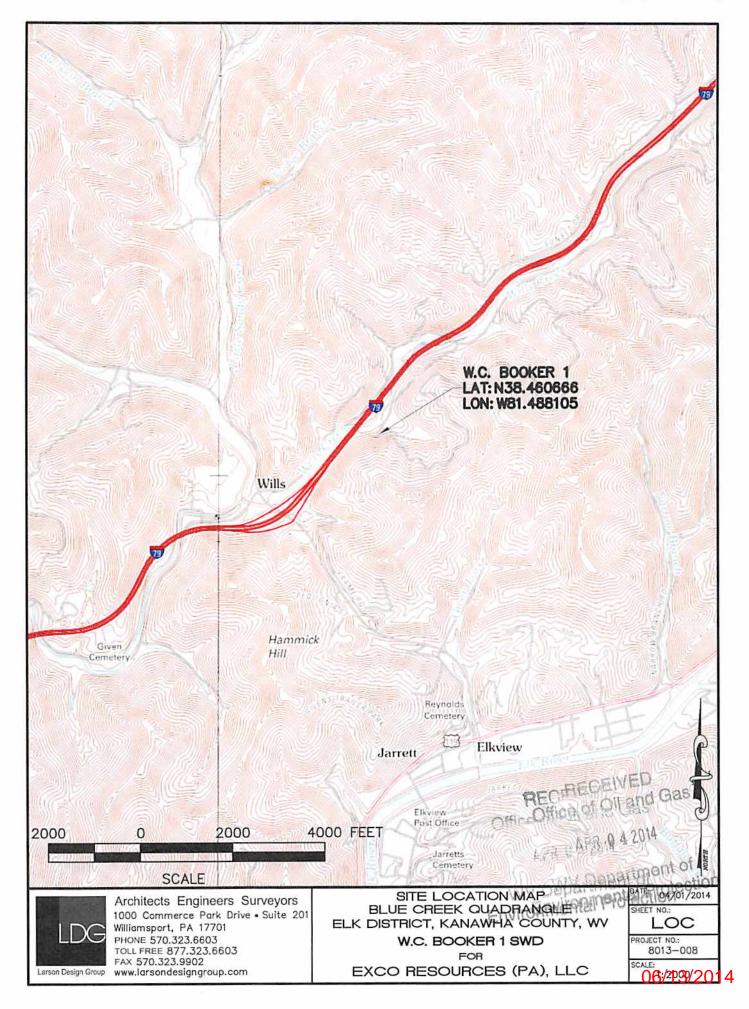
Operator Name EXCO Resources	(PA), LLC	OP Code 307860
Watershed Wills Creek	Q	uadrangle Blue Creek
Elevation 716	County Kanawha	District Elk
Description of anticipated Pit W	/aste: No Pit will be used.	6-4-13
Do you anticipate using more th	an 5,000 bbls of water to complete th	ne proposed well work? Yes No X
Will a synthetic liner be used in	the pit? N/A . If so,	what mil.? N/A
Unde	Application erground Injection (UIC Permit Num e (at API Number lite Disposal (Supply form WW-9 fo)
-If oil based, what type Additives to be used? N/A	this well? Air, freshwater, oil based, ? Synthetic, petroleum, etc	
Will closed loop system be used		N/A
		Cement, lime, sawdust
on August 1, 2005, by the Offic provisions of the permit are en law or regulation can lead to en I certify under penalty application form and all attac obtaining the information, I be	e of Oil and Gas of the West Virginia forceable by law. Violations of any forcement action. of law that I have personally exant himents thereto and that, based on elieve that the information is true, a formation, including the possibility of the possibility o	
Company Official Title Construc	tion & Regulatory Manager	
Subscribed and sworn before m	e this 3PD day of Apr	COMMONWEALTH OF PENNSYLVANIA Notarial Seal
My commission expires Ma	rch 9 2016	Notary Public Marshall Twp., Allegheny County My Commission Expires March 9, 2016 MEMBER, PRINSYLVANIA ASSOCIATION OF NOTARII

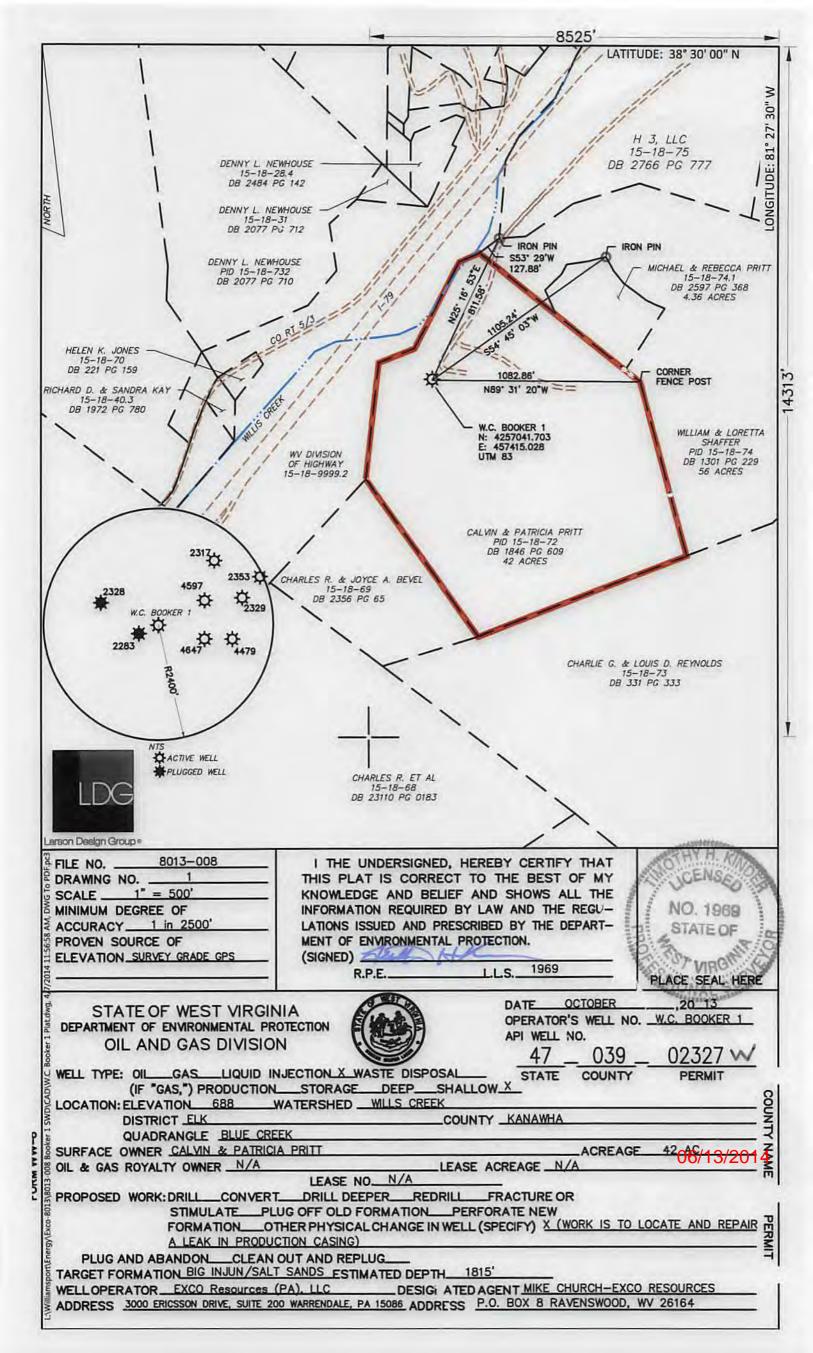
Operator's Well No. W.C. Booker #1

	LEGEND
Property Boundary	Diversion William 111111111111111111111111111111111111
Road = = = = = = = = = = = =	Spring -
Existing Fence — X — X — X —	Wet Spot 💍
Planned Fence / / /	Drain Pipe with size in inches (3)
Stream	Waterway \longleftrightarrow \longleftrightarrow \longleftrightarrow
Open Ditch	Cross Drain
Rock ESESSE	Artificial Filter Strip
North N	Pit: cut walls
Buildings	Pit: compacted fill walls
Water wells W	Area for Land Application of Pit Waste
Drill site	
Proposed Revegetation Treatment: Acres Disturbed 0.0	Prevegetation pH N/A
Lime N/A Tons/acre or to correct to pH	N/A
N/A	
a salar and a	/acre (500 lbs minimum)
Mulch N/A Tons/a	cre
	1 Minter-
Seed	d Mixtures
Area I	Area II
Seed Type lbs/acre	Seed Type lbs/acre
N/A	N/A
Attach: Drawing(s) of road, location,pit and proposed area for land app	lication.
Photocopied section of involved 7.5' topographic sheet.	
111	
Plan Approved by: Muy Ma	
Comments:	
Title: Inspect Oul E Ges	Date: 4-15

2502 Cranberry Square Morgantown, WV 26508 PHONE 877.323.6603 RAVENSWOOD, WV 26164 PHONE (304) 273-5371 DATE:8/9/13 DRAWN BY:CAB Larson Deelgn Group® CHECKED BY: THK FAX 570.323.9902 • www.larsondesigngroup.com









EXCO Resources (PA), LLC

260 Executive Drive • Suite 100 • Cranberry Township, PA 16066 Phone (724), 720-2500 • Fax: (724), 720-2505

Certified Mail Number: 7012 2210 0001 9317 3621

April 2, 2014

Calvin & Patricia Pritt 649 Equine Drive Elkview, WV 25071

RE: West Virginia Department of Environmental Protection

Notice of Submittal for a Well Work Permit

W.C. Booker #1

Kanawha County, WV

Dear Mr. & Mrs. Pritt,

This letter is to notify you that EXCO Resources (PA), LLC (EXCO) is submitting a Well Work Permit application to the West Virginia Department of Environmental Protection for the above-mentioned injection well located in Kanawha County, WV. EXCO is proposing to perform an acid treatment job on the W.C. Booker #1 injection well to increase the efficiency.

EXCO is required by the WV DEP to notify you that a Well Work permit on the above mentioned property has been submitted.

Please review the enclosed documents and sign, date and return form WW-2A Surface Owner Waiver in the enclosed postage paid envelope.

If you have any questions, please contact Brian Rushe at (724) 720-2590 or brushe@excoresources.com.

Sincerely,

Rebecca Shrum Regulatory Analyst

Attachments