EXCO RESOURCES (PA), LLC



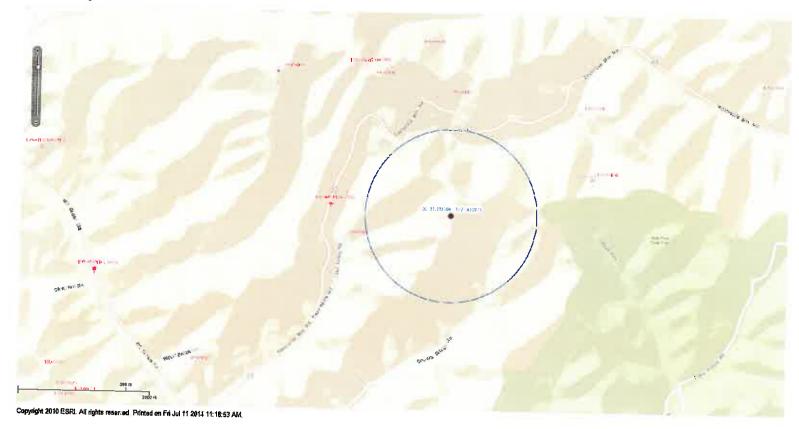
INJECTION WELL PERMIT RENEWAL SUBMITTAL WELCHLANDS 29AW (UIC2D1090980)

Slab Fork District
Wyoming County, WV



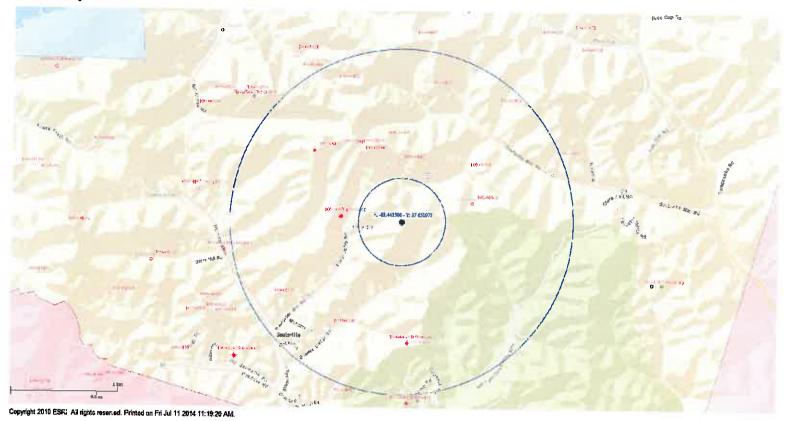
Map from a Flex Viewer application

Powered by ArcGIS



Map from a Flex Viewer application

Powered by ArcGIS







WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

OFFICE OF OIL AND GAS

601 57th Street, SE Charleston, WV 25304 (304) 926-0450 www.dep.wv.gov/oil-and-gas

UNDERGROUND INJECTION CONTROL (UIC) PERMIT APPLICATION

UIC PERMIT ID # 2D1090980 API # 47-109-00980

Welchlands 29AW

Section I. Facility Information

Facility Name: Welchlands 29/	110/
Address:	
County: Wyoming	WV Zip:
Location description:	
On the waters of March Fork in 37.651975 degrees and Longit	Slab Fork District of Wyoming County. Approximate Latitude ude -81.443506 degrees.
Location of well(s) or approximate center Northing: 416294.6	of field/project in UTM NAD 83 (meters): Easting: 460878.0
Environmental Contact Information:	
lame: Brian E, Rushe, P.E. ^{Phone:} 724-720-2590	Title: Construction & Regulatory Manager Email: brushe@excoresources.com
ection 2. Operator Informati	■ The space of esources.com

Section 2. Operator Information

Operator Name: EXCO Resources (PA), Operator ID: 285505	LLC	
Address: 260 Executive Drive, Suite 100 City: Cranberry Township State: PA County: Butler	Zip: 16066	
Contact Name: Brian E. Rushe, P.E. Contact Phone: 724-720-2590	Contact Title: Construction & Regulatory Manager Contact Email: brushe@excoresources.com	





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601 57th Street, SE Charleston, WV 25304 (304) 926-0450

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UNDERGROUND INJECTION CONTROL (UIC) PERMIT APPLICATION

UIC	PERMIT ID #	2D1	109	098
0.0	CELVUILI ID #			000

47-109-00980

Welchlands 29AW

Section I. Facility Information

Facility Name: Welchlands 29AW

Address:

City:

State: WV 📅 Zip:

County: Wyoming

Location description:

On the waters of March Fork in Slab Fork District of Wyoming County. Approximate Latitude 37.651975 degrees and Longitude -81.443506 degrees.

Location of well(s) or approximate center of field/project in UTM NAD 83 (meters):

Northing: 416294.6

Easting: 460878.0

Environmental Contact Information:

Name: Brian E, Rushe, P.E.

Title:

Construction & Regulatory Manager E

Phone: 724-720-2590

brushe@excoresources.com

Section 2. Operator Information

Operator Name: EXCO Resources (PA), LLC

Operator ID:

285505

Address:

City: Cranberry Township

State: PA

Zip: 16066

County: Butier

Contact Name: Brian E. Rushe, P.E.

Contact Title: Construction & Regulatory Manager

Contact Phone: 724-720-2590

Contact Email: brushe@excoresources.com



Ownersh	p Status:	Applicant PRIVATE OTHER (e)	☐ PUBLIC		- □ STATE			
L		(2D, 2H, 2R)	☐ 1479 (3S)		(explain):			
Sect	on 4. /	Applicant ,	Activity	Request ar	d Trees			
	וטו עיקט	HEW UIC Perm	nif. 🗀 on					
B. K	eissue exi	sting UIC Pern	mit 🖃 oo	☐ 2H ☐ 2F	□ 3S □ 3S			
C. IVI	Dairy exist Ubmit only	ing UIC Permi	t 🗌 2D	-				
2D COM	MERCIAL	r documentation FACILITY:	n pertaining t	☐ 2H ☐ 2R to the modificati	on request)			
Section	on 5. B	riefly desc	cribe the	□NO			ities to be co	
Renewal	of an II	nde	wipe file !	lature of bi	isiness an	d the activ	ities to be co	nducted:
uids.	or arr o	nderground	d Injection	Control (UI	C) permit fo	or the subsu	ities to be co irface injection	radoted,
							made injectior	of produced
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CERTIFICATION

All permit applications must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, or by a principal executive or ranking elected official for a public agency, or a duly authorized representative in accordance with 47CSR13-13.11.b.

A. Name and title of person applying for permit:

Print Name: Brian E. Rushe, P.E.

Construction & Regulatory Manager Print Title:

B. Signature and Date.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments 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 and imprisonment.

Date:

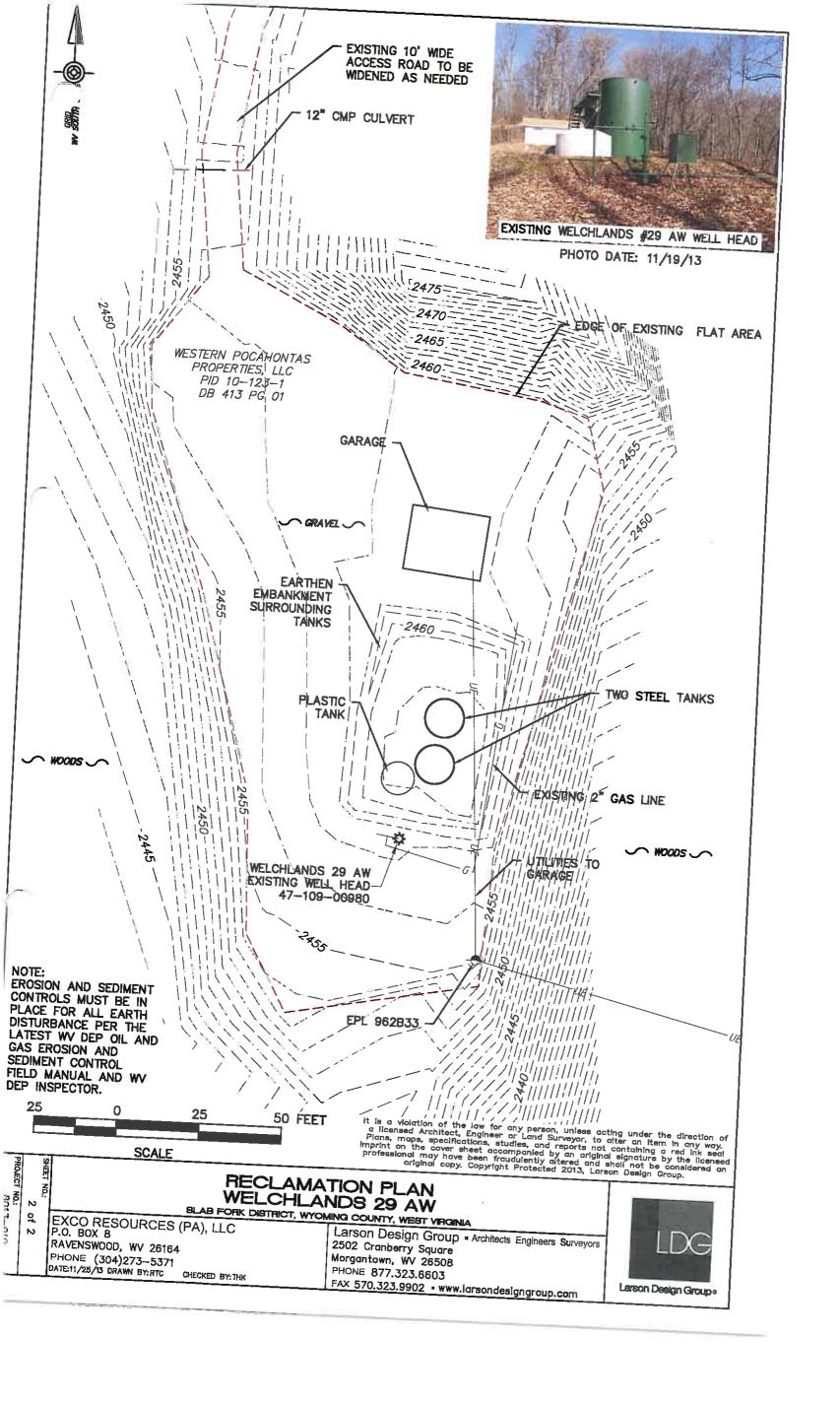
¹ A person is a duly authorized representative if:

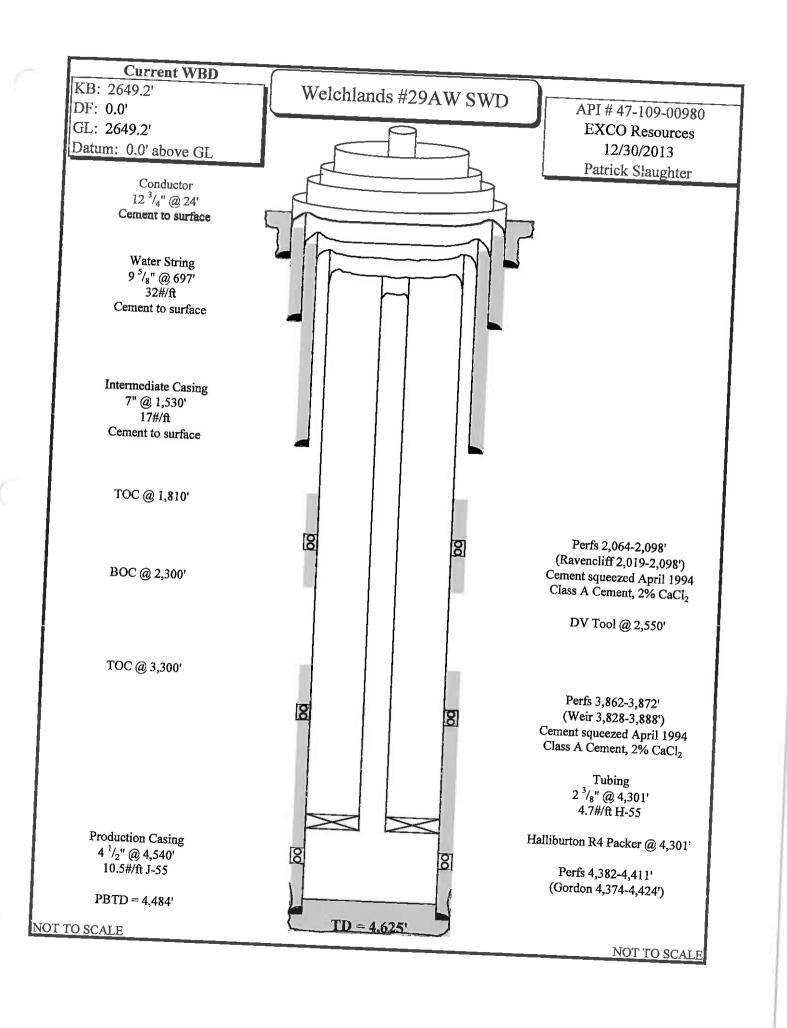
The authorization is made in writing by a person described in subdivision 47CSR13-13.11.a.

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of the plant manager, operator of a well or a well field,

The written authorization is submitted to the Director.







APPENDIX A Injection Well Form

1) GEOLOGIC TARGET FORM Depth 4374					
·		425 —————	_ Feet (botto	m)	
2) Estimated Depth of Completed	Well, (or actual depth of	f existing well):	4599	Feet	
3) Approximate water strata depth		Feet	Salt	2910	Feet
4) Approximate coal seam depths:		10, 1424			_ 1001
5) Is coal being mined in the area?	Yes	No 🗸			
6) Virgin reservoir pressure in targ	et formation 750	psig Sour	ce 47-081-1	106, 1024	
7) Estimated reservoir fracture pre-	sure 1800	_ re 5001			
8) MAXIMUM PROPOSED INJE	CTION OPERATIONS				_ psig (BHFP)
Injection rate (bbl/hour)			ВРН		
Injection volume (bbl/day)					
Injection pressure (psig)					
Bottom hole pressure (psig)		0	F00		
	ODA		506		
DETAILED IDENTIFICATION	OF MATERIALS TO E	BE INJECTED, IN	CLUDING A	DDITIVES:	
Produced brines, fracturi	ng fluids, pit fluids	, 02 scavenge	r, bacteria	cid & scale	inhibitor.
The second second					
Temperature of injected fluid: (°F	")				
)) FILTERS (IF ANY)					
5 Micron					
SPECIFICATIONS FOR CATHO	DDIC PROTECTION A	ND OTHER COP	POSION GO	. Warn and	
mijection liuid Will be treat	ed with phoopha		KOSION CO	NTROL	
equipment and injection e	quipment and inje	ate (scale innii ction lines	bitor) to pre	otect surfac	е
	•				



APPENDIX A (cont.)

12. Casing and Tubing Program

Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu.
12-3/4	New			-		Ft.)
1				24'	24'	2 sks neat
9-3/6	ivew		32#	697'	697'	244 sks
7	New		 			
	1464		17#	1530'	1530'	250 sks
4-1/2	New	I.55	40.5%			
			 	4540'	4540'	200 sks
2-3/0	INGM	H-55	4.7#	4380'	4380'	
	12-3/4 9-5/8 7	12-3/4 New 9-5/8 New 7 New 4-1/2 New	Used	Used Weight per it. (lb/ft)	Used Weight per ft. (lb/ft) FOOTAGE: For Drilling 12-3/4 New 24' 9-5/8 New 32# 697' 7 New 17# 1530' 4-1/2 New J-55 10.5# 4540'	Used Weight per it. (Ib/ft) FOOTAGE: For Drilling INTERVALS: Left in Well 12-3/4 New 32# 697' 697' 7 New 17# 1530' 1530' 4-1/2 New J-55 10.5# 4540' 4540' 2-3/8 New H-55 4.7# 4540' 4540'

TYPE	Wellbore Diameter	Casing Size	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu.	Cement to
Conductor	+	 				ft./sk)	Surface? (Y or N)
Fresh Water	 	 					
Coal		 					
Intermediate 1	+	 					
Intermediate 2	 						
Production	 	 					
Tubing	 						
Liners							
	<u> </u>						

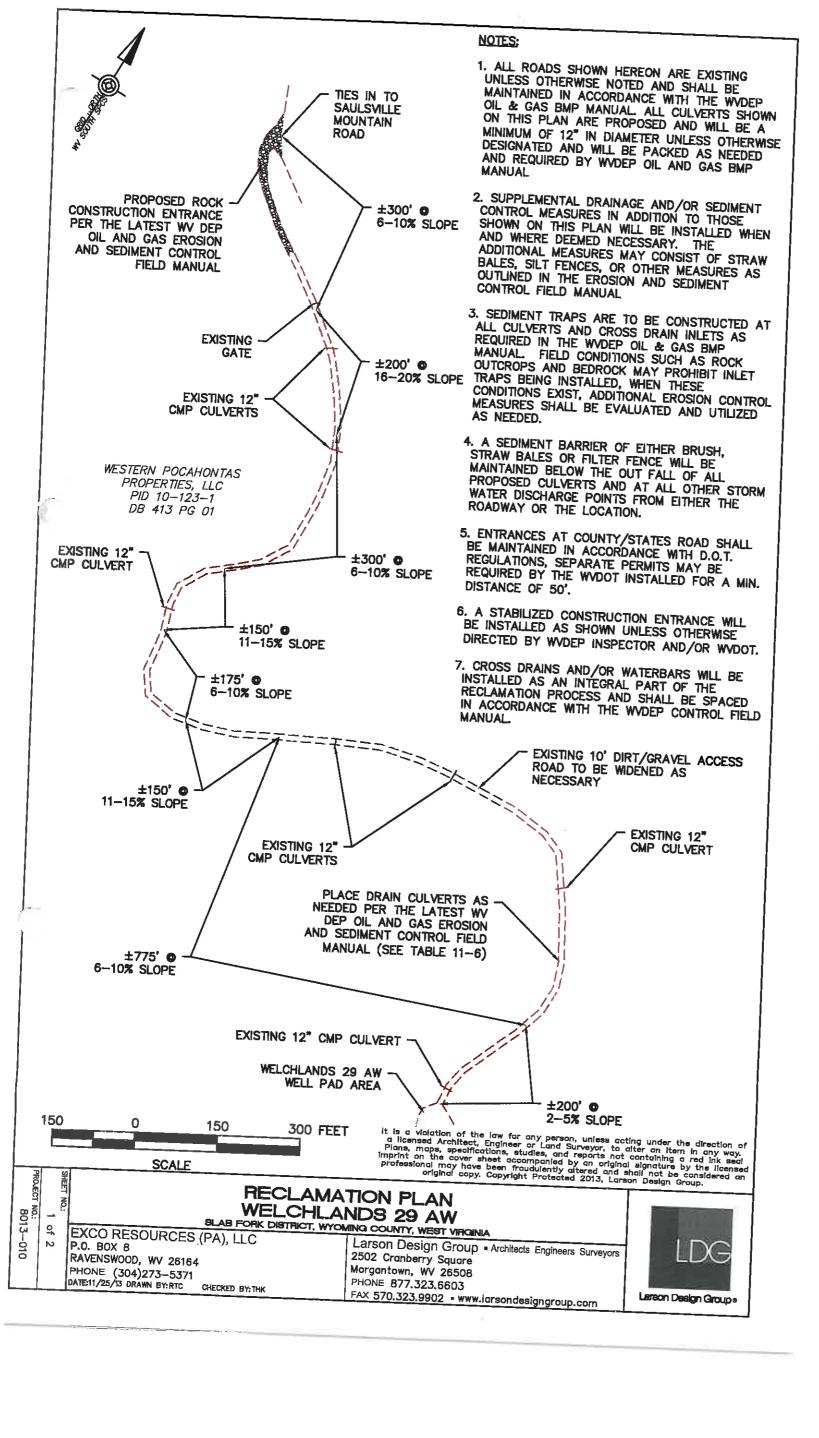
PACKERS	Packer #1	Packer #2	Packer #3	Packer #4
Kind:	Halliburton			1 ucaci #4
Sizes:	4-1/2 x 2-3/8			
Depths Set:	4350'			

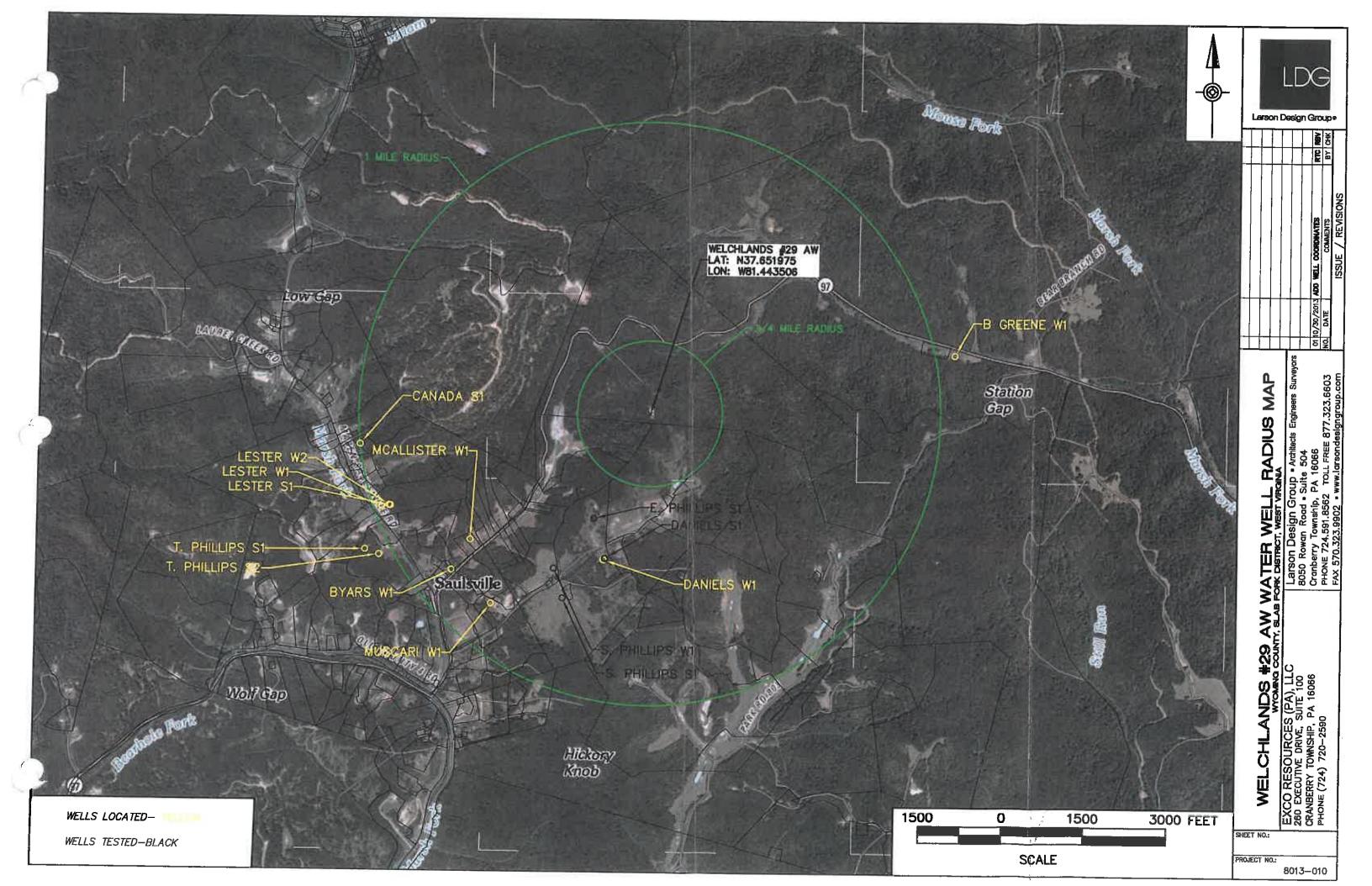
APPENDIX B - Welchlands 29 AW Storage Tank Inventory

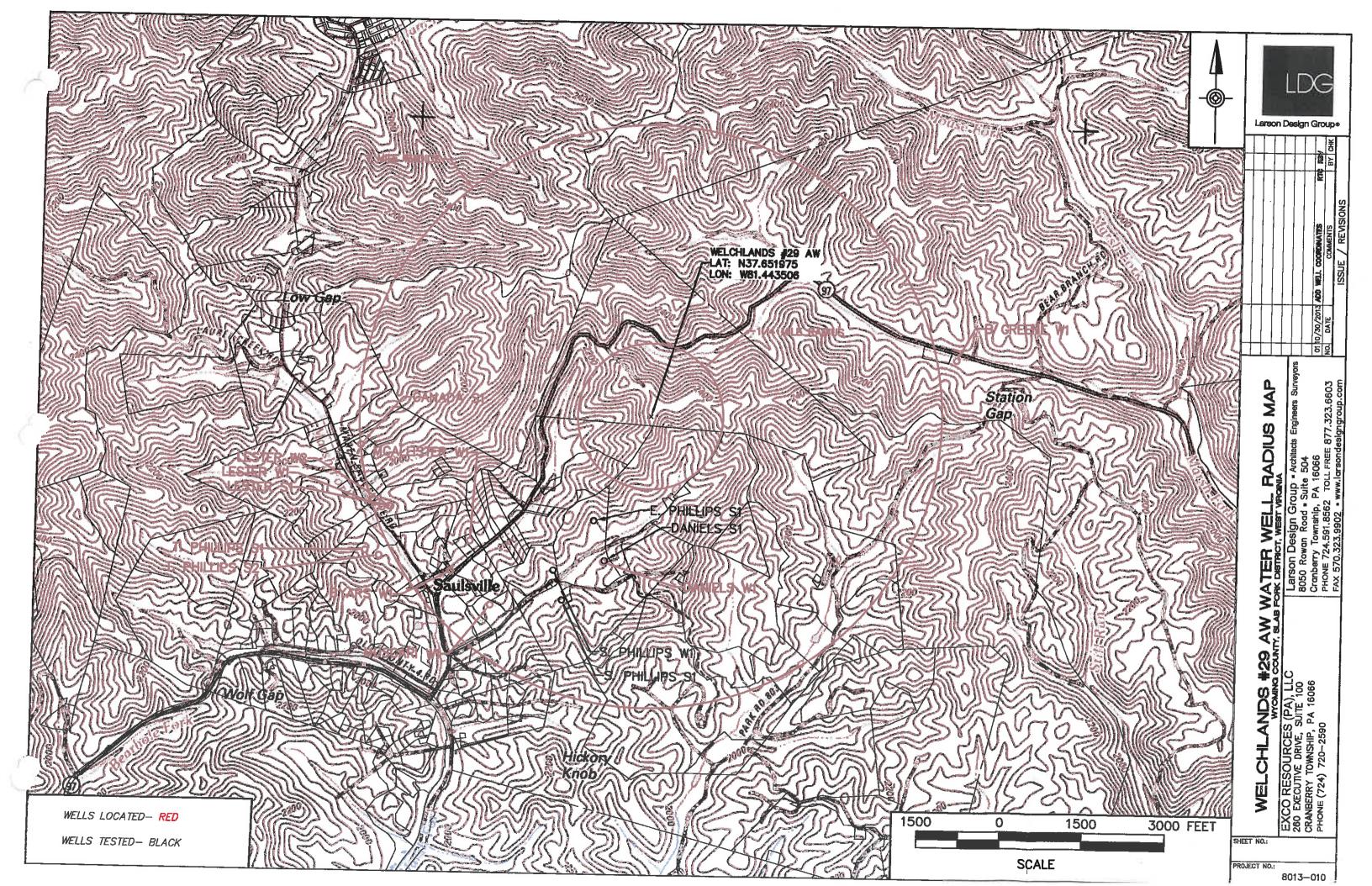
API#	Tank ID	Tank I (UTM NAI Northing	Ocation D 83 Meters) Easting	Installation Date	Tank Age (Months)	Construction Material (Steel,	Capacity (gallons)	Type of	Volume of Fluid Stored	Tank Type
47-10900980	none	4167292.10	460890.71	12/15/2006	102	plastic, etc.)		Fluid Stored	(gallons)	Single/Doub Wall
17-10900980	none	4167292.10	460890.71	12/15/2006	102	Steel	8820	prod. water	1690	single
17-10900980	none	4167292.10	460890.71	06/2009	60	,	8820	prod. water	1690	single
						Plastic	2100	prod. water	10	single
						 				

Promoting a healthy environment.









APPENDIX C - Wachlands 27 AW

Wells within the Area of Review

API#	Well Type	Well Status (Active, Abandoned, Shut-in, Plugged)	Northing (UTM NAD 83 Meters)	Easting (UTM NAD 83 Meters)	Penetrate Injection Zone (Y or N)	Penetrate Confining Zone (Y or N)	Total Vertical Depth	Surface Elevation
*	No	wells	in ch	se pos	Liber he			
				-				

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APPENDIX D - Welch w 27 AW

Public Service District Affidavit

Underground Injection Control Permit applicants must identify all publically recorded drinking water sources within a one (1) mile radius of the proposed injection well facility. If no drinking water sources are present within this radius a written affidavit shall be supplied by the local Public Service District (PSD) as ample verification.

"I certify under penalty of law that (sta	te name of business)	
has verified with the public service dis	trict (state name of PSD)	_
that there are no such publically record	ed sources.	_
	re of Authorized Representative)	
Sworn and subscribed to before me this	day of, 20	
, my commis	sion expires	
(Notary Signature)		
Au		
* NIA . All	water wells who	/ in



APPENDIX E Water Sources

Operator: EXCO Resources (PA), LLC	Year 2013	UIC Permit # 2D1090980 (Welchlands 29AW)
Operator:		

		Source #	Source #	Source #	Source #
Water Source Name					
Northing					
Easting					
Parameter	Units				
TPH - GRO	mg/L				
TPH - DRO	mg/L	the same	Altached	Coreads	
TPH - ORO	mg/L	TR SEE	THISCHED	2 N. Cab 2	
BTEX	mg/L				
Chloride	mg/L				
Sodium	mg/L	<u>well</u>	2 900 KG	4 116	
Total Dissolved Solids	mg/L		**************************************		
(TDS)					
Aluminum	mg/L		1638173		
Arsenic	mg/L				
Barium	mg/L				
Iron	mg/L				
Manganese	mg/L_				
pН	SU	<u>, </u>			
Calcium	mg/L				
Sulfate	mg/L			<u> </u>	
MBAS	mg/L				
Dissolved Methane	mg/L				
Dissolved Ethane	mg/L				
Dissolved Butane	mg/L				
Dissolved Propane	mg/L				
Bacteria	c/100m				
(Total Coliform)	L			<u> </u>	

Page __ of __

Promoting a healthy environment.



WELCHLANDS 29 AW WELL PAD ONE (1) MILE RADIUS - LOCATED SLAB FORK DISTRICT, WYOMING COUNTY, WV

MAP#	PARCEL ID	WATER PURVEYOR	ADDRESS1	ADDRESS2	WELL ID	WATER COURSE		
6	10- 123-0001-0002-0000	BRENDA GREENE	PO BOX 66	MULLINS WV 25882		WATER SOURCE	N COOR	DINATES E
	10- 122-0065-0000-0000			WIGIEINS 444 23882	B GREENE W1	WW ONLY	238810.936	1845620.88
25	10 122-0003-0000-0000	PHILLIPS SHIRLEY MAE	HC 89 BOX 408	MCGRAWS WV 25875 9705	S PHILLIPS W1, S PHILLIPS S1	PW, SP & WW	234899.504	1838392.01
26	10- 122-0037-0001-0000	DANIELS BARBARA JEAN	P O BOX 182	245022445045			234363.066	1838557.74
40			646 Phillips Rd	MCGRAWS WV 25875 0182	DANIELS W1, DANIELS S1	PW & SP	235060.091	1839287.18
29	10- 122-0037-0000-0000	PHILLIPS ETHEL					235084.727	1839315.11
	10 133 0000 000+ 0000		P O BOX 172	MCGRAWS WV 25875 0172	E PHILLIPS S1	PW & SP	235811.473	1839105.7
39	10-122-0060-0001-0000	MUSCARI SAMUEL A JR	P O BOX 569	PINEVILLE WV 24874 0569	MUSCARI W1		233021.473	1839103.7
67	10- 122-0063-0000-0000	BYARS DIXIE	UC BO DOV 4404			PW & WW	234255.475	1837263.35
<u> </u>			HC 89 BOX 118A	MABEN WV 25870 9703	BYARS W1	WW ONLY	224050 504	
71	10- 122-0035-0002-0000	MCALLISTER MELVIN DOUGLAS & RI	P O BOX 307	PINEVILLE WV 24874 0307	MCALLISTER W1		234858.731	1836538.29
1	10-122-0049-0000-0000	PHILLIPS THOMAS JR & CONNIE J	222242		WICALLISTER WI	PW & WW	235247.432	1836713.23
91		THE THOUSAND STATE S	P O BOX 131	MCGRAWS WV 25875 0131	T PHILLIPS S1, T PHILLIPS S2	PW, WW, &SP	235210.317	
	10- 122-0033-0000-0000	LECTED CUIDION					235120.185	1834973.64
04	10- 122-0033-0000-0000	LESTER CHRISTOPHER J & ROBIN R	P O BOX 115	PINEVILLE WV 24874 0115	LESTER W1, LESTER W2, LESTER S1	PW, 2 WW & SP		1835227.72
94						1 11, 2 11 11 G SP	235991.051	1835269.41
							236015.243	1835400.00
103	10- 122-0023-0003-0000	CANADA JIMMY D & DELORES A	HC 89 BOX 114	PINEVILLE WV 24874 0115	CANADACA		236008.699	1835423.23
					CANADA S1	PW & SP	237116.604	1834855.27

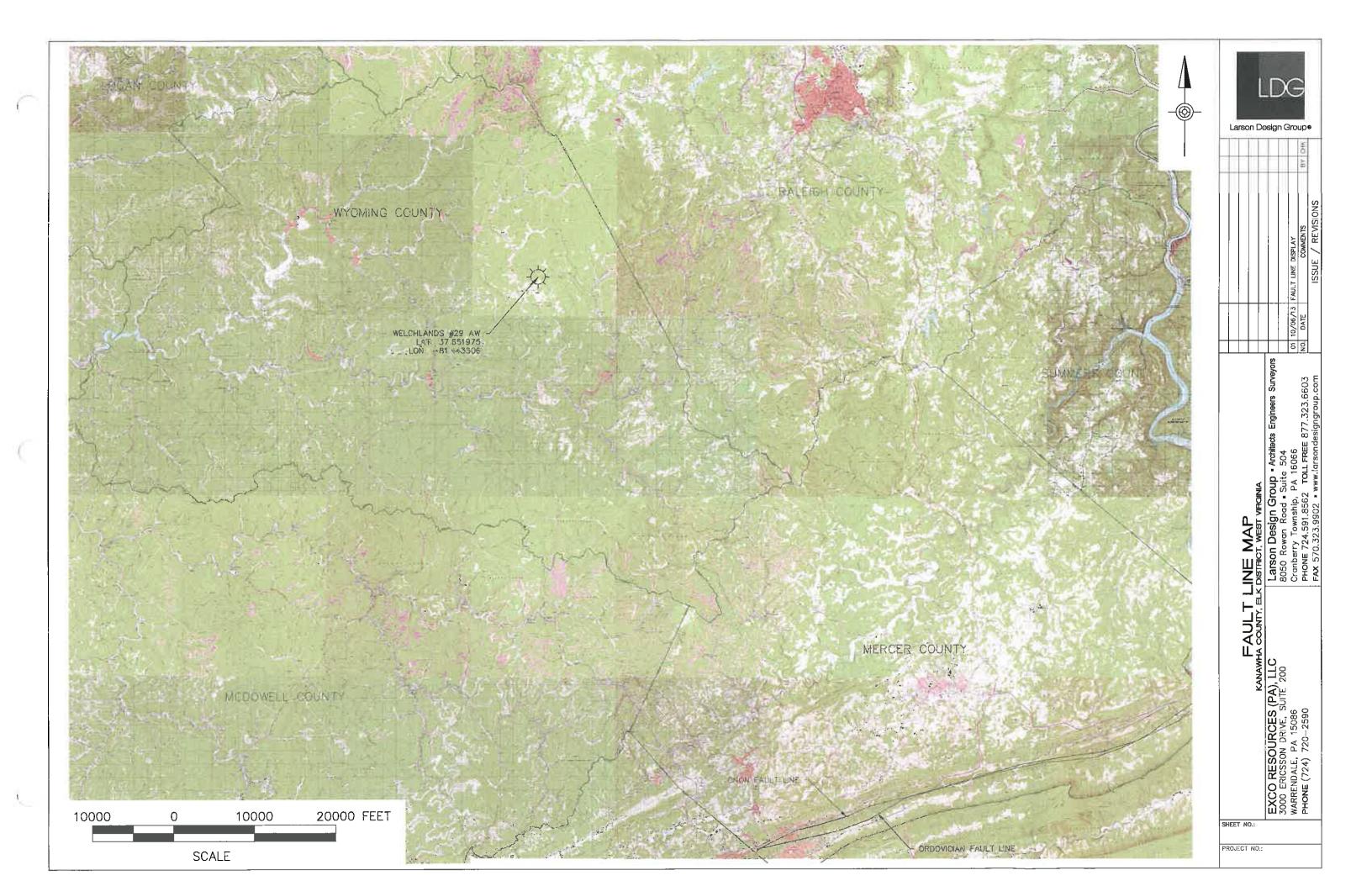
APPENDIX F - Welchlands 27AW

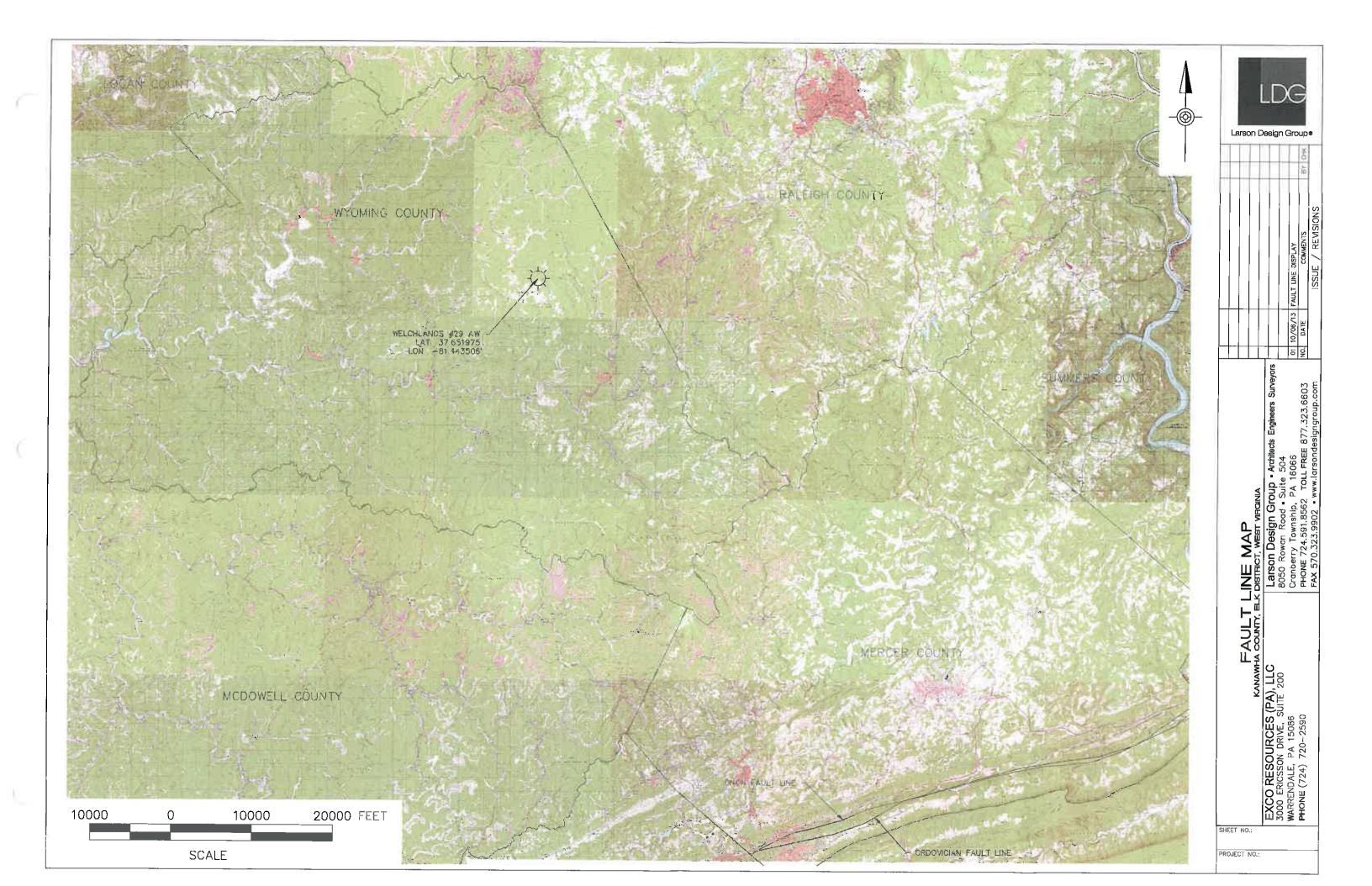
Area Permit Wells

API#	Well Type (Injection, Production, Observation, Monitoring)	Well Status (Active, Abandoned, Shut-in, Plugged)	Northing (UTM NAD 83 Meters)	Easting (UTM NAD 83 Meters)
		0		
We Man	- 11-	-\	Marie	
34 1/10	NEILS W	CAPSK	. poxin	
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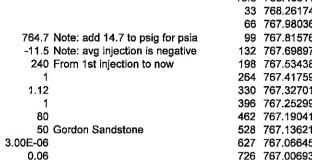


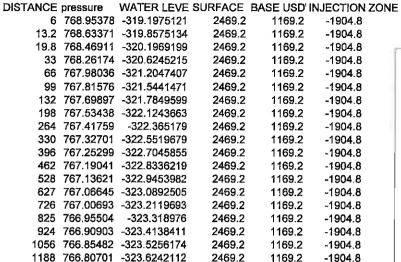


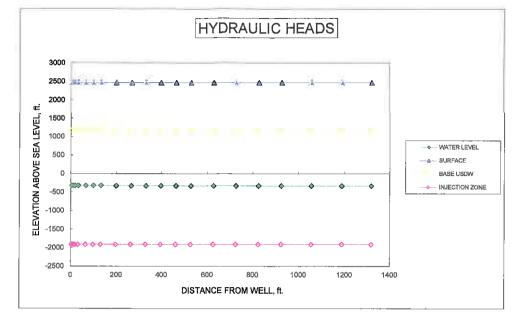


WELL AND FORMATION PARAMETERS initial pressure at the top of the injection formation, p(i) (psia) ------

initial pressure at the top of the injection formation, p(i) (pola)
injection rate, q (bwpd)
length of injection time, (months)
viscosity, mu (cp.)
specific gravity of liquid
formation volume factor, beta (1 for aqueous liquids)
permeability, k (md.)
reservoir thickness, h (ft.)
compressibility, c(t) 1/psi)
porosity, phi, ratio
surface elevation KB, (ft.)
depth to injection zone, (ft)
end of cross-section, (ft.)







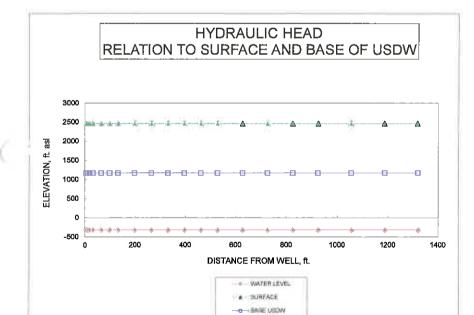
CALCULATION OF CRITICAL PRESSURE RISE

 1300 Deepest fresh/groundwater 726.06704

2469.2

4374

1320 1/4 mile



RADIAL DISTRIBUTION OF PRESSURE AROUND WELL OF CONCERN

2469.2

1169.2

-1904.8

1320 766.76424 -323.7124063

APPENDIX G - WELCHLANDS 29AW

Wells Serviced by Injection Wells

API#		Operator		Producing Forms	ation
	1	<u>-</u> .			
	(1)				
	SEE 1	ATTACHED)	SIL	EADSHEET	
	Fol A	LIST 0	FAU	- WELLS	
	i				
•	SERML	ed by	WEL	CHLANDS	27 AN
		_			
		·			
	1				
					10

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NOF Sield								Merrick	Year Drilled		
A	Route Name	State	County	Api Well Number	Exc 250*	Description	Disposition code		2000	Lease Name	Producing Description
M. JeN	MAB05	KY	PIKE		250*200039	Hamilton 3B		880	P00	W-HAMILTON	Producing
MABEN	MAB05	KY	PIKE		250*200038	Hamilton 2B		590	P00	W-HAMILTON	Producing
MABEN	MAB05		PIKE		250*200037	Hamilton 1B	9	503	P00	W-HAMILTON	Producing
		KY			250*287998	BIG VEIN 02-05		11387	A08	WV-PILGRAM KNOB CREEK	Producing
//ABEN		VA IVA	BUCHANAN			BREEDING 1B			P00	W-BREEDING	Producing
//ABEN	MAB05	VA	BUCHANAN		250*204893				07	W-CROUCH	Producing
//ABEN	MAB05	WV	WYOMING		250*151292	CROUCH 28A		1765	P00	W-NEWBERRY	Producing
IABEN		WV	WYOMING		250*205603	Newberry 017N		11109	A08	WV-SULLIVAN BEAVER	Producing
IABEN	MABC7	WV	RALEIGH		250*287943	BEAVER COAL 161				<u> </u>	Producing
ABEN	MAB08		RALEIGH		250*287250	BEAVER COAL 102		L0212		WV-RALEIGH_BEAVER W-NEWBERRY	Producing
ABEN		WV	WYOMING		250*205604	Newberry 021N	. 1	1943	P00	· · · · · · · · · · · · · · · · · · ·	
ABEN		AND DESCRIPTION OF THE PARTY AND ADDRESS OF TH	RALEIGH	- 3	250*287249	BEAVER COAL 101			<u> </u>	WV-RALEIGH_BEAVER	Producing
ABEN		U	WYOMING		250*151289	Crouch 25A		7365	4	W-CROUCH	Producing
ABEN			BOONE		250*154288	Y&O 15	1	1588	0	W-Y&O	Producing
ABEN		<u></u>	WYOMING		250*151291	CROUCH 27A		'367	1	W-CROUCH	SI - Long Term_LTSI
ABEN			WYOMING		250*205856	WELCHLANDS 114 NW			<u> </u>	W-Bkly Welchind_NewBvr	Producing
ABEN			RALEIGH		250*287251	BEAVER COAL 104	- 9			WV-RALEIGH_BEAVER	Producing
ABEN	MAB01	WV	FAYETTE	4701900892	250*287352	NEW RIVER 3				WV-NEW R!VER/ALLEGHENY	Producing
ABEN	MAB05	₩V	WYOMING	4710902914	250*151290	CROUCH 26A	7			W-CROUCH	Producing
ABEN	MAB07	WV	RALEIGH	4708101245	250*287272	BEAVER COAL 139	j1	.0891		WV-SULLIVAN_BEAVER	Producing
ABEN	MAB03	WV	WYOMING	4710901397	250*205545	Welchlands 062BW	5	92	P00	W-Bkly Welchind_NewBvr	Producing
BEN	MAB08	wv	RALEIGH	4708100483	250*287286	BEAVER COAL A-19	1	0121	A08	WV-RALEIGH_BEAVER	Producing
BEN			RALEIGH	4708100484	250*287288	BEAVER COAL A-20	1	0122	A08	WV-RALEIGH_BEAVER	Producing
י פיקע			RALEIGH		250*287289	BEAVER COAL A-22	1	0123	A08	WV-RALEIGH_BEAVER	Producing
, V	. 4		WYOMING		250*205574	Newberry 003 AN	2	661	P00	W-NEWBERRY	Producing
·N			WYOMING		250*205577	Newberry 005 AN			P00	W-NEWBERRY	Producing
ABEN			WYOMING		250*205560	Welchlands 098BW				W-Bkly Welchlnd_NewBvr	Producing
ABEN			WYOMING		250*205542	Welchlands 058BW				W-Bkly Welchind_NewBvr	Producing
ABEN			RALEIGH		250*287283	BEAVER COAL A-15				WV-RALEIGH BEAVER	Producing
ABEN	<u> </u>	·	WYOMING		250*205548	Welchlands 066BW			1	W-Bkly Welchlnd_NewBvr	Producing
BEN	_1		WYOMING		250*205578	Newberry 006 BN				W-NEWBERRY	Producing
BEN			WYOMING		250*205554	Welchlands 077BW				W-Bkly Welchind NewBvr	Producing
BEN	<u></u>		WYOMING		250*205556	Welchlands 082BW				W-Bkly Welchind NewByr	Producing
BEN			WYOMING	\	250*205546	Welchlands 064BW	<u> </u>			W-Bkly Welchind NewBvr	Producing
BEN			RALEIGH		250*287279	BEAVER COAL 156 (E-10)				WV-SULLIVAN BEAVER	Producing
BEN			WYOMING		250*205538	Welchlands 054 BW				W-Bkly Welchind NewByr	Producing
						Crouch 11A				W-CROUCH	Producing
BEN	,		WYOMING		250*205623					W-CROUCH	Producing
BEN			WYOMING	!	250*205626	Crouch 17A				W-CROUCH	Producing
BEN			WYOMING		250*205629	Crouch 22A				W-Bkly Welchlnd NewBvr	Producing
BEN	·		WYOMING		250*205534	Welchlands 046AW					
BEN			WYOMING		250*205627	Crouch 18A				W-CROUCH	Producing
BEN			WYOMING		250*205610	AGP 8				W-AGP/EASTER	Producing
BEN			WYOMING		250*205609	AGP 7			,	W-AGP/EASTER	Producing
BEN			RALEIGH		250*287285	BEAVER COAL A-17				WV-RALEIGH_BEAVER	Producing
BEN	<u> </u>		WYOMING		250*205625	Crouch 16A				W-CROUCH	Producing
BEN	<u> </u>		rale!gh		250*287284	BEAVER COAL A-16				WV-RALEIGH_BEAVER	Producing
BEN	MAB05		WYOMING		50*205624	Crouch 12A				W-CROUCH	Producing
ВСИ	MAB05	WV	WYOMING	4710900995	50*205622	Crouch 10A				W-CROUCH	Producing
A	MAB05	WV I	WYOMING	4710900994 2	50*205620	Crouch 08A				W-CROUCH	Producing
.N	MAB05	WV j	WYOMING	4710900993	50*205619	Crouch 07A	15			W-CROUCH	Producing
BEN	-l	wv 1	RALEIGH	4708100478	50*287282	BEAVER COAL A-14	10	0117 /	408	WV-RALEIGH_BEAVER	Producing

MCE Field								N.A. wwwlb	Year Drilled		
50111	Deside News	Char	G	Aud tale il atomot	E 2508			Merrick	POO=PRIOR TO		
\rp \rp	Route Name	State	County	Api Well Number	Exc_250*	Description	Disposition code	Completion_ID	2000	Lease Name	Producing Description
Ni. JEN	MABO3	WV	WYOMING	4710901730	250*205561	Welchlands 101BW		290	P00	W-Bkly Welchlnd_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710901018	250*205628	Crouch 21A		109	P00	W-CROUCH	Producing
MABEN	MABO8	WV	RALEIGH	4708101071	250*287262	BEAVER COAL 122			80A	WV-RALEIGH_BEAVER	Producing
MABEN	MABO8	WV	RALEIGH	4708101085	250*287270	BEAVER COAL 134			A08	WV-RALEIGH_BEAVER	Producing
MABEN	MABO8	WV	RALEIGH	4708101084	250*287269	BEAVER COAL 133			A08	WV-RALEIGH_BEAVER	Producing
MABEN	MABO8	WV	RALEIGH	4708101095	250*287267	BEAVER COAL 130		400	A08	WV-RALEIGH_BEAVER	Producing
MABEN	MABOS	WV	RALEIGH	4708101094	250*287266	BEAVER COAL 129	THE SHAPE SH	4	A08	WV-RALEIGH_BEAVER	Producing
MABEN MABEN	MAB05 MAB03	lwv	WYOMING	4710902296	250*205570	WELCHLANDS 110	The state of the s	1941	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB08	<u> </u>	WYOMING	4710901627	250*205845	Welchlands 088BW		·	P00	W-Bkly Welchind_NewBvr	Producing
	MAB07	lwv lwv	RALEIGH	4708101072	250*287263	BEAVER COAL 123	CONTRACTOR CAN SERVICE OF THE PROPERTY OF THE	10218	A08	WV-RALEIGH_BEAVER	Producing
MABEN		<u> </u>	RALEIGH	4708101182	250*287278	BEAVER COAL 154	The state of the s		A08	WV-SULLIVAN_BEAVER	Producing
MABEN	MAB08 MAB08	WV .	RALEIGH	4708101066	250*287261	BEAVER COAL 121	CONTRACTOR OF THE CONTRACTOR O		80A	WV-RALEIGH_BEAVER	Producing
MABEN		WV	RALEIGH	4708101083	250*287259	BEAVER COAL 118	CONTRACTOR OF THE PROPERTY OF THE PARTY OF T		A08	WV-RALE!GH_BEAVER	Producing
MABEN	MABO8	[WV	RALEIGH	4708101177	250*287258	BEAVER COAL 117			A08	WV-RALEIGH_BEAVER	Producing
MABEN	MABO8	[WV	RALEIGH	4708101063	250*287257	BEAVER COAL 111	The second service and the second sec	/	A08	WV-RALEIGH_BEAVER	SI - Long Term_LTSI
MABEN	MAB08 MAB08	∫WV WV	RALEIGH	4708101060	250*287254	BEAVER COAL 108			A08	WV-RALEIGH_BEAVER	Producing
MABEN			RALEIGH	4708101059	250*287253	BEAVER COAL 106	The second secon		A08	WV-RALEIGH_BEAVER	Producing
MABEN	MABO7	WV	RALEIGH		250*287265	BEAVER COAL 127				W-Sunny Acres 960520	Producing
MABEN	MAB07	WV	RALEIGH	4708101351	250*288002	BEAVER COAL 167	Administrative better a consequence of the conseque			WV-SULLIVAN_BEAVER	Producing
MABEN	MAB08 MAB08	WV	RALEIGH	4708100477	250*287325	BEAVER COAL A-09				WV-RALEIGH_BEAVER	Producing
MABEN	<u> </u>	WV	RALEIGH	4708100475	250*287318	BEAVER COAL A-07				WV-RALEIGH_BEAVER	Producing
MABEN	MAB08	WV	RALEIGH		250*287309	BEAVER COAL A-06				WV-RALEIGH_BEAVER	Producing
NA BEN	· · · · · · · · · · · · · · · · · · ·	WV	RALEIGH		250*287304	BEAVER COAL A-05	The state of the s			WV-RALEIGH_BEAVER	Producing
'EN		WV	RALEIGH		250*287298	BEAVER COAL A-04	The state of the s			WV-RALEIGH_BEAVER	Producing
N ZN		WV	RALEIGH		250*287293	BEAVER COAL A-03				WV-RALEIGH_BEAVER	Producing
MABEN	1	WV	RALEIGH		250*287273	BEAVER COAL 141				W-Sunny Acres 960520	Producing
MABEN	J	WV	RALEIGH		250*287313	BEAVER COAL A 65				WV-RALEIGH_BEAVER	Producing
MABEN			RALEIGH		250*287274	BEAVER COAL 142	The second secon			W-Sunny Acres 960520	Producing
			RALEIGH		250*288001	BEAVER COAL 165	THE RESERVE OF THE PARTY OF THE			WV-SULLIVAN_BEAVER	Producing
			RALEIGH		250*287950	BEAVER COAL 164	The state of the s			WV-SULLIVAN_BEAVER	Producing
			RALEIGH		250*287949	BEAVER COAL 163				WV-SULLIVAN_BEAVER	Producing
	<u> </u>		RALEIGH		250*287944	BEAVER COAL 162	Andread Andread State Control of the			WV-SULLIVAN_BEAVER	Producing
			RALEIGH		250*287942	BEAVER COAL 160	The state of the s			WV-SULLIVAN_BEAVER	Producing
	· · · · · · · · · · · · · · · · · · ·		RALEIGH		250*287252	BEAVER COAL 105	CONTRACTOR OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROP			WV-RALEIGH_BEAVER	Producing
		THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	RALEIGH		250*287281	BEAVER COAL A-01	Commence of the commence of th			WV-RALEIGH_BEAVER	Producing
			FAYETTE		250*206764	New River 86AR				WV-NEW RIVER/ALLEGHENY	Producing
	<u> </u>		FAYETTE		250*287344	NEW RIVER 1				W-Bkiy NewRvr_CrabOrchrd	Producing
	·		FAYETTE		250*205735	Price/Sun 06A	The second of the second secon			W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE		250*206763	Berwind Land 6A				WV-NEW RIVER/ALLEGHENY	Producing
			FAYETTE		250*205733	Price/Sun 04A				W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE		250*205728	New River 77AR				W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE	_\	250*205695	McNeely 1A				W-Bkly NewRvr_CrabOrchrd	Producing
	<u> </u>		FAYETTE			Berwind Land 7A				W-BERWIND/FAY1 Brwnds &	Producing
			FAYETTE		250*205732	Price/Sun 03A	THE PROPERTY OF THE PARTY OF TH			W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE		250*205812	Berwind Land 5A				W-BERWIND/FAY1 Brwnds &	Producing
			FAYETTE		250*205736	Price/Sun 08A				W-Bkly NewRvr_CrabOrchrd	Producing
	·	h	FAYETTE		250*205811	Berwind Land 4A				W-BERWIND/FAY1 Brwnds &	Producing
			FAYETTE		250*206766	Burlee 1B				W-BURLEE	Producing
			FAYETTE	_\	250*206765	New River 88N		910 [0		WV-NEW RIVER/ALLEGHENY	Producing
MABEN	MAB01	WV [FAYETTE	4701900990	250*287864	NEW RIVER 44		1084 A	08 \	WV-NEW RIVER/COLLINSWOOD	Producing

*'CE Field								Merrick	Year Drilled		
irp	Route Name	State	County	Api Well Number	Exc_250*	Description	Disposition code	Completion_ID	POO=PRIOR TO	Lease Name	Broducing Beasing
λ,EN	MAB01	wv	RALEIGH	4708101244	250*286677	NEW RIVER 31 (G-51)	Disposition code	10892	A08	W-Bkly NewRvr_CrabOrchrd	Producing Description Producing
ABEN	MAB01	WV	FAYETTE	4701900935	250*286676	NEW RIVER 30		10955	A08	W-Bkly NewRvr_CrabOrchrd	Producing
1ABEN	MAB01	WV	RALEIGH	4708101217	250*287351	NEW RIVER 23 NR-B 06		10789	A08	W-Bkly NewRvr_CrabOrchrd	Producing
/IABEN	MAB01	WV	RALEIGH	4708101184	250*287347	NEW RIVER 15	processes Validation resemble the transport of the second states	10785	A08	W-Bkly NewRvr_CrabOrchrd	
ABEN	MAB01	WV	FAYETTE	4701900904	250*287345	NEW RIVER 12		10781	A08		Producing
/IABEN	MAB01	lwv	FAYETTE	4701900649	250*205734	Price/Sun 05A	THE RESIDENCE OF THE PARTY OF T	345	P00	W-Bkly NewRyr_CrabOrchrd	Producing
//ABEN	MAB01	lwv	RALEIGH	4708101312	250*287797	NEW RIVER 38-1	anniage projection district annual and health deposit persons	CHC	A08	W-Bkly NewRyr_CrabOrchrd	Producing
ABEN	MAB06	WV	BOONE	4700500978	250*206747	C Tract 6	A THE RESIDENCE OF THE PARTY OF	2729	P00	W-Bkly NewRvr_CrabOrchrd W-C TRACT	Producing
1ABEN	MAB06	WV	BOONE	4700500979	250*206748	C Tract 7		2909	P00		Producing
1ABEN	MAB06	WV	BOONE	4700501929	250*205807	Y&O 05		1778		W-C TRACT W-Y&O	Producing
1ABEN		WV	BOONE	4700501929	250*205808	Y&O 07	And the second s		05		Producing
1ABEN	/	WV	BOONE	4700502078	250*150078	Y&O 06	Introduction to care assistant the Table And Company of the Table And C	1956	05	W-Y&O	Producing
ABEN		WV	BOONE		250*150078			6835	06	W-Y&O	Producing
1ABEN	·	WV	BOONE			Y&O 08 [.875]	The state of the s	The second secon	07	W-Y&O	Producing
ABEN		WV	BOONE	4700502169	250*150620	Y&O 10	Militable on square that they are occurrence occurrence where your o		07	W-Y&O	Producing
IABEN		WV	FAYETTE		250*150621	Y&O 11			07	W-Y&O	Producing
					250*205731	Price/Sun 02A				W-Bkly NewRvr_CrabOrchrd	Producing
IABEN	·	WV	BOONE		250*151155	Y&O 14	The second secon		07	W-Y&O	Producing
IABEN			RALEIGH		250*287353	NEW RIVER 4	within the commenter the state of the state			W-Bkly NewRvr_CrabOrchrd	Producing
ABEN		<u> </u>	FAYETTE		250*287416	NEW RIVER 26	THE PERSON NAMED IN COLUMN 2 I			W-BECKWITH	Producing
	<u></u>	WV	FAYETTE		250*287417	NEW RIVER 25 (NR-D 32)				W-BECKWITH	Producing
ABEN			FAYETTE		250*205814	New River 70AR BCP				W-BERWIND/FAY1 Brwnds &	Producing
ABEN			FAYETTE		250*205809	Berwind Land 1A	THE RESERVE OF THE PARTY OF THE			W-BERWIND/FAY1 Brwnds &	Producing
' REN			FAYETTE		250*205726	New River 75AR				W-Bkly NewRvr_CrabOrchrd	Producing
		Million by the state of the sta	FAYETTE		250*205727	New River 76AR				W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE		250*205730	Price/Sun 01A				W-Bkly NewRvr_CrabOrchrd	Producing
			FAYETTE		250*205810	Berwind Land 3A	And the second s	·		W-BERWIND/FAY1 Brwnds &	Producing
			BOONE		250*150622	Y&O 12				W-Y&O	Producing
	·		RALEIGH		250*287302	BEAVER COAL A-45		.0134	A08 j	WV-RALEIGH_BEAVER	Producing
		Commence of the Commence of th	RALEIGH		250*287316	BEAVER COAL A-68	[1	0146	80A	WV-RALEIGH_BEAVER	Producing
			RALEIGH		250*287315	BEAVER COAL A-67A S]	0145	A08	WV-RALEIGH_BEAVER	Producing
		THE PERSON NAMED IN COLUMN 1	RALEIGH		250*287314	BEAVER COAL A-66A S		0144	A08	WV-RALEIGH_BEAVER	Producing
			RALEIGH		250*287312	BEAVER COAL A-64	1	0142	408 j	WV-RALEIGH_BEAVER	Producing
			RALEIGH		250*287311	BEAVER COAL A-61	1	0141	408	WV-RALEIGH_BEAVER	Producing
0	T. Control of the con		RALEIGH		250*287310	BEAVER COAL A-60	1	0140	408	WV-RALEIGH_BEAVER	Producing
			RALEIGH	4708100526	250*287308	BEAVER COAL A-59	1	0139	408	WV-RALEIGH_BEAVER	Producing
			RALEIGH		250*287307	BEAVER COAL A-57	1	0138	408	WV-RALEIGH_BEAVER	Producing
ABEN	MAB01	WV	FAYETTE	4701900903	250*287355	NEW RIVER 7	1	0779	804	W-Bkly NewRvr CrabOrchrd	Producing
ABEN	MAB08	WV	RALEIGH	4708100509	250*287303	BEAVER COAL A-46	1	0135		WV-RALEIGH BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	4708101087	250*287320	BEAVER COAL A-71	1	0195	804	WV-RALEIGH BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	4708100508	250*287301	BEAVER COAL A-44	1	0133		WV-RALEIGH BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	4708100512	250*287300	BEAVER COAL A-43	1			WV-RALEIGH BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	4708100507	250*287299	BEAVER COAL A-41				WV-RALEIGH BEAVER	Producing
\BEN	MAB08	W۷	RALEIGH	4708100500	250*28 72 97	BEAVER COAL A-38				WV-RALEIGH BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	4708100495	250*287296	BEAVER COAL A-35	the state of the s	1		WV-RALEIGH_BEAVER	Producing
ABEN	MAB08	WV	RALEIGH	- 5	250*287295	BEAVER COAL A-34	Alternative company of the Control o	· · · · · · · · · · · · · · · · · · ·		WV-RALEIGH_BEAVER	Producing
			RALEIGH	-/	50*287294	BEAVER COAL A-33				WV-RALEIGH BEAVER	Producing
			RALEIGH		50*287292	BEAVER COAL A-27				WV-RALEIGH_BEAVER	Producing
			RALEIGH		50*287306	BEAVER COAL A-53				WV-RALEIGH_BEAVER	Producing
			RALEIGH	<u> </u>	50*287330	BEAVER COAL A-85 (C6)				WV-RALEIGH_BEAVER	Producing
/			RALEIGH		50*287291	[17 05 10 10 10 10 10 10 10 10 10 10 10 10 10		JF		WV-RALEIGH_BEAVER	p roducing

NCE Field	Route Name	State	County	Ap Name	Producing Description
₹rp Vn. ⇒EN	MAB01	WV	FAYETTE	470	Producing
MABEN	MAB01	WV	FAYETTE	470 ALLEGHENY	Producing
//ABEN	MAB05	WV	WYOMING	471	Producing
//ABEN	MAB08	WV	RALEIGH	470 EAVER	Producing
MABEN	MAB08	WV	RALEIGH	470 EAVER	Producing
//ABEN	MAB08	WV	RALE!GH	470 EAVER	Producing
/ABEN	MAB08	WV	RALEIGH	470 EAVER	Producing
MABEN	MAB08	WV	RALEIGH	470 EAVER	Producing
//ABEN	MAB08	wv	RALEIGH	470 FAVER	Producing
MABEN	MAB08	wv	RALEIGH	470EAVER	Producing
MABEN	MAB08	WV	RALEIGH	4708 FAVER	SHUT IN_Temporary
MABEN	MAB08	WV	RALEIGH	4708FAVER	Producing
MABEN	MAB08	WV	RALEIGH	4708FAVER	Producing
MABEN	MAB08	WV	RALEIGH	4708FAVER	Producing
MABEN	MAB08	WV	RALEIGH	4/08FAVER	SI - Long Term_LTSI
MABEN	MAB08	WV	RALEIGH	4708 _{FAVER}	Producing
MABEN	MAB08	WV	RALEIGH	4708 _{EAVER}	Producing
MABEN	MAB08	WV	RALEIGH	4708 _{EAVER}	Producing
MABEN	MAB01	WV	RALEIGH	4708 CrahOrchrd	Producing
MABEN	MAB08	WV	RALEIGH	4708 EAVER	Producing
MABEN	MAB01	WV	RALEIGH	4/08: CrahOrchrd	Producing
	MAB01	WV	RALEIGH	4708 CrabOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	4708: CrabOrchrd	Producing
Y''BEN	MAB01	WV	RALEIGH	4708: CrabOrchrd	Producing
EN N. ZN	MAB01	WV	RALEIGH	4708: CrabOrchrd	Producing
	MAB01	WV	RALEIGH	4708 CrahOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	47081 CrabOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	47081 CrabOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	47081 CrabOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	47081 CrabOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	47081 CrahOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	4/VOL CrahOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	4/001 CrahOrchrd	Producing
MABEN	MAB01	WV	RALEIGH	147004 CrahOrchrd	Producing
MABEN	MAB03	WV	RALEIGH	47081 d NewByr	Producing
MABEN	IMAB01	WV	RALEIGH	4/UOL CrahOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	4/USA CrahOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	14/VOL CrahOrchrd	Producing
MABEN	MAB07	WV	RALEIGH	4/Vol CrahOrchrd	Producing
MABEN		WV	RALEIGH	14/ UDI Crah Orchrd	Producing
MABEN	MAB07 MAB01	WV	RALEIGH	470816 CrabOrchrd	Producing
MABEN	MAB06	WV	IRALEIGH	1470070	Producing
MABEN	MAB07	WV	RALEIGH	470816 CrabOrchrd	Producing
MABEN		WV	RALEIGH	4/VOLCeshOrched	Producing
MABEN	MABO7	WV	RALEIGH	14/VQ+VChOrchrd	Producing
MABEN	MABO1	WV	RALEIGH	44 vo Lucrah Orchid	Producing
MABEN	MABO7	WV	RALEIGH	470810 CrabOrchro	Producing
MAABEN	MABO7	[WV	RALEIGH	470810 CrabOrchrd	Producing
EN	MABO7	WV	RALEIGH	470810 CrabOrchrd	Producing
N EN	MAB07 MAB07	WV	RALEIGH	470810 Crab Orchrd	Producing

**CE Field	Double No.						N	lerrick Year Dril		
rp	Route Name	State	County	Api Weil Number	Exc_250*	Description		oletion_ID 2000	Lease Name	
EN ترار	MAB01	WV	RALEIGH	4708100662	250*205706	New River 27AR	1950	P00		Producing Description
	MAB07	WV	RALEIGH	4708100650	250*205759	Crab Orchard 27AC	2316	P00	W-Bkly NewRvr_CrabOrchrd	Producing
	MAB06	[WV	RALEIGH	4708100944	250*205637	Dorothy Sarita 012	1767	P00	W-Bkly NewRvr_CrabOrchrd	Producing
/IABEN	MAB06	WV	RALEIGH	4708100710	250*205636	Dorothy Sarita 008A	1581		W-DOROTHY	Producing
/IABEN	MAB01	WV	RALEIGH	4708100821	250*205725	New River 72AR	2314	[P00	W-DOROTHY	Producing
1ABEN	MAB06	(WV	RALEIGH	4708100826	250*205659	Presbytery 1A	2514	P00	W-Bkly NewRvr_CrabOrchrd	Producing
	MAB03	₩V	RALEIGH	4708100878	250*205535	Welchlands 047AW	1761	P00	W-DOROTHY	Producing
	MAB06	WV.	RALEIGH	4708100910	250*205642	Dorothy Sarita 021A	THE SHARM ASSESSED SERVICE SER	P00	W-Bkly Welchind_NewBvr	Producing
	MAB06	[WV	RALEIGH	4708100818	250*205639	Dorothy Sarita 015ADS	2665	P00	W-DOROTHY	Producing
, , , , , , , , , , , , , , , , , , ,	MAB07	WV	RALEIGH	4708100938	250*205744	BEAVER 19B	2131	P00	W-DOROTHY	Producing
	MAB06	WV	RALEIGH	4708100813	250*205641	Dorothy Sarita 017ADS	2672	P00	W-Bkly NewRvr_CrabOrchrd	Producing
	MAB03	WV	RALEIGH	4708100945	250*205540	Welchlands 056BW	2488	P00	W-DOROTHY	Producing
ABEN	MAB03	WV	RALEIGH		250*205537	Welchlands 050BW	2658	P00	W-Bkly Weichlnd_NewBvr	Producing
ABEN	MAB03	WV	RALEIGH		250*205541	Welchlands 057BW	2125	P00	W-Bkly Welchlnd_NewBvr	Producing
ABEN	MAB07	WV	RALEIGH		250*205754	Crab Orchard 17BC	2840	P00	W-Bkly Welchind_NewBvr	Producing
ABEN	MAB06	WV	RALEIGH		250*205644		1410	P00	W-Bkly NewRvr_CrabOrchrd	Producing
ABEN	MAB03	WV	RALEIGH		250*205824	Dorothy Sarita 028	3024	P00	W-DOROTHY	Producing
ABEN	MAB03	1	RALEIGH		250*205840	New Beaver 20C	1779	P00	W-Bkly Welchind_NewBvr	Producing
ABEN II	MAB01		RALEIGH		250*205704	Welchlands 050AW	1594	P00	W-Bkly Welchind_NewBvr	Producing
		77 - 27 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	RALEIGH	—//		New River 22AR	1585	P00	W-Bkiy NewRvr_CrabOrchrd	Producing
	MAB01	WV	RALEIGH		250*205722	New River 63AR	1773	P00	W-Bkly NewRvr_CrabOrchrd	Producing
		WV	RALEIGH		250*205723	New River 64AR	1951	P00	W-Bkiy NewRvr_CrabOrchrd	Producing
			RALEIGH	}	250*205709	New River 33AR	2491	P00	W-Bkiy NewRvr_CrabOrchrd	Producing
			RALEIGH		250*205738	BEAVER 01A	1588	P00	W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		250*205718	New River 58AR	1045	P00	W-Bkly NewRvr_CrabOrchrd	Producing
		And the late of th	RALEIGH		250*205743	BEAVER 18A	2494	P00	W-Bkly NewRvr_CrabOrchrd	Producing
		The state of the s	RALEIGH		250*205741	BEAVER 12A	2137	P00	W-Bkly NewRvr_CrabOrchrd	Producing
					250*205782	Jones Gibson 8AJ	304	P00	W-Bkly NewRvr_CrabOrchrd	Producing
		Control of the later of the lat	RALEIGH		250*205742	BEAVER 13A	2315	P00	W-Bkly NewRvr_CrabOrchrd	Producing
		· · · · · · · · · · · · · · · · · · ·	RALEIGH		250*205764	Crab Orchard 35AC	118	P00		Producing
	41500	——————————————————————————————————————	RALEIGH	The state of the s	250*205765	Crab Orchard 39AC	303	P00	The state of the s	Producing
			RALEIGH		250*205638	Dorothy Sarita 014ADS	1945	P00	W-DOROTHY	
		PRINCIPAL MANAGEMENT CONTRACTOR OF THE PRINCIPAL PRINCIP	RALEIGH		250*205763	Crab Orchard 33AC	3032	P00		Producing
		Contract of the last of the la	RALEIGH		250*205640	Dorothy Sarita 016ADS	2308	P00		Producing
Martin Company		Commence of the supplying the state of the supplying the s	RALEIGH		250*205739	BEAVER 02A	1774	P00	The second secon	Producing
		THE PERSON NAMED IN PORT OF THE PARTY OF THE	MINGO		50*205665	Harelands 002AH	790	P00		Producing
	····	THE RESERVE OF THE PERSON NAMED IN	RALEIGH		50*205751	Crab Orchard 13AC	346	P00		Producing
		The state of the s	MINGO		50*205671	Harelands 167	1769	P00	W-Bkly NewRvr_CrabOrchrd W-HARELANDS	Producing
		Miller and Street Stree	MINGO	4705901032 2	50*205693	Leo 1A (Signiago)	2668	P00		Producing
		Averaged Disseller over the Publisher of the Wal-	MINGO	4705901034 2	50*205694	Leo 4A	2850	P00		Producing
			VINGO	4705901126 2	50*205688	Skillet Fork 004ASF	1770	P00		Producing
		· ` _ ` ` _ ` ` _ ` _ ` ` _ ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` _ ` ` ` _ `	VINGO	4705900706 2	50*205687	Skillet 114	1584			Producing
			ViNGO		50*205664	Harelands 001AH	599			Producing
			VINGO	4705900705 2	50*205686	Skiliet 113	mark sprain and a second secon	The supplemental through the supplemental thro		Producing
		the same of the sa	VINGO	The state of the s	50*205666	Harelands 003AH	1405 340	· · · · · · · · · · · · · · · · · · ·		Producing
			MINGO		50*205689	Skillet Fork 005ASF	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM			Producing
		VV N	/INGO	!	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Skillet Fork 006 N	1948			Producing
		VV N			50*205692	Skillet Fork 002B	2311			Producing
EN M	AB02 V	VV N	/IINGO		50*205672	Harelands 005NH	1097			Producing
	IAB02 V		/iingo		0*205673	Harelands 006NH	1947		W-HARELANDS	Producing
BEN M.		· · · · · · · · · · · · · · · · · · ·			50*205667		2133			Producing
остинения п. Выни веч ей живост	\\ <u></u> \	1			/	Harelands 004AH	1041	P00		Producing

NCE Field								Merrick	Year Drilled		
`rp	Route Name	State	County	Api Well Number	Exc 250*	Description	Discosibia	the same of the sa	POO=PRIOR T		
-cN	MAB02	WV	MINGO	4705900689	250*205680	Skillet 104	Disposition code	And the second s		Lease Name	Producing Descript
ABEN	MAB05	WV	WYOMING	4710900973	250*205617	Crouch 05A		297	P00	W-SKILLET FORK	Producing
ABEN	MAB02	WV	MINGO	4705900350	250*205675	Skillet 013		1214	P00	W-CROUCH	Producing
ABEN	MAB02	WV	MINGO	4705900533	250*205668	Harelands 058	A STATE OF S	2490	P00	W-SKILLET FORK	Producing
ABEN	MAB02	WV	MINGO	4705900663	250*205676	Skillet 092	Thinkship or country and the second of the s	1217	P00	W-HARELANDS	Producing
ABEN	MAB02	WV	MINGO	4705900679	250*205677	Skillet 098	productions in the second contract of the sec	2667	P00	W-SKILLET FORK	Producing
ABEN	MAB02	WV	MINGO	4705900736	250*205670			2849	P00	JW-SKILLET FORK	Producing
ABEN	IMAB02	WV	MINGO	4705900686	250*205679	Harelands 122		1583	P00	W-HARELANDS	Producing
ABEN	MAB03	WV	RALEIGH	4708100216	250*205543	Skillet 102		112	P00	W-SKILLET FORK	Producing
ABEN	JMAB02	WV	MINGO	4705900692	250*205681	Welchlands 059		104	P00	W-Bkly Welchind_NewBvr	Producing
ABEN	MAB02	WV	MINGO	4705900693	250*205682	Skillet 105	Apple colori des deservaciones deservaciones de la colori dela colori de la colori de la colori de la colori de la colori dela colori de la colori dela colori de la colori de la colori de la colori de la colori dela colori de la colori de la colori de la colori de la colori dela colori de la colori dela colori de la colori dela colori de	600	P00	W-SKILLET FORK	Producing
ABEN	MABC2	WV	MINGO	4705900694	d	Skillet 106		791	P00	W-SKILLET FORK	Producing
ABEN	MAB02	/WV	MINGO		250*205669	Harelands 108		1404	P00	W-HARELANDS	Producing
ABEN	MAB02	WV	·	4705900695	250*205683	Skillet 109		341	P00	W-SKILLET FORK	Producing
ABEN	To be a second of the second o	WV	MINGO	4705900699	250*205684	Skillet 110		1042	P00	W-SKILLET FORK	Producing
BEN			MINGO	4705900700	250*205685	Skillet 111		1218	P00	W-SKILLET FORK	Producing
ABEN		WV	MINGO	4705900684	250*205678	Skillet 100		3026	P00	W-SKILLET FORK	Producing
	MABO7	WV	RALEIGH	- rearly and the second	250*205821	Crab Orchard 6AC		1227	P00	W-6AC	Producing
BEN	MABO1	WV	RALEIGH		250*205699	New River 10AR		792	P00	W-Bkly NewRvr_CrabOrchrd	Producing
BEN		COTTO TOOK ON THE TOTAL OF THE	RALEIGH		250*205698	New River 09AR	Contract of the Contract of th	602		W-Bkly NewRvr_CrabOrchrd	Producing
BEN	<u> </u>	The second secon	RALEIGH		250*205748	Crab Orchard 10AC		302		W-Bkly NewRvr_CrabOrchrd	Producing
BEN			RALEIGH		250*205747	Crab Orchard 09AC	The state of the s		<u> </u>	W-Bkly NewRvr_CrabOrchrd	Producing
BEN			RALEIGH		250*205634	Dorothy Sarita 003A				W-DOROTHY	Producing
BEN			MINGO	4705901675	250*205674	Harelands 007NH	The state of the s			W-HARELANDS	Producing
ΞN	1/		RALEIGH	4708100601	250*205779	Jones Gibson 5AJ	N-P			W-Bkly NewRvr_CrabOrchrd	Producing
_N	·		RALEIGH	4708100576	250*205777	Jones Gibson 2AJ		The second section of the second section of the second section of the second section s		W-Bkly NewRvr_CrabOrchrd	
BEN	\		RALEIGH	4708100610	250*205750	Crab Orchard 12AC				W-Bkly NewRvr_CrabOrchrd	Producing
BEN	·	WV	RALEIGH	4708100614	250*205700	New River 14AR	THE CAPTURE CONTRACTOR OF THE CAPTURE CONTRA			W-Bkly NewRvr_CrabOrchrd	Producing
BEN		WV ·	RALEIGH	4708100617	250*205701	New River 18AR	The second secon			W-Bkly NewRvr_CrabOrchrd	Producing
BEN	<u> </u>	WV	RALEIGH	4708100618	250*205780	Jones Gibson 6AJ	The reviews conference property of the second property of the				Producing
BEN	MAB01	WV	RALEIGH		250*205702	New River 20AR	A STATE OF THE PARTY OF THE PAR			W-Bkly NewRvr_CrabOrchrd	Producing
BEN	MAB01	WV	RALEIGH		250*205713	New River 40AR	The same of the sa			W-Bkly NewRvr_CrabOrchrd	Producing
BEN	MAB07	WV	RALEIGH		250*205752	Crab Orchard 15AC	William Committee Color Committee Color			W-Bkly NewRvr_CrabOrchrd	Producing
BEN	MAB03		RALEIGH		250*205564	Welchlands 144				W-Bkiy NewRvr_CrabOrchrd	Producing
BEN	MAB07		RALEIGH		250*205781	Jones Gibson 7AJ	Charter Control of the Control of th			V-Bkly Welchind_NewBvr	Producing
BEN	<u> </u>		RALEIGH		250*205652	Dorothy Sarita 063	The street of th			V-Bkly NewRvr_CrabOrchrd	Producing
BEN			RALEIGH		250*205653	Dorothy Sarita 070	PERSONAL TRAVER LEVICES, A THEORETH CONTRACTOR OF THE PERSONS ASSESSED.	Comments of the second		V-DOROTHY	Producing
BEN			RALEIGH		250*205552	Welchlands 075 BW	THE THE BEST OF THE PERSON OF			V-DOROTHY	Producing
			RALEIGH		250*205654	dia contra di la c	THE THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, WHEN PERSON I			V-Bkly WelchInd_NewBvr	Producing
			RALEIGH		205655	Dorothy Sarita 078	THE RESERVE THE PROPERTY OF TH			V-DOROTHY	Producing
			RALEIGH		203033	Dorothy Sarita 084	PRODUCE OF THE PROPERTY OF THE PARTY OF THE			V-DOROTHY	Producing
	<u> </u>		RALEIGH			Crab Orchard 02AC	Marie William Company of the Company			V-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		50*205657	Dorothy Sarita 094	C. Sales and the sales of the s			V-DOROTHY	Producing
			RALEIGH		250*205778	Jones Gibson 3AJ	PRINCIPAL ACTIVITIES THE PRINCIPAL ACTIVITIES AND ADDRESS OF THE PARTY		V 00°	V-Bkly NewRvr_CrabOrchrd	Producing
· · · · · · · · · · · · · · · · · · ·		The state of the s	RALEIGH			Rowland 1A	· T		00 (V	V-Bkly NewRvr_CrabOrchrd	SI - Long Term LTSI
						New River 06AR	2.		00 V	/-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		50*205520	Welchlands 003AW	2:	123 P		/-Bkly Welchind_NewBvr	Producing
			RALEIGH			Welchlands 001AW	19	938 P		/-Bkly Welchind_NewBvr	Producing
			RALEIGH			New River 04AR	1:			/-Bkly NewRvr_CrabOrchrd	Producing
			AYETTE			NEW RIVER 13	The state of the s			/-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH			Dorothy Sarita 091	**************************************			-DOROTHY	Producing
BEN (MAB02 V	// /\	VYOMING	4 71090044 4 2	50*205587	Newberry 028	APPENDIX DESCRIPTION OF THE PERSON OF THE PE			-NEWBERRY	Producing

00-1-0-0	Design to the same	impts to						Merrick	Year Drilled POO=PRIOR TO		Producing Description
CE Field				a 1111 U.Stbon	Exc 250*	Description	Disposition code	Completion_ID	2000	Lease Name	
Rrp	Route Name	State	County	Api Well Number		Welchlands 097		308	P00	W-Bkly Welchind_NewBvr	Producing
EN	MAB03	WV	RALEIGH	4708101097	250*205850	DOROTHY SARITA 047 NDS	Section 19	7854	07	W-DOROTHY	Producing
IABEN	MAB06	[WV	RALEIGH	4708101436	250*151080	DOROTHY SARITA 048 NDS		7329	07	W-DOROTHY	Producing
ABEN	MAB06	WV	RALEIGH	4708101437	250*151225	Welchlands 132		593	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900096	250*205562			287	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900406	250*205527	Welchlands 022	Annual Security Property Commencer (Security Commencer)	7313		W-DOROTHY	Producing
	MAB06	WV	RALEIGH	4708101434	250*151078	DOROTHY SARITA 044 NDS	Service country of Dispersion of the Control of the	781	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	wv	WYOMING	4710900431	250*205529	Welchlands 027	- Appendix and the second seco	1781		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	wv	RALEIGH	4708101396	250*205858	Welchlands 119	CONTRACT THE CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR	2142	P00	W-Bkly Welchind_NewBvr	Producing
MABEN		lwv	RALEIGH	4708100976	250*205826	New Beaver 22C		1033	P00	W-Bkiy Welchind_NewBvr	Producing
MABEN	MAB03	-wv	WYOMING	4710900457	250*205531	Welchlands 036	months of the second states and approximately to the	The second second second second second		W-Bkly NewRvr_CrabOrchrd	Producing
MABEN	MAB05		RALEIGH	4708100682	250*205762	Crab Orchard 32AC		j2854		W-NEWBERRY	Producing
MABEN	MAB07	WV	WYOMING	4710900466	250*205602	NEWBERRY 038		1579		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB02	WV	WYOMING	4710900468	250*205533	Welchlands 039		1396	The second secon	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV		4710900491	250*205539	Weichlands 055		2482		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900431	250*205528	Welchlands 025		591			Producing
MABEN	MAB05	WV	WYOMING	4708101314	250*205660	DOROTHY Sarita 039N		2848	P00	W-DOROTHY	Producing
MABEN	MAB06	(WV	RALEIGH		250*205649	Dorothy Sarita 034	Commercial administration in the commercial and com	339		W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH	4708101104	250*205648	Dorothy Sarita 033	The second of th	789		W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH	4708101112	· · · · · · · · · · · · · · · · · · ·	Dorothy Sarita 035BDS	Allerman (Separate and Separate	1040	5	W-DOROTHY	
MABEN	MAB06	WV	RALEIGH	4708101156	250*205650	Dorothy Sarita 037BDS		1216		W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH	4708101157	250*205651	WELCHLANDS 103	The state of the s	611		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	RALEIGH	4708101249	250*205851	DOROTHY SARITA 045 NDS		7315		W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH	4708101435	250*151079		Accounted to the relative to the second seco	350	02	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	RALEIGH	4708101313	250*205853	WELCHLANDS 111N	1994. 1994.	1940	P00	W-Bkly Welchind_NewBvr	Producing
'EN	MAB05	WV	WYOMING	4710900529	250*205553	Welchlands 076		1409		W-Bkly NewRvr_CrabOrchrd	Producing
	MAB01	WV	RALEIGH	4708101318	250*205737	New River 39 EOG [NR_039]		1053	04	W-Bkly Welchind_NewBvr	Producing
N. EN		WV	RALEIGH	4708101321	250*205854	WELCHLANDS 112 NW	· payment of the later in the later of the l	(1595	05	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV W	RALEIGH	4708101342	250*205857	WELCHLANDS 115 NW		3025	05	W-DOROTHY	Producing
MABEN	MAB03	WV	RALEIGH	4708101347	250*205661	DOROTHY SARITA 040 NDS	rounded po. contribute a said	The state of the s	05	W-DOROTHY	Producing
MABEN	MAB06		RALEIGH	4708101363	250*205662	DOROTHY SARITA 042 NDS	projetyl politicania w west property	111	06	W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH	4708101394	250*205663	DOROTHY SARITA 041 N	STATE OF THE PROPERTY OF THE PERSON OF THE P	296	02	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB06	WV		4708101250	250*205852	WELCHLANDS 104	and the second of the second o	802		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	RALEIGH	4710900939	250*205532	Welchlands 038AW	Total Market of the state of	1209	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	WYOMING	4710900889	250*205524	Welchlands 016AW		2839	1		Producing
MABEN	MAB03	WV	WYOMING	4710900894	250*205612	Rundle 1A		293	P00	W-AGP/EASTER	Producing
MABEN	MAB05	WV	WYOMING		250*205613	Smith 1A	SCHOOL SECTION AND CONTRACTOR OF SECTION AND	596	P00	W-AGP/EASTER	Producing
MABEN	MAB05	WV	WYOMING	4710900895	250*205526	Welchlands 021AW	to the paper when the paper commences and paper	102		W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900901	250*205606	AGP 2		2306	P00	W-AGP/EASTER	
MABEN	MAB05	WV	WYOMING	4710900903		Welchlands 061		289	P00	W-Bkly Welchlnd_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900503	250*205544	Cooke 1A		787	P00	W-CROUCH	Producing
MABEN	MAB05	WV	WYOMING	4710900931	250*205614			2663	P00	W-AGP/EASTER	Producing
MABEN	MAB05	WV	WYOMING	4710900886	250*205608	AGP 4		975	P00	W-CROUCH	Producing
MABEN	MAB05	WV	WYOMING	4710900948	250*205615	Crouch 01A		1038	P00	W-CROUCH	Producing
MABEN	MAB05	WV	WYOMING	4710900957	250*205616	Crouch 02A		1039	P00	W-CROUCH	Producing
	MAB05	WV	WYOMING	4710900959	250*205633	McGuire 2A		788	P00	W-CROUCH	Producing
MABEN	MAB05	WV	WYOMING	4710900960	250*205631	Glydys 1A		1401	P00	W-CROUCH	Producing
MABEN		WV	WYOMING	4710900966	250*205618	Crouch 06A		1944	P00	W-CROUCH	Producing
MABEN	MAB05	WV	WYOMING	4710900967	250*205621	Crouch 09A		1976	P00	W-CROUCH	Producing
MABEN	MAB05		WYOMING	4710900930	250*205632	McGuire 1A			P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900855	250*205521	Welchlands 007AW		2300	P00	W-Bkly Welchind_NewBvr	Producing
REN	MAB05	WV	WYOMING	4710900447	250*205530	Welchlands 032		969		W-Bkiy Welchind_NewBvr	Producing
N. EN	MAB05	WV	W YONING	4710900554	250*205558	Welchlands 087		2842	P00	AA-DVIA AAGICIIILIO IAGAADAL	1

***CE Field								Merrick	Year Drilled	0	
irp	Route Name	State	County	Api Weil Number	Exc_250*	Description	Disposition code	Completion ID		Lease Name	Producing Description
NEN	MAB03	WV	WYOMING	4710900657	250*205563	Welchlands 140		784	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900665	250*205566	Welchlands 155	//	1211	P00	W-Bkly WeichInd_NewBvr	Producing
MABEN	MAB03	WV	WYOMING	4710900668	250*205565	Welchlands 150	THE PARTY CONTROL OF PARTY DESIGNATION OF THE PARTY OF TH	1035	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	WYOMING	4710900681	250*205567	Welchlands 162		1398	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	WYOMING	4710900888	250*205523	Welchlands 015AW		2657	P00	W-Bkly Welchind NewByr	Producing
MABEN	MAB03	WV	WYOMING	4710900747	250*205569	Welchiands 166		1763	POO	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900887	250*205525	Welchlands 018AW	rimentilis ^k er kontriktii. Milliote propagateen konseren on seepap kerepite ili ili ili ili ili ili ili ili ili il	3017	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900859	250*205611	Easter 1AE		108	P00	W-AGP/EASTER	Producing
MABEN	MAB05	WV	WYOMING	4710900871	250*205522	Welchlands 009AW	Property Property Conference print Conference Confe	2480	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	WV	WYOMING	4710900877	250*205822	Bond 1	The second section of the section	1414	P00	W-BOND	Producing
VIABEN	MAB05	WV	WYOMING	4710900879	250*205605	AGP 1	manufi American services on significan processivates and distribute	2129	P00	W-AGP/EASTER	Producing
MABEN	MAB05	WV	WYOMING	4710900885	250*205607	AGP 3		2486	P00	W-AGP/EASTER	Producing
VIABEN	MAB02	WV	WYOMING	4710900527	250*205595	Newberry 073		292	P00	W-NEWBERRY	Producing
MABEN	MAB03	WV	WYOMING	4710900744	250*205568	Welchlands 165	The state of the s	1577	P00	W-Bkly WelchInd_NewBvr	Producing
MABEN	MAB02	WV	LOGAN	4704500285	250*205573	Newberry 003		2484	P00	W-NEWBERRY	Producing
MABEN	MAB03	WV	RALEIGH		250*205839	Welchlands 049BW	The first terms of the second	1415	P00	W-Bkly Welchind NewByr	Producing
/IABEN	MAB02	WV	LOGAN	4704501395	250*205600	Newberry 009-NN	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, BUT THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE OWNER	1213		W-NEWBERRY	Producing
/IABEN	MAB02	WV	LOGAN		250*205601	Newberry 012-NN	AND COURT AND ADDRESS OF THE PARTY OF THE PA	1400	01	W-NEWBERRY	Producing
/IABEN	MAB02	WV	LOGAN		250*150617	Newberry 022NN		7222	07	W-NEWBERRY	Producing
/IABEN	MAB02	WV	LOGAN	4704501969	250*150618	Newberry 027NN		7224	07	W-NEWBERRY	Producing
1ABEN	MAB02	WV	LOGAN	4704501970	250*150619	Newberry 029NN		7223	07	W-NEWBERRY	Producing
IABEN	MAB02	WV	LOGAN		250*151224	Newberry 026N	- November - January	7225	07	W-NEWBERRY	Producing
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EN	MAB02	WV	LOGAN		250*205575	Newberry 004	and the second s	2843		W-NEWBERRY	Producing
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/IABEN	MAB02	WV	LOGAN		250*205572	Newberry 002	Cold EVElection in contributions are contributed as a second seco		P00	W-NEWBERRY	Producing
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/IABEN	MAB02	WV	LOGAN	4704500323	250*205581	Newberry 011				W-NEWBERRY	Producing
/IABEN	МАВ06	WV	RALEIGH	4708100982	250*205645	Dorothy Sarita 030BDS	The state of the s	1.10		W-DOROTHY	Producing
1ABEN	MAB06	WV	RALEIGH		250*205646	Dorothy Sarita 031BDS		295		W-DOROTHY	Producing
1ABEN	MAB03	WV	RALEIGH	4708100993	250*205842	Welchlands 067 BW	THE PERSON WHEN THE PERSON WITHOUT PROPERTY AND PERSONS ASSESSED FOR	1958		W-Bkly Welchind NewByr	Producing
1ABEN	MAB03	WV	RALEIGH	4708101004	250*205831	New Beaver 27C				W-Bkly Welchlnd_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH		250*205827	New Beaver 23C	THE THE YEAR OF THE PERSON WAS ASSESSED.	and the second of the second o		W-Bkly Welchind NewBvr	Producing
1ABEN	MAB02	WV	LOGAN	4704500570	250*205590	Newberry 052	44 B. W			W-NEWBERRY	Producing
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IABEN	MAB02	WV	LOGAN	4704500338	250*205580	Newberry 008	WITH THE PARTY AND PARTY AND ADDRESS OF THE PA			W-NEWBERRY	Producing
ABEN	MAB02	WV	LOGAN	4704500352	250*205583	Newberry 015	The state of the s			W-NEWBERRY	Producing
ABEN	MAB02	WV	LOGAN		250*205579	Newberry 007	of Minimus rates and additional and editional and the committee of	!		W-NEWBERRY	Producing
IABEN	MAB02	WV	LOGAN		250*205584	Newberry 016	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.			W-NEWBERRY	Producing
IABEN	MAB02	WV	LOGAN	4704500386	250*205585	Newberry 019	A PART - COMMONEY - COMMON TO SERVICE - COMMON			W-NEWBERRY	Producing
ABEN			LOGAN		50*205586	Newberry 020	-\			W-NEWBERRY	Producing
	1	The state of the s	LOGAN		250*205576	Newberry 004 AN				W-NEWBERRY	Producing
			LOGAN		50*205589	Newberry 035				W-NEWBERRY	Producing
	1		RALEIGH	1	50*205828	New Beaver 24C	<u> </u>			W-Bkly Welchind NewBvr	Producing
			RALEIGH		50*205849	Welchlands 094BW	(V=14)			W-Bkly Welchind NewByr	Producing
			LOGAN		50*205591	Newberry 054	<u> </u>			W-NEWBERRY	Producing
			LOGAN		50*205592	Newberry 062				W-NEWBERRY	Producing
			LOGAN	·	50*205593	Newberry 067				W-NEWBERRY	Producing
).		LOGAN		50*205594	Newberry 071	CONTRACTOR OF THE REAL PROPERTY OF THE PARTY			W-NEWBERRY	Producing
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₹rp	Route Name	State	County	Api Well Number	Exc_250*	Description	Disposition code	Completion_ID	P00	W-NEWBERRY	Producing Description
V i. → EN	MAB02	WV	LOGAN	4704500745	250*205597	Newberry 081	CONT. WHEREIN INSIDER POR PROPER PROPERTY PROPERTY FOR THE PERSON.	786	P00	W-NEWBERRY	Producing
MABEN	MAB02	WV	LOGAN	4704500471	250*205588	Newberry 031	Wanted IV Branch and The Indiana	2128	P00	W-Bkly Weichind_NewBvr	Producing
//ABEN	MAB03	WV	RALEIGH	4708101042	250*205838	New Beaver 37C		1228	P00	W-Bkly Welchind_NewBvr	Producing
NABEN	MAB03	WV_	RALEIGH	4708101079	250*205559	Welchlands 092BW	Domination of Marie Lands for the Contractor of States	3019	<u> </u>	W-Bkly Welchind_NewBvr	Producing
//ABEN	MAB03	WV	RALEIGH	4708101078	250*205848	Welchlands 091BW	personal residence of the second seco	3037	P00 P00	W-Bkly Weichind_NewBvr	Producing
/IABEN	MAB03	WV .	RALEIGH	4708101077	250*205847	Welchlands 090BW	स्त्राह्मान्यस्य नामा प्रकारितित्रं त्याः प्रकारा स्वास्त्राम् स्वास्त्रास्य स्वास्त्रास्य स्वास्त्रास्य स्वास	2859			Producing
1ABEN	MAB03	WV	RALEIGH	4708101076	250*205846	Welchlands 089BW	Approvance distribution, me of consideration of the second	2677	P00	W-Bkly Welchind_NewBvr	
IABEN	MAB03	WV	RALEIGH	4708101050	250*205557	Welchlands 085BW	Almoratur (CVI) (COR) (CAR) AND	2660	P00	W-Bkly Welchind_NewBvr	Producing
1ABEN	MAB06	WV	RALEIGH	4708101048	250*205647	Dorothy Sarita 032BDS	THE RESERVE THE PROPERTY OF TH	598	P00	W-DOROTHY	Producing
IABEN	MAB03	[WV	RALEIGH	4708100981	250*205829	New Beaver 25C	The same and the s	2676	<u> </u>	W-Bkly Welchind_NewBvr	Producing
ABEN	MAB03	WV	RALEIGH	4708101044	250*205823	Bonds 02B	A second	1593	P00	W-Bkly Welchind_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH	4708101023	250*205549	Welchlands 071BW	<u> </u>	1210	P00	W-Bkly Welchind_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH	4708101041	250*205835	New Beaver 32C	Approximation and universities 1969 1957 1969	801	P00	W-Bkly Welchind_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH		250*205837	New Beaver 36C	PORTRADA DE PROPROSTO DE LA CONTRADA DEL CONTRADA DE LA CONTRADA DEL CONTRADA DE LA CONTRADA DEL CONTRADA DEL CONTRADA DE LA CONTRADA DEL CONTRADA DE LA CONTRADA DEL CONTRADA DE LA CONTR	1052		W-Bkly Welchind_NewBvr	Producing
ABEN	MAB03	WV	RALEIGH	4708101035	250*205834	New Beaver 31C	Particular Committee Commi	610		W-Bkly Welchind_NewBvr	Producing
ABEN	MAB03	WV	RALEIGH	4708101025	250*205551	Welchlands 074		·		W-Bkly Welchind_NewBvr	Producing
ABEN	MAB03	WV	RALEIGH	4708101034	250*205833	New Beaver 30C	ACCURAGE AND PARTIES CANAL EXCHANGES AND CANAL MANAGEMENT			W-Bkly Welchlnd_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH	4708101026	250*205844	Welchlands 079BW	Management of the same of the	2321	P00	W-Bkly Welchind_NewBvr	Producing
ABEN	THI TOO	IVA	BUCHANAN		250*287954	BIG VEIN 1-04	LTSI	ANTERNATIONAL RECEIVES CONTROL OF THE PRO-	A08		
IABEN	MAB08	WV	RALEIGH	4708101223	250*287357	POCAHONTAS 1	LTSI	10772	A08	W-VA Pocahontas	SI - Long Term_LTSI
ABEN	IVIADOO	WV	RALEIGH		250*287700	BEAVER COAL 321-C	LTSI		A08		
ABEN	MAB01	WV	RALEIGH	1	250*205703	New River 21AR	LTSI	1406	P00	W-Bkly NewRvr_CrabOrchrd	SI - Long Term_LTSI
^BEN	Unassigned	WV	RALEIGH	1	250*205658	Dorothy Sarita 119		2489	P00	W-DOROTHY	SI - Long Term_LTSI
EN	Ullassigned	WV	RALEIGH	17700200	250*287614	WPP 3-C	LTSI		A08		
	MAB01	WV	FAYETTE		250*287348	NEW RIVER 17		10787	A08	W-Bkly NewRvr_CrabOrchrd	Producing
. EN	IVIADUL	WV	FAYETTE		250*287526	NEW RIVER 33	LTSI		A08	Control of the Contro	
IABEN	INAADO1		RALEIGH	4708100705	250*205720	New River 61AR	·			W-Bkly NewRvr_CrabOrchrd	Producing
IABEN	MABO1	WV	RALEIGH	1	250*287481					WV-SLAB FORK	SI - Long Term_LTSI
ABEN	MAB07	WV	FAYETTE		250*287893		LTSI	The second secon	A08		
IABEN	1.4.6.000	WV	<u> </u>		250*205536		The second secon			W-Bkly Welchind NewBvr	Producing
IABEN	MAB03	WV	WYOMING	4708101322	250*205855	_ 1	(W-Bkly Welchind NewByr	SI - Long Term_LTSI
IABEN	MAB03	WV	RALEIGH		250*205729	1 ·				W-Bkly NewRvr_CrabOrchrd	Producing
ABEN	MAB01	WV	FAYETTE							WV-RALEIGH BEAVER	SI - Long Term_LTSI
IABEN	MAB08	WV	RALEIGH		250*286739					WV-RALEIGH_BEAVER	Producing
IABEN	MAB08	WV	RALEIGH		250*287359			THE RESERVE AND ADDRESS OF THE PARTY OF THE		W-Bkly NewRvr CrabOrchrd	SI - Long Term_LTSI
ABEN	MAB01	WV	RALEIGH		250*287350	WPP 4-C [mid 11723 deleted]				WV-SLAB FORK	SI - Long Term_LTSI
ABEN	MAB07	WV	RALEIGH		250*287615		MATERIAL CONTRACTOR OF THE PROPERTY OF THE PRO		The second secon	WV-RALEIGH BEAVER	SI - Long Term LTSI
IABEN	MAB08	WV	RALEIGH		250*287255	BEAVER COAL 109				WV-RALEIGH_BEAVER	SI - Long Term_LTSI
ABEN	MAB08	WV	RALEIGH		250*287290	<u> </u>				W-Bkly Welchlnd_NewBvr	SI - Long Term_LTSI
IABEN	MAB03	JWV	RALEIGH		250*205832	New Beaver 28C			CONTRACTOR OF THE BUTY STATE	WV-RALEIGH BEAVER	SI - Long Term_LTSI
ABEN	MAB08	WV	RALEIGH		250*287256	BEAVER COAL 110				WV-KALEIGH_BEAVEK	31 - Long Term_LTS1
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IABEN	MAB08	WV	RALEIGH		250*287260					WV-RALEIGH_BEAVER	
ABEN	MAB03	WV	RALEIGH		250*205830	New Beaver 26C				W-Bkly Welchlnd_NewBvr	SI - Long Term_LTSI
ABEN	MAB08	WV	RALEIGH		250*287358	POCAHONTAS 2	Broadfamining Copper, parter 11 : No arres Miles.			W-VA Pocahontas	SI - Long Term_LTSI
IABEN		WV	RALEIGH		250*287268	BEAVER COAL 131	LTSI		A08	MAZONIEIGII DENVES	Dd
ABEN	MAB08	WV	RALEIGH	1	250*287287	BEAVER COAL A-02				WV-RALEIGH_BEAVER	Producing
'^BEN	MAB03	WV	RALEIGH	4708101010	250*205841	Welchlands 060BW				W-Bkly Welchlnd_NewBvr	Producing
EN	MAB03	WV	RALEIGH	4708101016	250*205555					W-Bkly Welchind_NewBvr	SI - Long Term_LTSI
ΞN	MAB06	wv	RALEIGH	4708100877	250*205643	_ (W-DOROTHY	SI - Long Term_LTSI
ABEN	MAB03	WV	RALEIGH	4708101024	250*205843	Welchlands 073BW	LTSI	2143	P00	W-Bkly Welchind_NewBvr	Producing

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**CE Field				AName	Producing Description
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MABEN	MAB07	WV	RALEIGH	AVER	SI - Long Term_LTSI
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WELCHLANDS 29AW - UIC 2D1090980

MONITORING PLAN

EXCO's Monitoring Plan for the Welchlands 29AW Injection Well shall consist of the following:

- The approved UIC permit will be circulated amongst the Production and Regulatory Managers in West Virginia, Pennsylvania, and Texas. The maximum pressure will be duly noted and highlighted.
- The Murphy Gauge at the pump station, which will shut down the well on high and low pressures, will have the maximum pressure setting clearly marked on the gauge.
- 3. A weatherproof sign will be installed at the pump station and well head that indicates the maximum operating pressure so it is clear to the operator.
- 4. The maximum permitted injection pressure will be indicated on the WR-40 Form, which will also summarize the recording of pressure and be submitted on a monthly basis to the West Virginia Department of Environmental Protection.

APPENDIX H

GROUNDWATER PROTECTION PLAN

Facility Name: Welchlands 29AW	
County: Wyoming	
Facility Location: Postal Service Address: Latitude and Longitude: 37.651975; -81.443506 Contact Information: Person: Brian E. Rushe, P.E. w/ EXCO Resources (PA), LLC Phone Number: 724-720-2590 E-mail Address: brushe@excoresources.com Date: 06/20/14	
A list of all operations that may contaminate the groundwater. Production water tanks Underground piping to production water injection well Injection well	
 A description of procedures and facilities used to protect groundwater quality from the list of potential contaminant sources above. 	e
Secondary containment structures for tanks; tank inspection conducted in accordance with SPCC Plan Pipe line inspection Tubing, packer & multiple casing strings in place for wellbore	
List procedures to be used when designing and adding new equipment or operations.	
When adding additional tanks, secondary containment will be modified to handle additional storage capacity.	



_	Summarize all activities at your facility that are already regulated for groundw protection.
N	ot applicable.
_	Discuss any existing groundwater quality data for your facility or an adjacent propert
N	ot applicable.
	Provide a statement that no waste material will be used for deicing or fill material on property unless allowed by another rule.
E	XCO does not utilize produced water for any kind of onsite deicing activities.
(Describe the groundwater protection instruction and training to be provided to employees. Job procedures shall provide direction on how to prevent groundwater contamination.
sa	field employees will be trained annually during one of EXCO's monthly fety meetings. This training will also coincide with EXCO's SPCC insepction lining, which shall include the following:
٦ij	ke Integrity Inspection ping Inspections pusekeeping Procedures
	cation of spill response materials and inventory



8.	Include provisions for inspections of all GPP elements and equipment. Inspections mu be made quarterly at a minimum.	st
[v	Velchlands 29AW shall be inspected on a quarterly basis at a minimum	

Signature: Stion E Kush

Date: 6/20/14

WELCHLANDS 29AW - UIC 2D1090980

PLUGGING & ABANDONMENT PLAN

EXCO's plan to plug and abandon the Welchlands 29AW Injection Well shall consist of the following:

- 1. Set a cast iron bridge plug above the perforations for the injection zone.
- 2. Set a cement plug on top of the cast iron bridge plug.
- 3. Follow all West Virginia DEP Plug 7 Abandon rules and regulations from that point as to further plugs and retrieval of casing from the hole.



EXCO Resources (PA), LLC

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

January 2, 2014

West Virginia Department of Environmental Protection Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304 Attn: Mr. James Peterson

RE: UIC Permit Renewal 2D0392419 (L.C. Wilson #4)
UIC Permit Renewal 2D1090980 (Welchlands 29AW)

Dear Mr. Peterson:

EXCO Resources (PA), LLC is submitting the following information for the L.C. Wilson #4 and Welchlands 29AW UIC Permit Renewals.

- 1. Three (3) copies of the Injection Well Permit Renewal Submittal for the L.C Wilson #4 (UIC 2D0392419)
- 2. A check in the amount of \$5,000.00 made payable to the State of West Virginia for the Separate Bond Fee for the L.C. Wilson #4 (UIC 2D0392419).
- 3. Three (3) copies of the Injection Well Permit Renewal Submittal for the Welchlands 29AW (UIC 2D1090980).
- A check in the amount of \$5,000.00 made payable to the State of West Virginia for the Separate Bond Fee for the Welchlands 29AW (UIC 2D1090980).

If you should have any questions or require additional information, please contact me at (724) 720-2590.

Sincerely,

Brian E. Rushe, P.E.

Construction & Regulatory Manager

Enclosures

APPENDIX I

Requirement for Financial Responsibility to Plug/Abandon an Injection Well

To:	WV Department of Environmental Protection Office of Oil and Gas
	601 57 th Street, SE
	Charleston, West Virginia 25304-2345
	ATTN: Underground Injection Control Program
From:	EXCO Resources (PA), LLC
110111.	Brian E. Rushe, P.E.
	260 Executive Drive, Suite 100
	Cranberry Township, PA 16066
Date:	June 20, 2014
Date.	
Subject:	Underground Injection Control (UIC) Permit Application
J	#UIC2D1090980
	Requirement for Financial Responsibility
_{I,} Brian E. I	Rushe , verify in accordance with 47CSR13-13.7.g., that I
will maintain	financial responsibility and resources to close, plug, and abandon
	injection wells(s) in a manner prescribed by the Chief of the Office
of Oil and Ga	s.
Name: E	Brian E. Rushe, P.E.
Signature: _	Buin E. Kusin
Date:	6/zo/14



APPENDIX J

Site Security for Commercial Facilities

Provide a detailed description of the method(s) utilized at the facility to restrict or prohibit illegal dumping of unauthorized waste or vandalism at the facility.

- 1. Complete enclosure of all wells, holding tank/pits and manifold assemblies within a chain link or other suitable fencing; and
- 2. Require that all gates and other entry points be locked when the facility is unattended; or
- 3. Providing tamper-proof seals for the master valve on each well (a "lock-out" or chain & padlock system would be more secure; however, these devices could create a potential safety hazard if the well needed to be quickly shut in due to an emergency); and
- 4. Installing locking caps on all valves and connections on holding tanks, unloading racks, and headers.

or the Welchlands 29 AW UIC well, there is a locked gate across the access and as well as locking caps on the valves and tanks.



APPENDIX K

Identify permit or construction approvals received or applied for under the following programs:

Permit/approvals	ID Number
Hazardous Waste Management Program under RCRA	
NPDES Program	
Prevention of Significant Deterioration (PSD)	
Nonattainment Program	
Dredge or Fill	
NPDES/NPDES – Stormwater	
WVDEP – Office of Waste Management (OWM) – Solid Waste Facility WVDEP – OWM – RCRA (Hazardous Waste TSD or Transporter)	
WVDEP - OWM - UST	
CERCLA - Superfund	
WV Voluntary Remediation – Brownfields	
FIFRA – Federal Insecticide, Fungicide and Rodenticide Act	
Well Head Protection Program (WHPP)	
Underground Injection Control (UIC)	UIC 2D1090980
Toxic Substances Control Act (TSCA)	
Best Management Plans	-
Management of Used Oil	
Other Relevant Permits (Specify):	





EXCO Resources (PA), LLC

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

> Received Office of Oil & Gas OCT 3 0 2014

October 29, 2014

West Virginia Department of Environmental Protection Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304 Attn: Mr. Zachary Stevison

Response to UIC Permit Deficiency Letter RE:

Welchlands 29AW

UIC Permit # 2D1090980

Dear Mr. Stevison:

The following arc our responses to your Deficiency Letter dated September 9, 2014.

1. Check List for the UIC permit application is missing

RESPONSE: A completed check list is attached.

2. Section 5 of the application fails to provide the requested information "Briefly explain the industry and/or field in which the operator resides (i.e. oil and gas producer, commercial oil and gas waste fluid disposal company, unconventional

RESPONSE: A revised Section 5 and page 2 of 3 for the UIC application is

3. Provide a completed and approved WR-37 Pre-Operational Certificate for Liquid Injection or Waste Disposal Well Document. Our records indicate that well 47-109-00980 Welchlands 29AW is operating without representing valid mechanical integrity, which is required to be performed at a frequency no more than every 5

RESPONSE: Attached is a copy of the completed and approved WR-37

4. Inadequate information has been provided. "An aerial map or appropriate drawing(s) of the proposed UIC injection well(s) facility/project area. This map focuses on the surface and near surface structures associated with the UIC

activities. Included must be all intakes and discharge structures, storage, groundwater supply sources, pipelines, pumps, valves, tank or tank battery, secondary containment, and/or other fluid storage structures. The submitted surface map/drawing should include, but is not limited to: legend/key, scale, and orientation (i.e. north arrow, compass)." The submitted aerial UIC facility map failed to include all pertinent operational surface structures. An updated aerial map shall include all pipelines servicing the injection operation.

RESPONSE: A Detailed Map has been enclosed that shows the injection well filter station, tank pad and pipeline supplying the injection fluid to the well.

5. Appendix A is not complete. Line item 8 and 9 need to be completed.

RESPONSE: A revised Appendix A form is attached. Line items 8 and 9 have been completed.

6. Appendix E has not been completed. The water well data submitted may not legally defensible the primary focus of sample collection.

RESPONSE: No existing streams or ponds or sources of water were identified within the ¼ mile radius of the Welchlands 29AW UIC well. Therefore, the existing water wells that were sampled are the only existing data we have unless the Department will require us to locate and sample water sources outside the ¼ mile radius.

- 7. Sample analysis package HC 89 Box 408/SPhillips W1 and S1
 - a. There appear to be three chain of custody forms with this package (Chain of Custody request for analysis, chain of custody/request for analysis, and a chain of custody receiving document).

RESPONSE: The laboratory's procedure is to have a separate chain of custody for the bacteria sampling. The third page included is the laboratory's receiving document containing all bottles received, preservation, temperature, deviations, and notations.

i. The chain of custody/request for analysis for 3K1140-02 total coliform appears to identify the sample as SEDIMENT in the comment field; however, the analysis reports the information as a water matrix. Is this an error?

RESPONSE: This is a notation in the comment field utilized by the analyst to note that the sample was received with some sediment in the sample bottle. The analysis is correctly reported as a water matrix on the final report.

ii. The received and relinquished signature and timeframes are difficult to follow. All samples provided as part of this package

Received
Office of Oil & Gas
OCT 3 0 2014

were collected at the same time however, received by and relinquished by are not consistent.

RESPONSE: The laboratory has two separate receiving departments. One department receives all microbiological samples and chains of custody while the second department receives samples and chains of custody for all other parameters. The samples are therefore relinquished and received at different times.

b. HC 89 Box 408/SPhillips W1 and S1 Samples' chain of custody is incomplete. The sample parameters need to be identified, receiving information needs to be completed, as well as sample temperature. Initialing the transfer of a chain of custody is unacceptable.

RESPONSE: The laboratory can list the parameters on the chain of custody or moving forward with permission of the Department, state "See Attached" with the parameter list added as an attachment to the chain of custody. For this submittal, the parameter list has been included as the last page of the final report. The sample temperature was verified upon receipt and provided to the client as page 17 of the final report. As of July 21st, the laboratory revised its procedures to include signatures for all individuals involved in the sample chain of custody.

c. The Chain of Custody Receiving document fails to contain a link to the sample chain of custody form. (CoC form contains 3K21140-03 while CoC receiving contains 3K21140-04).

RESPONSE: As of August the 11th, the numbering of the chain of custody and the receiving document is now our protocol. This document is attached with each chain of custody as part 2 of 2, and becomes a permanent document along with the chain of custody to each client's final analytical report.

d. The laboratory reporting method does not satisfy the reporting method of detection required in 47CSR32. Reporting a less than symbol does not provide the agency a value that can be assessed.

RESPONSE: In response to a West Virginia audit in July 2014, all West Virginia projects were set up in the laboratory's LIMS system to report all results to the MDL. As a check to ensure all West Virginia samples are issued to the MDL, the laboratory's LIMS provider set a query that will run daily to verify all projects with the West Virginia designation are reported to the MDL. The final report for 3K21140 can be reissued reporting results to the MDL.

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e. Data submitted and qualified as being outside acceptable limits is unusable.

RESPONSE: The data is usable and acceptable based on additional passing quality control. Included in this sequence of samples was both a low and high range continuing calibration verification sample, as well as a laboratory control sample duplicate. All of these quality control samples were within the acceptable range. The method blank analyzed with this sequence of samples was non-detect, indicating that no bias was present.

f. It is unclear if the parameter identified as Gasoline is a GRO analysis or a gasoline sample.

RESPONSE: The laboratory revised the naming on March 15, 2014 to clearly report GRO as Gasoline Range Organics. The final report for 3K21140 can be reissued showing the correction.

g. Analytical report form for samples identifies sample 3K21140-05 was collected 16 December 2013 and received by the lab on 21 November 2013.

RESPONSE: For samples 3K21140-04 and 3K21140-05, the GRO, DRO, and ORO were resampled on December 16, 2013. The laboratory's LIMS system will allow only one received date. The laboratory made a note in the case narrative on the report to that effect. Upon review, if the case narrative note does not adequately address the concerns of the Department, then the laboratory can put the GRO, DRO, and ORO on a separate report.

8. Sample PO BOX 172/EPHILLIPS SI

a. Analytical report form for samples identifies sample 3K222098-02 was collected 19 December 2013 and received by lab on 22 November 2013.

RESPONSE: For sample 3K22098-02, the GRO, DRO, and ORO was resampled on December 16, 2013. The laboratory's LIMS system will allow only one received date. The laboratory made a note in the case narrative on the report to that effect. Upon review, if the case narrative note does not adequately address the concerns of the Department, then the laboratory can put the GRO, DRO, and ORO on a separate report.

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OCT 3 0 2014

b. The trip blank is missing from this analysis. 47CRS32.2.1.3.e.A Trip blanks must be prepared, transported and analyzed for each batch of samples for analysis for Nonpotable Volatile Organic Chemicals.

RESPONSE: The laboratory's procedure for trip blanks typically is to analyze one per day, not per sample as shown on other reports for this project. The trip blank was missed on November 22nd, however all volatiles for all samples were non detect.

c. The laboratory reporting method does not satisfy the reporting method of detection required in 47CSR32. Reporting a less than symbol does not provide the agency a value that can be assessed.

RESPONSE: In response to a West Virginia audit in July 2014, all West Virginia projects were set up in the laboratory's LIMS system to report all results to the MDL. As a check to ensure all West Virginia samples are issued to the MDL, the laboratory's LIMS provider set a query that will run daily to verify all projects with the West Virginia designation are reported to the MDL. The final report for 3K22098 can be reissued reporting results to the MDL.

d. Data submitted and qualified as being outside acceptable limits is unusable.

RESPONSE: The data is usable and acceptable based on additional passing quality control. Included in this sequence of samples was both a low and high range continuing calibration verification sample, as well as a laboratory control sample duplicate. All of these quality control samples were within the acceptable range. The method blank analyzed with this sequence of samples was non-detect, indicating that no bias was present.

e. 83 Facemyer RD/Wood W1 Samples' chain of custody is incomplete. The sample parameters need to be identified, receiving information needs to be completed, as well as sample temperature. Initialing the transfer of a chain of custody is in acceptable.

RESPONSE: The laboratory can list the parameters on the chain of custody or with permission of the Department, state "See Attached" with the parameter list added as an attachment to the chain of custody. The sample temperature was verified upon receipt and provided to the client as page 11 of the final report. As of July 21st, the laboratory revised its procedures to include signatures for all individuals involved in the sample chain of custody.

f. The Chain of Custody Receiving document fails to contain a link to the sample chain of custody form. (CoC from contains 3K22098-11 while CoC receiving contains 3K22089-12).

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RESPONSE: As of August the 11th, the numbering of the chain of custody and the receiving document is now our protocol. This document is attached with each chain of custody as part 2 of 2, and becomes a permanent document along with the chain of custody to each client's final analytical report.

g. It is unclear if the parameter identified as Gasoline is a GRO analysis or a gasoline sample.

RESPONSE: The laboratory revised the naming on March 15, 2014 to clearly report GRO as Gasoline Range Organics. The final report for 3K22098 can be reissued showing the correction.

9. Sample 646 PHILLIPS RD/BDANIELS S1

a. Analytical report form for samples identifies sample 3K22099-02 was collected 16 December 2013 and received by the lab on 22 November 2013.

RESPONSE: For sample 3K22099-02, the GRO, DRO, and ORO was resampled on December 16, 2013. The laboratory's LIMS system will allow only one received date. The laboratory made a note in the case narrative on the report to that effect. Upon review, if the case narrative note does not adequately address the concerns of the Department, then the laboratory can put the GRO, DRO, and ORO on a separate report.

b. The trip blank is missing from this analysis. 47CRS32.2.1.3.e.A Trip blanks must be prepared, transported and analyzed for each batch of samples for analysis for Nonpotable Volatile Organic Chemicals.

RESPONSE: The laboratory's procedure for trip blanks typically is to analyze one per day, not per sample as shown on other reports for this project. The trip blank was missed on November 22nd, however all volatiles for all samples were non detect.

c. The laboratory reporting method does not satisfy the reporting method of detection required in 47CSR32. Reporting a less than symbol does not provide the agency a value that can be assessed.

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OCT 3 0 2014

RESPONSE: In response to a West Virginia audit in July 2014, all West Virginia projects were set up in the laboratory's LIMS system to report all results to the MDL. As a check to ensure all West Virginia samples are issued to the MDL, the laboratory's LIMS provider set a query that will run daily to verify all projects with the West Virginia designation are reported to the MDL. The final report for 3K22099 can be reissued reporting results to the MDL.

d. Data submitted and qualified as being outside acceptable limits is unusable.

RESPONSE: The data is usable and acceptable based on additional passing quality control. Included in this sequence of samples was both a low and high range continuing calibration verification sample, as well as a laboratory control sample duplicate. All of these quality control samples were within the acceptable range. The method blank analyzed with this sequence of samples was non-detect, indicating that no bias was present.

e. 646 PHILLIPS RD/BDANIELS S1 Samples' chain of custody is incomplete. The sample parameters need to be identified, receiving information needs to be completed, as well as sample temperature. Initialing the transfer of a chain of custody is in acceptable.

RESPONSE: The laboratory can list the parameters on the chain of custody or moving forward with permission of the Department, state "See Attached" with the parameter list added as an attachment to the chain of custody. For this submittal, the parameter list has been included as the last page of the final report. The sample temperature was verified upon receipt and provided to the client as page 17 of the final report. As of July 21st, the laboratory revised its procedures to include signatures for all individuals involved in the sample chain of custody.

f: It is unclear if the parameter identified as Gasoline is a GRO analysis or a gasoline sample.

RESPONSE: The laboratory revised the naming on March 15, 2014 to clearly report GRO as Gasoline Range Organics. The final report for 3K22099 can be reissued showing the correction.

g. The Chain of Custody Receiving document fails to contain a link to the sample chain of custody form. (CoC from contains 3K22099-03 while CoC receiving contains 3K22099-03)

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RESPONSE: As of August the 11th, the numbering of the chain of custody and the receiving document is now our protocol. This document is attached with each chain of custody as part 2 of 2, and becomes a permanent document along with the chain of custody to each client's final analytical report.

10. Appendix G has not been completed. Of the list provided a spot check of the wells identified are abandoned ordered, status of abandoned, and there is 2013 production indicated in our system. Please complete Appendix G with only the wells fluid is being accepted from.

RESPONSE: Attached is an updated list of the wells serviced by the Welchlands 29AW well.

11. Section 9 Sample HC 89 Box 300/injection well fluid data is useless. Extractable Petroleum Hydrocarbons recover is outside of the QC control limits, the MDL and RL are reported to be the same.

RESPONSE: The data for the Extractable Petroleum Hydrocarbons data is usable and acceptable based on additional passing quality control. Included in this batch of samples were low and high range continuing calibration verification sample, as well as a laboratory control sample. All of these quality control samples were within the acceptance range. The method blank and instrument blank analyzed with this sequence of samples were non-detect, indicating that no bias was present.

In response to a West Virginia audit in July 2014, all West Virginia projects were set up in the laboratory's LIMS system to report all results to the MDL. As a check to ensure all West Virginia samples are issued to the MDL, the laboratory's LIMS provider set a query that will run daily to verify all projects with the West Virginia designation are reported to the MDL. The final report for 3K08103 can be reissued reporting results to the MDL.

a. The Chain of Custody Receiving document fails to contain a link to the sample chain of custody form. (CoC form contains 3K08103-02 while CoC receiving contains 3K081013-03).

RESPONSE: As of August the 11th, the numbering of the chain of custody and the receiving document is now our protocol. This document is attached with each chain of custody as part 2 of 2, and becomes a permanent document along with the chain of custody to each client's final analytical report.

b. The laboratory reporting method does not satisfy the reporting method of detection required in 47CSR32. Reporting a less than symbol does not provide the agency a value that can be assessed.

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OCT 3 0 2014

RESPONSE: In response to a West Virginia audit in July 2014, all West Virginia projects were set up in the laboratory's LIMS system to report all results to the MDL. As a check to ensure all West Virginia samples are issued to the MDL, the laboratory's LIMS provider set a query that will run daily to verify all projects with the West Virginia

designation are reported to the MDL. The final report for 3K08103 can be reissued reporting results to the MDL.

c. The trip blank was not recorded on the Chain of Custody.

RESPONSE: The trip blank was recorded on the chain of custody listed under the analyses requested but was not recorded as a sample description. In response to the West Virginia audit in July 2014, the laboratory has revised its procedure in location of trip blank analyses on the chain of custody. Trip blanks are now located in the sample description section of the chain of custody.

12. UIC facility shall provide adequate secondary containment for all fluid storage reservoirs. Provide a physical and quantitative description of all tank and/or tank battery secondary containment(s), providing evidence that the structure(s) can contain 110% of largest tank volume. Provide all calculations and secondary construction information.

RESPONSE: Secondary containment is provided for all of the tanks. The secondary containment volume minus the tanks in that containment is 18,496 gallons. There are two (2)-210 barrel tanks and one (1)-50 barrel tank. The 110% volume requirement = 9,702 gallons. There is an excess volume of 8,794 gallons above the 110% volume requirement. See the attached operator Annual AST Inspection Form.

13. Section 9 Operating Requirements/Data: item number 4, 5, and 6 have been omitted.

RESPONSE: For 9.4, No fluid additives to report during injection.

For 9.5, the Annulus has a standing fluid level of formation water @ 1,700' & then methane gas to surface. These fluids are minimally corrosive.

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OCT 3 0 2014

For 9.6, In the event of a well surface failure EXCO would utilize the SPCC plan to contain the spill from migrating to any water source. In the event of a subsurface failure a number of options are available. EXCO would utilize a combination of rig equipment, non-toxic kill fluids, or plugs to isolate a failure point. Once the problem was identified and temporarily contained a more detailed plan would follow. The fluids we currently dispose of in this well could simply be hauled to another EXCO injection well or to a third party disposal well.

14. Adequate injection pipeline integrity shall be maintained by each UIC well facility. Provide a plan and/or explanation of pipeline integrity testing and frequency.

RESPONSE: The pipeline integrity inspection plan and frequency is mentioned in the Groundwater Protection Plan. Quarterly inspections shall be completed at a minimum for all pipelines for evidence of leakage and integrity issues. A revised Section 8 of the Groundwater Monitoring Plan is attached.

15. Section 13 of the submitted draft permit application indicates "A check in the amount of \$5,000.00 made payable to the State of West Virginia for the Separate Bond Fee for the Welchlands 29AW (UIC 2D1090980)" has been submitted. No such check can be located or the appropriate form.

RESPONSE: Attached is a copy of the correspondence letter to James Peterson with the WV DEP dated January 2, 2014 as well as a copy of the check in the amount of \$5,000.00.

16. Complete Appendix G of the WVDEP UIC application package.

RESPONSE: An updated spreadsheet of all the wells that service the Welchlands 29AW is attached as referenced on the Appendix G Form that was previously submitted.

17. Appendix H Groundwater Protection Plan

a. Section 8 fails to provide adequate explanation or detail. The injection facility and appropriate inspection need to presented.

RESPONSE: A revised Section 8 of the Groundwater Protection Plan is attached.

18. Provide a detailed description of the injection zone. This shall include all the information and data outlined in Section 8 of the Class 2 and 3 UIC Permit Application Package. Also, provide further documentation and/or evidence supporting the 80 mD permeability value used in your submitted pressure model.

RESPONSE: The Injection zone for this well is the Upper Devonian Gordon Sandstone with historic records indicating it being found from 4374-4424 ft in the Welchlands 29AW well. A wireline log is not available to EXCO for the injection well and the nearest well with log data sufficient enough to Office of Oil & Gascharacterize the Gordon sand is the Georgia Pacific Corp. #235 (4710901078) 4 miles to the west. Density porosity measurements in the Georgia Pacific Corp. well average 7.4% (log attached). Gross thickness of the Gordon is 50ft at the Welchlands 29AW well and remains consistent in the general area (isopach attached). The Welchlands 29AW sits on the SE limb of an anticline whose axis has a NE/SW orientation (structure map attached). No faulting is known in the area, while fracturing may be more prolific here than in other areas given the wells proximity to the fold.

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19. Provide a description of the confining zone is required, including lithological names, thickness, confining properties, and formation integrity.

RESPONSE: Shale is present above and below the injection zone and remains thick for miles around the Welchlands 29AW. The confining shale above the Gordon in the Welchlands well is estimated to be 135ft thick. The Berea sandstone, which is typically <10ft thick in the area, marks the top of the confining zone. The confining shale above thickens to the north and thins slightly to the south (isopach attached). Low permeability, Devonian shale below the target interval is extremely thick in the area. Adequate log data to make an isopach of the shale succession is not available, as most wells stop in the Huron Shale. As can be seen on the Georgia Pacific Corp. #235 log the shale extends for thousands of feet below the injection interval.

20. Provide a structural contour and isopach map of both the injection and confining layer(s). This shall, at minimum, cover the proposed ¼ mile AOR including all control points.

RESPONSE: Maps are attached as requested.

21. Provide geophysical logs of the proposed injection and neighboring wells. Each log shall delineate the upper and lower contacts of the injection and confining geologic units showing the vertical and lateral extent of the proposed injection reservoir.

RESPONSE: No log for the injection well, but nearest offset with more than just a gamma ray is attached.

22. Provide a compatibility of injection fluid with formation(s) and formation fluid assessment.

RESPONSE: Due to no freshwater being seen while drilling at these depths and only injecting brine into the Gordon Sand no fluid compatibility concerns exist.

23. Provide a groundwater use and dependence evaluation at minimum covering the AOR.

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RESPONSE: Based on telephone discussions with Zac Stevison, Brian Carr, and Jane McColloch with the WV DEP, there are no accurate aquifer maps for this area. If acceptable, then a list of the total depths or depth to water for the water wells that were tested can be added to the water well map. This information was obtained from either the field measurements and/or the resident's knowledge.

24. Provide a description of the nature of the annulus between the tubing and casing is required, including any additives used.

RESPONSE: Annulus has a standing fluid level of formation water @ 1,700' & then methane gas to surface. The annulus has 0 psi pressure on it.

25. Provide the injection well hydrostatic fluid level.

RESPONSE: The hydrostatic fluid level in the tubing is 1,600' below ground level after a shut in period of 10 days.

If you should have any questions or require additional information, please contact me at (724) 720-2590.

Sincerely,

Brian E. Rushe, P.E.

Construction & Regulatory Manager

Enclosures

Received
Office of Oil & Gas
001 3 0 2014

CHECKLIST FOR FILING A UIC PERMIT APPLICATION

Please utilize this checklist to ensure you have prepared, completed, and enclosed all required documentation and payment to ensure a timely review of your submittal.

Operator	EXCO Re	(PA), LLC	
Existing UIC Permit ID Number	2D1090980	UIC Well API Number	47-109-00980

Office of Oil and Gas Office Use Only						
Permit Reviewer	ZGS					
Date Received	4					
Administratively Complete Date	6124/2014					
Approved Date						
Permit Issued						

Please check the fees and payment included.

Fees	Payment Type		
UIC Permit Fee: \$500	√	Check	√
Groundwater Protection Plan	1	Electronic	
(GPP) Fee: \$50.00		Other	

Please check the items completed and enclosed.	
Checklist	
✓ UIC-1	
Section 1 – Facility Information	
Section 2 – Operator Information	
Section 3 – Application Information	
Section 4 – Applicant/Activity Request and Type	
Section 5 – Brief description of the Nature of the Business	
CERTIFICATION	
Section 6 – Construction	Received
Appendix A Injection Well Form	Office of Oil & Gas
Appendix B Storage Tank Inventory	OCT 3 0 2014
Section 7 – Area of Review	
Appendix C Wells Within the Area of Review	



Appendix D Pul	blic Service District Affidavit	
Appendix E Wa		
Appendix F Are	ea Permit Wells	
	cal Data on Injection and Confining Zones	
	g Requirements / Data	
	ells Serviced by Injection Well	
Section 10 – Monitor		
	water Protection Plan (GPP)	
	roundwater Protection Plan (GPP)	
Section 12 – Pluggin	•	
Section 13 – Addition		
Section 14 – Financia		Received
	ancial Responsibility	Office of Oil & Gas
Section 15 – Site Section 15		OCT 3 0 2014
	e Security for Commercial Wells	
Section 16 – Addition		
	her Permit Approvals	
*NOTE: For all 2D wells an	additional bond in the amount of \$5,000 i	is required.
Reviewed by (Print Name):	Brian E. Rushe, P.E.	
7	R O.	
Reviewed by (Sign):	pune pull	
Date Reviewed:	10/20/14	



<u> </u>	ction 3.	<u>Applicant</u>	Informatio	<u>n</u>					_		
Owners	ship Status:	PRIVATE	☐ PUBLIC	□ FE	DERAL	☐ STATE					
SIC cod	de: 🔳 1311	1 (2D, 2H, 2R)	☐ 1479 (3S)		OTHER (e	explain):					
Se	ction 4.	Applicant	/ Activity	Reque	st and	Type:					
B. C. 2D	Reissue e Modify exi (Submit or COMMERCIA	AL FACILITY:	ermit: ■ 2D mit: □ 2D tion pertaining □ YES	■ NO							
Se	ction 5.	Briefly de	scribe the	nature	of bu	siness ar	nd the a	ctivities	to be o	onduct	ed:
fluids	for EXCC	Ondergrou	ind Injection	i Conti	il and (gas produ	for the s	JDSUrfa(ce inject	ion of pre	oduced
C	Office of	eived Oil & Ga 0 2014	e								



Date:

10-1-2014

Operator's Well Number

UIC2D1090980

County 109

ty Permit _ 00980

API Well No .:

47-

State

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENT-OFFICE OF OIL AND GAS PRE-OPERATION CERTIFICATE

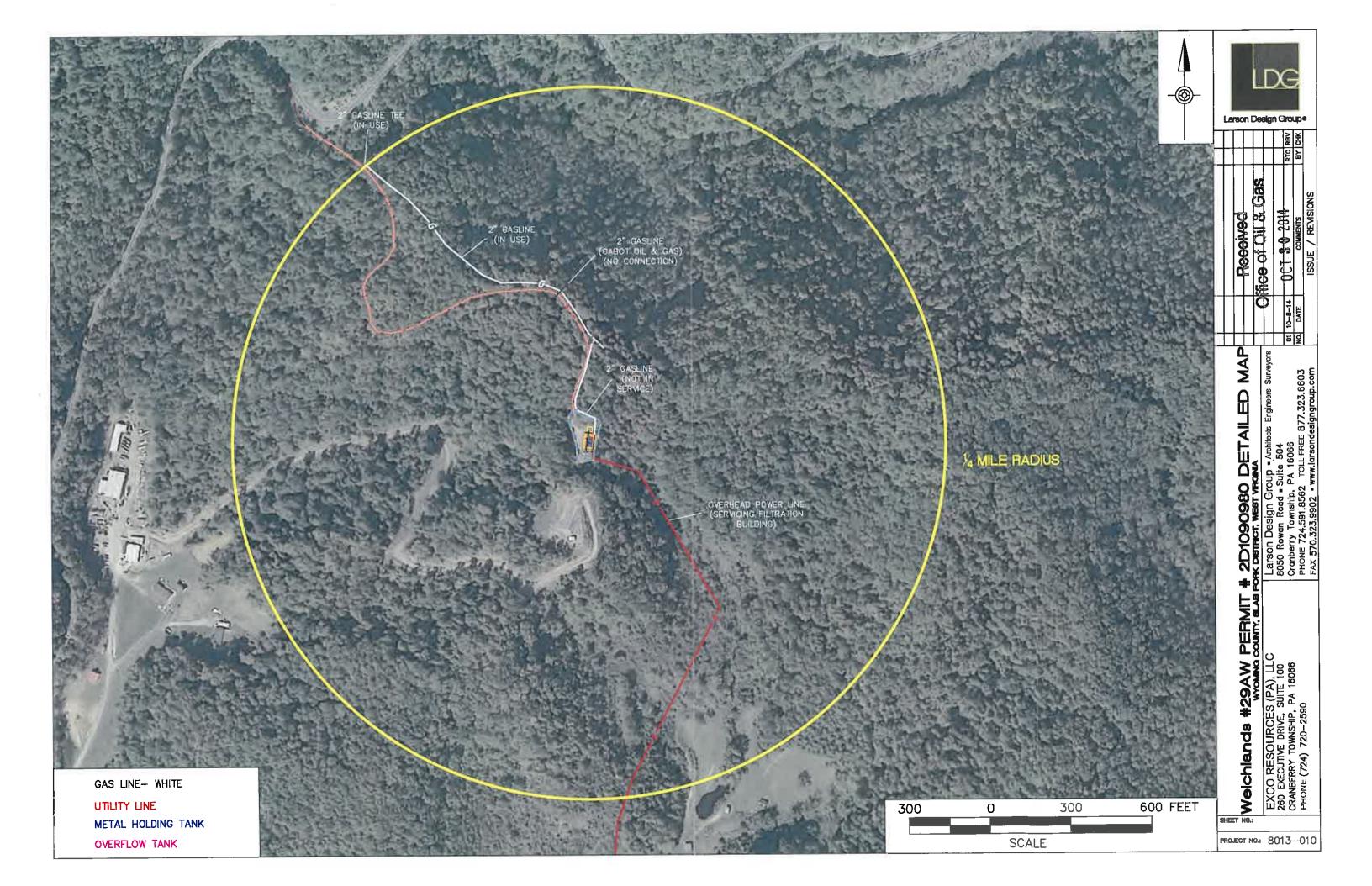
FOR LIQUID INJECTION OR WASTE DISPOSAL WELL

	Address	260 Executive	Resources Drive, Sulte wnship, PA	100	LC —	DESIGNA	TED AG Address			are continued to the co	
GEOLOG	ICAL TA	RGET FOI	RMATION	Gordo	n Sand	Depth '	4,374	Gardle	p) to 4,424		
			in target fo			psig		reek10	p) to 1,124	_feet(bottom)	Received
Sou	nce of info	rmation on	virgin rese	rvoir pr	ressure: Hy	drostatic p	ore pres	sure		Off	ice of Oil & Ga
Per	foration in	tervals 4,3	32-4,411				tole inter		ne		
MAXIMUN	I PERMI	TTED INJ	ECTION (PERA	TIONS		111010	VIII3			OCT 3 0 2014
Well	l head inje	ction press	ure: 200		_psig	Botton	hole pre	ssure: 21	50 (1.12 S.G.)	reio	
DETADL <u>ED</u>	me per ho	CATION	OP MAN	DENY A W						,arg	
Liq	uids to be	injected for	oil recover	v: None	STUBER	NJECTED					
Was	ites to be d	isposed of:	Produced flu	ids from	wells in area	. 1.12 S.G.	<u> </u>				
SPECIFICATE to prevent property ADDITIONAL DETAILS ON	FIONS FO	OR CATHO	ODIC PRO	TECTI em to p	ON AND C	OTHER CO	RROSIO	N CONT	intain well Inte	mmonlum b1 sulficed by sulfice	livity. Iger
CASING OR TUBING TYPE	SIZE	GRADE	WEIGHT PER FT.	NEW		OTAGE USEI DRILLING	FOOTA	GE LEF	- sensor more of the	PACKERS	
CONDUCTOR	12-3/4"	-		X	24'	· · · · · · · · · ·	24 ¹	31112	USED 2 sks	(KIND, SIZ DEPTH SE	远, 引)
FRESH WATER	9-5/8"		32#	X	69	7'	697'		244 sks		mana _s o
COAL								•			-
INTERMEDIATE	. 7"		17#	<u>X</u>	153	30'	1530'		250 sks	-	-
PRODUCTION	4-1/2"	J-55	10.5#	<u>X</u>	454	(O)	4540'	!	200 sks		***
TUBING	2-3/8"	H-55	4.7#	X	438	30'	4380'			· · · · · · · · · · · · · · · · · · ·	-
LINERS											- 1

MECHANICAL INTEGRITY TEST

Test Metho	od: EXCO opted to monitor ti	ne annulus of this well under 47CSR13-6.2.b.1 to
demons	trate mechanical integrity.	This well has pressure (gauges) and rate (chart recorder)
monitori	ng devices on the annulus to	watch for any potential fluid movement. In addition to
the afore	ementioned monitoring, echo	ometer shots will be taken on a quarterly basis to monitor
the fluid	level in the annulus.	
_		
		#-
The unders	gned certifies that the test was p	erformed on NOTAPPLICABLE , 20 and demonstrated
mechanical the Office o	integrity of the well. The test wa	s witnessed by NOT APPLICABLE representing
	and the second	
NOT APP		NOT APPLICABLE
	Well Operator	Date
THIS WELL IS AUTOMOTE Date	in millionized for the Control of 1/14	UIC PROGRAM DIRECTOR
[NOTE: That the mech order for injection to c	anical integrity of this well must a ontinue. Please notify the state in	be demonstrated again within ninety (90) days of five years from this date in spector 24 hours in advance of the test].
Receive	ad	
Office of Oil		
Office of Chi	r Jas	EXCO Resources (PA), LLC
OCT 30 2	014	Well Operator
		By: Brian E. Rushe, P.E.
		Its Construction & Regulatory Menager

on 10/1/14 even though it is "tested" everyday via gauges and recorder. Gene Smith





APPENDIX AInjection Well Form

1) GEOLOGIC TARGET FORMATION Gordon Sandstone	
Depth 4374 Feet (top) 4425 Feet (bottom)	
2) Estimated Depth of Completed Well, (or actual depth of existing well): 4599 Feet	
Depth 4374 Feet (top) 4425 Feet (bottom) 2) Estimated Depth of Completed Well, (or actual depth of existing well): 4599 Feet 3) Approximate water strata depths: Fresh none Feet Salt 2910 Feet 4) Approximate coal seam depths: 575, 735, 970, 1110, 1424 5) Is coal being mined in the area? Yes No 6) Virgin reservoir pressure in target formation 750 psig Source 47-081-1106, 1024	
4) Approximate coal seam depths: 575, 735, 970, 1110, 1424	
5) Is coal being mined in the area? Yes No	
6) Virgin reservoir pressure in target formation 750 psig Source 47-081-1106, 1024	
4000	
8) MAXIMUM PROPOSED INJECTION OPERATIONS:	
Injection rate (bbl/hour) 60 BPH	
Injection volume (bbl/day) 1440 BPH	
Injection pressure (psig) 250 PSIG	
Bottom hole pressure (psig) 3506 PSIG	
9) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES:	
Produced brines, fracturing fluids, pit fluids, 02 scavenger, bacteriacid & scale inhibitor	
Temperature of injected fluid: (°F) 57.5	
10) FILTERS (IF ANY)	
5 Micron	
11) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL	
Injection fluid will be treated with phosphonate (scale inhibitor) to protect surface	
equipment and injection equipment and injection lines.	
Office of Oil & Gas	

OCT 3 0 2014





89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

SSS

10/17/14 10:55

Number of Containers:

23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	* * * * * * * * * * * * * * * * * * * *				
	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
HC 89 BOX 408/SPHILLIPS W1	3K21140-01	Water	Grab	11/21/13 11:30	
HC 89 BOX 408/SPHILLIPS S1	3K21140-02	Water	.	11/21/15 11.50	11/21/13 19:15
TRIP BLANK		water	Grab	11/21/13 12:20	11/21/13 19:15
THE BLANK	3K21140-03	Water	Trip Blank	11/21/13 00:00	11/21/13 19:15
077014.10 =					11/21/13 19:13

3K21140 Parameter list attached as page 31 of final report. This report replaces the report issued 09/30/14 12:35. 10/07/14 CL

3K21140 Report revised. Case narrative and MDL values added. This report replaces the report printed on 12/27/13 10:52.

The resamples for GRO/DRO/ORO were collected 12/16/13 and are reported on separate laboratory work order ID: 4J17007. This report replaces the report printed on 10/07/14 11:21. 10/17/14 mlf

Received
Office of Oil & Gas

OCT 30 2014

Fairway Laboratories, Inc.

Reviewed and Submitted by:

mat

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

10/17/14 10:55

Number of Containers:

State Certifications: MD 275, WV 364

23

Client Sample ID: HC 89 BOX 408/SPHILLIPS W1

Date/Time Sampled: 11/21/13 11:30

Laboratory Sample ID:

3K21140-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Calculated Analytes								
Hardness	45.3	0.0657	0.662	 mg/l	12/04/13 17:31	(T) (G) (O)		
Metals by EPA 200 Series Methods					12/04/13 17:31	SM2340B	rab	
Aluminum	<0.0500	0.0149	0.0500	mg/l	12/04/13 17:31	ED4 200 844 4		
Arsenic	0.00637	0.00202	0.00400	mg/l	12/04/13 17:31	EPA 200.7/4.4	rab	
Barium	0.293	0.00132	0.0100	mg/l	12/04/13 17:33	EPA 200.7/4.4 EPA 200.7/4.4	rab	
Calcium	12.9	0.0131	0.100	mg/l	12/04/13 17:31	EPA 200.7/4.4 EPA 200.7/4.4	rab	
Iron	15.1	0.00223	0.0200	mg/l	12/04/13 17:31	EPA 200.7/4.4 EPA 200.7/4.4	rab rab	
Manganese	0.298	0.00146	0.0100	mg/l	12/04/13 17:33	EPA 200.7/4.4	rao rab	
Sodium	11.0	0.0677	0.400	mg/l	12/04/13 17:31	EPA 200.7/4.4	rab	
olatile Organic Compounds by EPA M	Iethod 8260B						140	
Benzene	<0.12	0.12	1.00	ug/l	11/28/13 03:00	EDA 9360D		
Toluene	< 0.39	0.39	1.00	ug/l	11/28/13 03:00	EPA 8260B	wlm	
Ethylbenzene	< 0.18	0.18	1.00	ug/l	11/28/13 03:00	EPA 8260B EPA 8260B	wlm	
Xylenes (total)	< 0.35	0.35	2.00	ug/l	11/28/13 03:00	EPA 8260B EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene		91.2 %	70-1		11/28/13 03:00		wlm ————	
urrogate: 1,2-Dichloroethane-d4		111 %	70-1.	_	11/28/13 03:00	EPA 8260B EPA 8260B	wlm wlm	
Surrogate: Fluorobenzene		102 %	70-1.	30	11/28/13 03:00	EPA 8260B	wim wlm	
onventional Chemistry Parameters by	SM/EPA Met	hods					14 1111	

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Collector:

SS

10/17/14 10:55

Number of Containers:

State Certifications: MD 275, WV 364

23

Client Sample ID: HC 89 BOX 408/SPHILLIPS W1

Date/Time Sampled: 11/21/13 11:30

Laboratory Sample ID:

3K21140-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Comments of Classics B								
Conventional Chemistry Parameters	s by SM/EPA M	<u> 1ethods</u>						
Chloride	15.4	0.215	1.00	mg/I	11/22/13 19:16	EPA 300,0/2.1	bdw	
Methylene Blue Active Substances	<0.0250	0.00675	0.0250	mg/l	11/22/13 08:45	SM 5540 C-2011	elb	
рН @ 19.2°C	6.67			pH Units	11/22/13 16:04	SM20-4500H + B	cmh	
Total Dissolved Solids	172	4.00	40.0	mg/l	11/26/13 15:30	+ B SM20-2540C	arr	
Sulfate as SO4	6.60	0.191	1.00	mg/l	11/22/13 19:16	EPA 300.0/2.1	bdw	
Microbiological Parameters by APH.	A Standard Me	thods						
E. Coli	<1.0	1.0	1.0	MPN/100 ml	11/22/13 10;39	SM20-9223B	blb	7c
Total Coliforms	<1.0	1.0	1.0	MPN/100 ml	11/22/13 10:39	SM20-9223B	blb	7c
ield Sampled Parameters								
Specific Conductance (Field)	216	0.00	2.00	umhos/cm	11/21/13 11:30	SM20-2510B	SSS	
pH- Field @ 12.5°C	6.91			pH Units	11/21/13 11:30	SM20-4500H	SSS	
Temperature	12.5	0.00	0.100	degrees C	11/21/13 11:30	+ B FIELD SM20- 2550B Field	SSS	
Dissolved Gases by RSK 175						riciu		
Butane	<0.0200	0.00513	0.0200	 mg/l	11/26/13 14:36	RSK 175	bag	
Methane	0.240	0.00150	0.0200	mg/l	11/26/13 14:36	RSK 175	bag	
							~	

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Collector:

10/17/14 10:55

Number of Containers:

State Certifications: MD 275, WV 364

23

Client Sample ID: HC 89 BOX 408/SPHILLIPS W1

Date/Time Sampled: 11/21/13 11:30

Laboratory Sample ID:

3K21140-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Dissolved Gases by RSK 175 Ethane	<0.0100	0.00227	0.0100	mg/l	11/26/13 14:36	RSK 175	bag	
Propane	< 0.0150	0.00363	0.0150	mg/l	11/26/13 14:36	RSK 175	bag	

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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

SS

10/17/14 10:55

Number of Containers:

23

Client Sample ID: HC 89 BOX 408/SPHILLIPS S1

Date/Time Sampled: 11/21/13 12:20

Laboratory Sample ID:

3K21140-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
					- Indiyeod	Wibalog		
Calculated Analytes								
Hardness	140	0.0657	0.662	mg/I	12/04/13 17:45	SM2340B	rab	
Metals by EPA 200 Series Methods								
Aluminum	0.667	0.0149	0.0500	mg/l	12/04/13 17:46	EPA 200.7/4.4	rab	
Arsenic	<0.00400	0.00202	0.00400	mg/l	12/04/13 17:47	EPA 200.7/4.4	rab	
Barium	0.0407	0.00132	0.0100	mg/l	12/04/13 17:46	EPA 200.7/4.4	rab	
Calcium	50.8	0.0131	0.100	mg/l	12/04/13 17:45	EPA 200.7/4.4	rab	
ron	7.81	0.00223	0.0200	mg/l	12/04/13 17:45	EPA 200.7/4.4	rab	
Manganese	0.684	0.00146	0.0100	mg/l	12/04/13 17:47	EPA 200.7/4.4	rab	
Sodium	1.45	0.0677	0.400	mg/l	12/04/13 17:45	EPA 200.7/4.4	rab	
olatile Organic Compounds by EPA N	Tethod 8260E	<u> </u>	_					
Benzene	< 0.15	0.15	1.00	ug/l	11/26/13 15:35	EPA 8260B	bag	2d
Toluene	<0.12	0.12	1.00	ug/l	11/26/13 15:35	EPA 8260B	bag	2d
Ethylbenzene	<0.08	0.08	1.00	ug/l	11/26/13 15:35	EPA 8260B	bag	
Kylenes (total)	<0.28	0.28	2.00	ug/i	11/26/13 15:35	EPA 8260B	bag	
Surrogate: 4-Bromofluorobenzene		92.9 %	70-1	30	11/26/13 15:35	EPA 8260B	bag	
urrogate: 1,2-Dichloroethane-d4		99.4 %	70-1	30	11/26/13 15:35	EPA 8260B	bag	
urrogate: Fluorobenzene		100 %	70-1	30	11/26/13 15:35	EPA 8260B	bag	

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EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Phillips, Shirley M.

Reported:

Cranberry Township PA, 16066

Collector:

Project Manager:

Brian Rushe

Number of Containers:

10/17/14 10:55

Client Sample ID: HC 89 BOX 408/SPHILLIPS S1

Date/Time Sampled: 11/21/13 12:20

23

Laboratory Sample ID:

3K21140-02 (Water/Grab)

Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
by SM/EPA Me	ethods						
· 0.890 J	0.215	1.00	mg/l	11/22/13 19:32	EPA 300.0/2.1	bdw	
<0.0250	0.00675	0.0250	mg/l	11/22/13 08:45	SM 5540 C-2011	elb	
7.09			pH Units	11/22/13 16:04	SM20-4500H + B	cmh	
200	4.00	40.0	mg/l	11/26/13 15:30	SM20-2540C	arr	
6.04	0.191	1.00	mg/l	11/22/13 19:32	EPA 300.0/2.1	bdw	
Standard Met	thods						
5.3	1.0	1.0	MPN/100 ml	11/22/13 10:39	SM20-9223B	blb	7d
200.5	1.0	1.0	MPN/100 ml	11/22/13 10:39	SM20-9223B	blb	7a, 7d
321	0.00	2.00	umhos/cm	11/21/13 12:20	SM20-2510B	SSS	
7.31			pH Units	11/21/13 12:20	SM20-4500H + B FIELD	SSS	
8.60	0.00	0.100	degrees C	11/21/13 12:20	SM20- 2550B Field	SSS	
< 0.0200	0.00513	0.0200	mg/l	11/26/13 15:11	RSK 175	bag	
< 0.0200	0.00150	0.0200	mg/l	11/26/13 15:11	RSK 175	bag	
	0.890 J 0.890 J 0.0250 7.09 200 6.04 Standard Med 5.3 200.5 321 7.31 8.60	No. No.	by SM/EPA Methods - 0.890 J	Description Description Description Description	Result MDL RL Units Analyzed by SM/EPA Methods 0.890 J 0.215 1.00 mg/l 11/22/13 19:32 <0.0250	Result MDL RL Units Analyzed Method by SM/EPA Methods 0.890 J 0.215 1.00 mg/l 11/22/13 19:32 EPA 300.0/2.1 <0.0250	Result MDL RL Units Analyzed Method Analyst by SM/EPA Methods 0.890 J 0.215 1.00 mg/l 11/22/13 19:32 EPA 300.0/2.1 bdw <0.0250

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260 Executive Drive

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Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector: SS

10/17/14 10:55

Number of Containers:

23

Client Sample ID: HC 89 BOX 408/SPHILLIPS S1

Date/Time Sampled: 11/21/13 12:20

Laboratory Sample ID:

3K21140-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Dissolved Gases by RSK 175	<u> </u>							
Ethane	<0.0100	0.00227	0.0100	mg/l	11/26/13 15:11	RSK 175	bag	
Propane	< 0.0150	0.00363	0.0150	mg/l	11/26/13 15:11	RSK 175	bag	

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Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

SS

10/17/14 10:55

Number of Containers:

State Certifications: MD 275, WV 364

23

Client Sample ID: TRIP BLANK

Date/Time Sampled: 11/21/13 00:00

Laboratory Sample ID:

3K21140-03 (Water/Trip Blank)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Not
Volatile Organic Compounds by EPA	A Method 8260B							
Benzene	<0.15	0.15	1.00	ug/l	11/26/13 16:03	EPA 8260B	bag	20
Toluene	< 0.12	0.12	1.00	ug/I	11/26/13 16:03	EPA 8260B	bag	20
Ethylbenzene	<0.08	0.08	1.00	ug/l	11/26/13 16:03	EPA 8260B	bag	
Xylenes (total)	<0.28	0.28	2.00	ug/l	11/26/13 16:03	EPA 8260B	bag	
Surrogate: 4-Bromofluorobenzene		91.9 %	70	130	11/26/13 16:03	EPA 8260B	bag	
Surrogate: 1,2-Dichloroethane-d4		98.9 %	<i>70</i>	130	11/26/13 16:03	EPA 8260B	bag	
Surrogate: Fluorobenzene		101 %	70	130	11/26/13 16:03	EPA 8260B	bag	

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EXCO Resources

260 Executive Drive

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Project Manager:

Brian Rushe

Project:

Collector:

Welchland 29AW

Project Number:

Phillips, Shirley M.

SS

Reported: 10/17/14 10:55

Number of Containers:

23

Notes

2d The LCS spike recovery was outside acceptance limits. Data accepted based on additional batch QC.

7a > 200 TNTC.

7c Potable (drinkable) - No bacteria present above reportable levels.

7d Contaminated - Not fit for human consumption.

Detected between the Method Detection Limit (MDL) and the Reporting Limit (RL); therefore, result is an estimated value.

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Reported:

Collector: S

SS

10/17/14 10:55

Number of Containers:

23

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

State Certifications: MD 275, WV 364

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

Represents "less than" - indicates that the result was less than the reporting limit.

MDL Method Detection Limit - is the lowest or minimum level that provides 90% confidence.

Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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Fairway Laboratories, Inc.

RL

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Project:

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Project Number:

Phillips, Shirley M.

Reported:

Cranberry Township PA, 16066

Collector:

ici

10/17/14 10:55

Project Manager:

Brian Rushe

Number of Containers:

23

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date.

A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY. For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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N OF CUSTODY/ ST FOR ANALYSIS		ES ronmental Lab	3K21140-01 K HC 89 BOX 408/SPHILLIPS W1 Sampled: 11/21/13 11:30 06 Wight 100 ml. Rant 91 EXCO Resources
EX.CO HC 89 Box	W 408		LIMS #
		<u> </u>	Total coliform: L L L GUML E coli:
Bran Rushe	Fax#:		Fecal: HPC:
uested: Fotal Coliform		·	Analyst: 333 Analysis Started: 1334 112013
ected: 1/-21-13 11. n/description: Sphillip	30 2 GUI		In: 1044 Out: 1993 1453 113 CH
Signature	Date 11-21-13	Time //. 30	Chlorine residual: Number of containers:
Take to	70 1/21/13	1016	Matrix: Water □ otherComments: 24 N
White Original - FLI File ★★ i	Canary - Customer Mailing/Rep Please complete all of the graye	ort Pink - (d areas. **	Customer Receipt Copy

Page 12 of 31

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OCT 3 0 2014

ST FOR ANALYSIS FAIRWAY LABORATORIES Environmental Laboratories	3K21140-02 K HC 89 BCX 408/SPHILLIPS S1 6 Sampled: 11/21/13 12/20 1 Water-100 int. Pietel
HC 89 BOX 408	File #: 73
Brian hishe	Total coliform: >W SIUWWI E coli: 5.3 W m
Welchland 29AW	Fecal: HPC: Analyst: 300
iested: Total Coliform Fiecal Coliform HPC Dected: 11-21-13 12:20	Analysis Started: 163 11 2213 11 2213 11 2016
n/description: Sphill: p5 S1	Type Treatment: UV Ozone O
- Styling my 11-21-13 12:20	Number of containers: Matrix: Water other
White Original - FLI File Canary - Customer Mailing/Report Pink - Customer Mailing/Report Pin	Comments: 2 M Toll-Schilf Stormer Receipt Copy

Page 13 of 31

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0CT 3.0 2014

												3)	(21	1140	0-0	3
	CUSTODY / REQUEST	FAIR\	NAY LA	ROI	RΔT	OF	≀IF	SI	NC	`					Page_	of
FC	OR ANALYSIS		7771 67		NA I	<u> </u>	\IL	<u> </u>				Analys	es Requ	uested		
Client Name:	EXCO WV	Receiving Info)	Y	N								1			
Address:		Custody Seals					Ì								1	
_		Seals Intact?		1							2		.			
Contact:	Brian Rushe	Received on ice?									뱛			1		
Phone #:		COC/ Labels agre	e?								Ĕ		ایرا	غ ا	ᆇ	
Fax #:		Correct containe	rs?			, l			ľ		<u> </u>	핆	2	띪	a	
Project Name:	Welchland 29 AW	Correct preserva	tion?			<u>i</u>					E.	Field pH	Field S.C.	Field Temp	Trip Blank	
Quote/PO#:	Phillips	VOA head space				ΙğΙ			Ë	N.	≥	<u>-i</u>	<u> </u>	읗	글	
	TAT:	Sample Temp:				ΙË		1	olc	ne l			"-	流	⊢	
Normal		Report t	o PADEP?			Composite			Explain	of Containers	EXCO WV Parameters					30
Rush	1	PWSID #:				or (ő	<u>~</u>				L	
Date Required:	1				_	ğ	1	Ę	er	Ü						
FLI use only	Sample Description /	Location	Sample Date	Sample	e Time	Grab	Soil	Water	Other?	# ol						Comments
	HC 89 Box 4	08														
		······														
	Sphillips W	1	11.21.13	17:	30	G		Х		11	X.	6.91	2165	12.5		
						-			_							
			l los									721	20111	0		
	Sphillips S:	1	11.21.13	12	;20	G		X		11	×	7.31	ઢ્યાયુ	8.6%	<u></u>	
			<u> </u>	 -		-					-					
				 		T				Γ					Х	Includes Bacti
															Х	1 HCl Vial
	Signature		Date	Ti	me								lemark	s		
Sampled By:	Myhura.	In Mu	11.21.13	12:	35	Cir	cle	One	:	PA	WW	ОН				
Received by:	110	P				$ldsymbol{f eta}$									Rec	eived
Relinquished b	vi Mahr S	m//	11.21.13		45	_						_		Off	ice o	oived Oil & Gas
Received by:	"AMINI S		4/21/13	16. 3		_									OCT.	3 0 2014
Relinquished b	V: Matter		1/2/13	19.1		-		_		_					ULI	9 A CO
Received by:	m		1/3173	119	365	1_						-			ratorio	

SOP FLI0601-002			Revisi	ion 16			Date: Se	ptember 13, 2013	3		Page of
Receiver:								P	age o	f	
Date/Time of this check	e iləd	13 =	20,30	Samp	le Temp	erature:	26 C	lient: /=>	[0	· · · · · ·	Lab # 3/(2)140-04
Received at Lab on IC	æ? <u>(</u>	_	Sample	Temper	ature w	hen arr	ived at L	ab: 26 Acc	eptable?	☐ * or	In cool down process? *
Custody Seals?	4	Intact?	1	, ,				•	/	•	
COC/Labels on bottles	agree?	(□* c	orrect c	ontainers	s for all	the anal	ysis reque	sted?	* Matrix	W	HV
											Comments
	Poly Non- Pres.	Poly H2SO4	Poly HNO3	Amber H2SO4	Amber Non- Pres.	Poly NaOH	VOCS (Head space?)	Other	Properly Preserved	Bacti	
53.0									¥*	1. The second	
	2			1			cota	_	· ·		
10	2	ļ 		1		-					
\15				-		1	7-100			144	
			·				· · · ·				
				ļ <u></u> .		ļ. <u> </u>				3.20	
	Chain of Custody Receiving Document Page of Ate/Time of this check: 26										
	Acceptable? * or In cool down process? tasted * Sample Temperature when arrived at Lab; 2\(\) Acceptable? * or In cool down process? tasted * Sample Temperature when arrived at Lab; 2\(\) Acceptable? * or In cool down process? tasted * Sample Temperature when arrived at Lab; 2\(\) Acceptable? * or In cool down process? tasted * Matrix:										
8 No IceNot at Proper TerWrong Container	nperatur	re ()) ·		YE				Procee Will R Provid	d with a esample ed Infor	nalysis; qualify data () () mation ()
	Chain of Custody Receiving Document Page of check: 2										
* Comments:											
			Chain of Custody Receiving Document Pageof Direct containers for all the analysis requested? * Matrix:								
Receiver:											
									ban 21 201	2	OCT 3 0 2014

Page 1 of 3

SITE VISIT FORM ONE FORM FOR EACH WATER SOURCE

Part A: GENE	ERAL INFORMATION	W	elchi	land 29 AW S/C	21140-25
Water Source San	nple ID: SPhillips W1	Well Pad Name:	1	Permit No.:	Well Operator: EXCO
Coordinates: (in N	VADB3, in decimal degrees) i.	* N37. 644 42	Cage.	ong W-81.44939 Elevation 10	197 FT (mai)
Date Sampled:	11-21-13 Time Sa	mpled (Military): \\ . \\ . \\ .	0	Sampled By: SS	N/A: No Sample (See Notes)
Person Interviews	ed (circle one): Owner	Resident	Otl	her;	
PROPERTY OWN	ER		RESIDE	ENT OR OTHER	
Name:	Shirley Phillips		Name:		
Address:	HC 89 Box 408		Addres	5:	
Address:	McGrans, WV, 25875		Addres	£:	
Phone No.:	304-294-6108		Phons	No.:	Doo:
Part B: DOCU	JMENTATION OF SAMPLI	NG REFUSAL			Received ' Office of Oil & Gas
is Person Refusin	g the Property Owner as Listed	Above? Yes	No	If No, Notify Property Owner	
Refusal in person	-	Date of Refusa	al:	Time of Refusal:	UCT 3 0 2014
Reason(s) for Refu	454I:	ÁT.			
Name of Company	y Documenting Refusal:				
Part C: WATE	R QUALITY				
Re	ported Quality	Observed Quality		Treatment	Ритр Туре
	ABELON NO NIV	Yes No N/A	A	None UV Light	None
Staining			.]	Softening DH Adjustment	Gas Piston
Odor]	Chlorination Other:	Submersible
Cloudiness]	Iron Removal	Windmili
Sheen]	In-line Sediment Filter	☐ Jet
Efferyescence				Charcoal Fliter	Other:
Taste	⁸⁰ 5 □ □	N/A (N/A) N/A	A		
Ŧ				Yes No Functioning Properly	Capacity GFM
Part D: WATE	R SOURCE INFORMATIO				
	supply any other properties? _		es, ident	ify properties	
is the water source	e(s) located on the property: Y	′es ⊠ No ∐ If N	lo, pleas	e explain:	
Number of people	using this water source?		ons/day,	if metered:	
Has water source	ever gone dry? Yes	No 🔀			
Pressure Tank Ye	es No Size of t	ankgallo:	ns 🗌	Actual size Estimated U	nknown
Water Use	Domestic Husbandry	Irrigation Oth	er:		
Compass course f	from water source to dwelling _				<u>5</u> гт.
Are there any other	er water sources on the propert		If yes,	how many?Total (2)	
Provide all waters	source (D(s) <u>Spr.Y</u>	y well			
Are you aware of a	any abandoned water source (s	r NO		if yes, where, v	when
					The state of the s

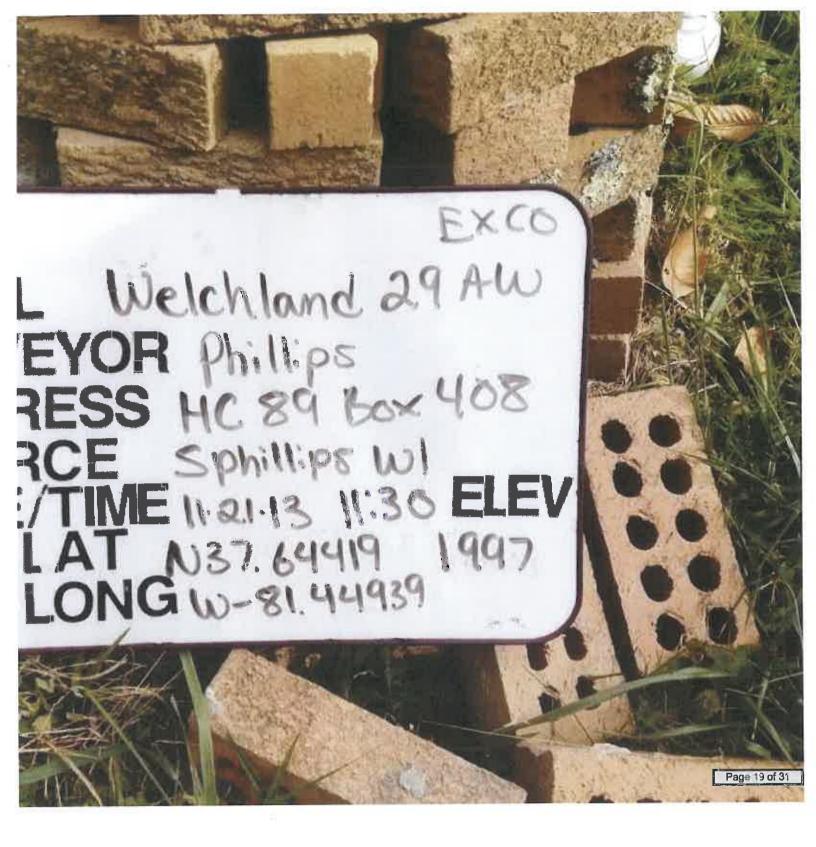
3K21140-04
Wester Source Type: Wuster Well
Drilled Well; Yes No Dug Well: Yes No Artesian: Yes No Other:
Reported total well depth:FT. Well casing diameter:IN. Missing/damaged pit-less adaptor Yes No Unknown
Reported depth of water level: 4817 4in = Reported pump depthFT.
Date Drilled 3 45 45 000 Drilling Company Is the well in basement or crawispace?
Driller log available Yes Vo No
Signature of owner authorizing release of water log(s)
Water Source Type: Spring
Discharge Pipe Yes No Seep/Ground Surface Flow Yes No Spring House Yes No Underground Vault Yes No
Winter Stronger, Typog: Classon
Size of Cistern gallons Actual size Estimated Unknown
Source of water:
Water Source Type: Surface Water
Pond Lake Creek River
Water Source Type: Public Water Yee V No
PART E: DESCRIPTION OF WATER SOURCE (check all that apply)
Loose, missing, or damaged cover (circle one if applicable) Evidence of erosion
Evidence of insects, spiders, animals (circle one if applicable) Water source secured
Any cracked or damaged well casing/spring vauit (circle one if applicable) Source buried
Wester source open to surface water Small hall Set PiCS □ Location unknown
Additional storage or holding tank/coyote system (circle one if applicable) Other:
The second of Care treet
PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply) Show locations on site sketch and
provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.)
Ground sloping toward water source
Water source downgradient of septic system
Signs of falling septic, soggy ground, foul odor (circle all that apply)
Close proximity to garden agricultural field, erchard, greenhouse. (circle all that apply)
Close proximity to junkyard, dumping area, landfill. (circle all that apply)
Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply)
Located in field with livestock, barn, barnyard, other out building. (circle all that apply)
Close proximity to sait storage area, saited roadway.
Close proximity to pipeline.
Other:
ADDITIONAL REMARKS & COMMENTS:
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Page 2 of 3

PART G: GAS MONITORING AND SAMPLI	NG 3K21140-01
Dissoived Phase Gas Sample Collected?: X Yes	No IS WELL VENTED? Yes ☐ No ☐ Unknown ☐
Gas Sample Collection Method: Water Displacement	Method A (non-preserve) Yes Direct Fill Method B (preserve) Yes Two Phase Method Yes
Free Phase Gas Water Well Head Space Screening Co	inducted? X Yes No Combustible Gas Meter: 10000000 Meter Calibrated? Yes
Sustained Methans =(% of LEL) Peak Meth	nane = 0 (% of LEL)
(Contact EQT Immediately if Sustained Methane Exce	eds 25% of LEL in Water Well Headspace OR 16% of LEL in Building or Structure)
Description of Sample Screening and Collection (Loc	ation and Method):
PART H: SAMPLING	SAMPLING POINT LOCATION
SAMPLED	Continue Plantage Pla
Before Treatment	Lilside Faucer.
No Treatment Not Sure	Consider Facility Constitution for Port 8)
	npiling pump Low flow Disposable Baller Other: No If yes, volume (gal.) and/or time (min) purged: 15 mins
Was the water source purged before sampling? Yes	
	No If no, please explain:
Average water usage within last 24 hours	
Chain of custody attached? Yes No	Name of Certified Laboratory: <u>Fairway Laborators</u> , Inc.
FIELD METER TYPE:	Meter Callbrated? Yes No L No L Temperature: 12.5°C
FIELD PARAMETERS: Turbidity:	
	HS (use additional pages as necessary). Show compass course and provide
approximate distance.	Bane hide Rd
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· · · · · ·	
OCT 3 0 2014	ω
	soichet L
	house sample spot
	nause
E SWISH Well ISH	,
well 13.	
•	
Oioulinate= ileutet	
Sampler/Interviewer i hereby acknowledge that I have supplied the com-	sct Information to the best of my knowledge
I Heliany devilorated and in the supplier	a cheliana Sun Mala an 11.21.13
Sign	Print Office Date 11 St
Company:Fairway Laboratories Inc	Address: Phone:

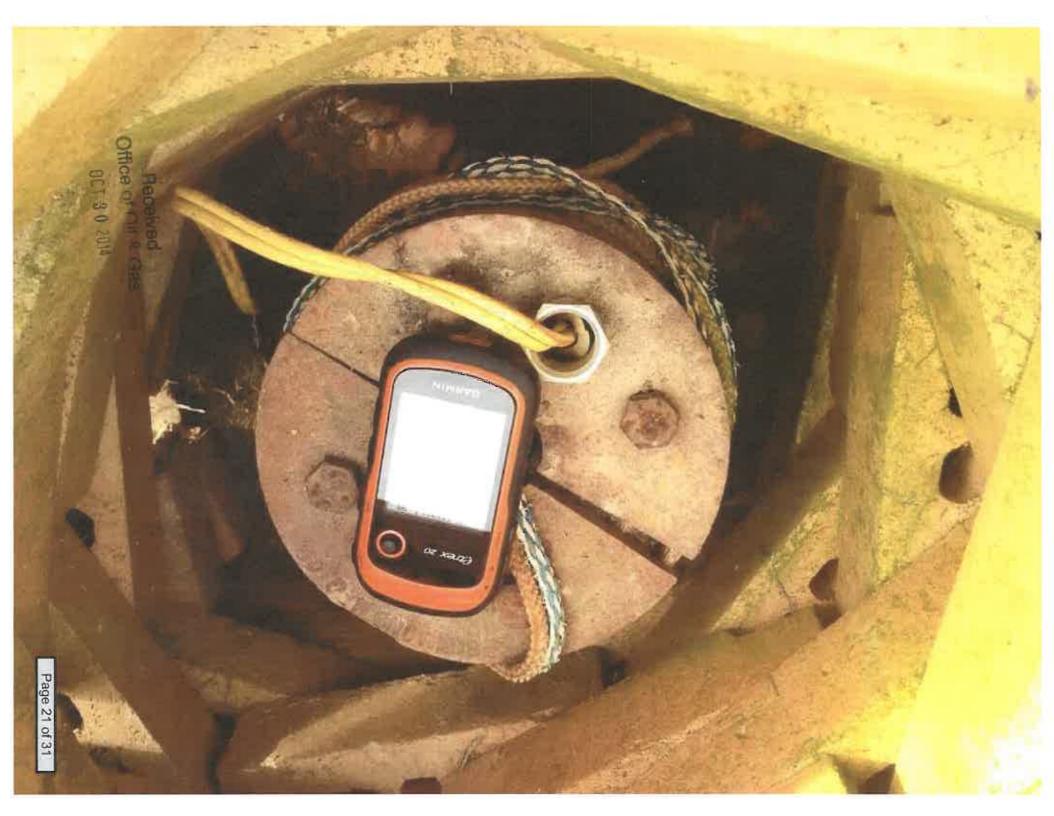
Page 3 of 3



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Page 1 of 3

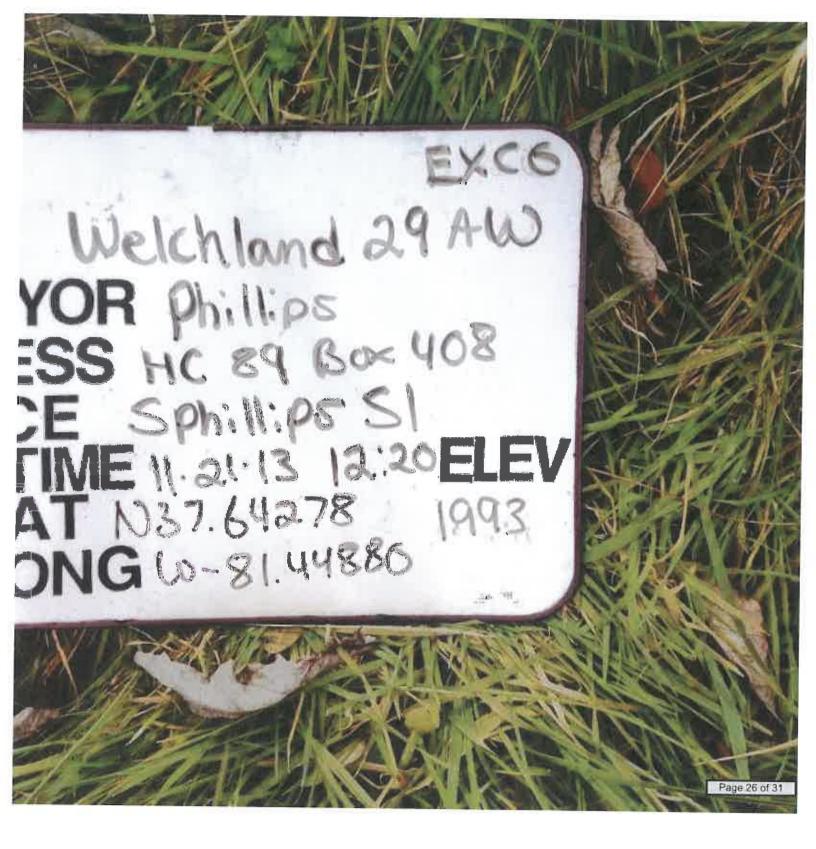
SITE VISIT FORM ONE FORM FOR EACH WATER SOURCE

Part A: GE	NERAL INFORM	ATION				RK	21140-08	
Water Source S	Sample ID: SPhi	llips S1	Well Pad Name:	Welchia	nd 29AW	Permit No.:	Well Operator: EXC	7
Coordinates: (1	n NAD83, in decimal	d agre es)	Lat N37.642	78	Long W- 81.	44880 Elevation	1993 FT (msl)	
Date Sampled:	11-21-13	Time S	ampled (Military): 18		Sampled By: SS		N/A: No Sample (See Note	2S)
Person intervie	wed (circle one):	Owner	Resident		Other:			
PROPERTY OW	/NER			RESI	DENT OR OTHER			
Name:	Shirley Phillips			Name	7:	<u></u> :		
Address:	HC 89 Box 408		<u> </u>	Addn	BS5:			
Address:	McGrans, WV,	25875		Addre	B55:			
Phone No.:	304-254-6108			Phon	e No.;			
Part B: DOC	CUMENTATION C	F SAMPL	ING REFUSAL				Receiv	
	ing the Property Ow	ner as Listed	Above? Yes	No	If No, Notify P	roperty Owner	Office of Oil	eu R G
Refusal in perso Reason(s) for Re	in or over phone:		Date of Re	fusal:	Т	lme of Refusal:		
Reason(s) for Re	arusai:						OCT 3 0 2	U14
Name of Compar	ny Documenting Ref	usal:				444		
	ER QUALITY				···			
	leported Quality		Observed Qua	litu	Ten	 Patment		
	Yes No	N/A		N/A	None	UV Light	Pump Type	
Staining					Softening	pH Adjustment	None Gas Piston	_
Jdor		44 🔲 .			Chlorination	Other:	Submersible	
Cloudiness					Iron Removal		Windmill	
Sheen					In-line Sedimer	nt Fliter	Jet	
ffervescence					Charcost Filter	,	Dother: srowy fe	9
aste .			N/A N/A	N/A				
					Yes No	Functioning Property	Capacity GPM	
Part D: WATE	ER SOURCE INFO	PRMATION						
	supply any other pro		<u> NO 11</u>	yes, ident	ify properties			
	e(s) located on the p	_	es ⊠ No ∏ II	No, pleas	e explain;			
\$	using this water so	urce?(/	Ga	llons/day,	if metered:	_		
as water source		Yes	No					54
ressure Tank Y			nkgall	lons 🔲	Actual size	Estimated Ur	iknown	
ater Use		usbandry	Irrigation O	ther:				
	from water source to			Estimated	distance from water	source to dwelling 2	00 Ayrds	
	er water sources on i		_] If yes, h	now many?Tot	ai (2)		
ovide all water s	ource ID(s)	Well	Spring	 .			=!	
ਦ you aware of a	iny abandoned wate	rsource (s)?	No		If yes, where	, w	hen	
							_	
								1

THE TOTAL STATE OF THE PROPERTY OF THE PROPERT	5/62/19009
Water Source Type: Water Well	
Drilled Well: Yes No Dug Well: Yes No No	Artesian: Yes No Other:
Reported total well depth:FT. Well casing diameter:	IN. Missing/damaged pit-less adaptor Yes No Unknown
Reported depth of water level:FT. Reported pump depth	FT.
	Is the well in basement or crawispace?
Oriller log available Yes No	
Signature of owner authorizing release of water log(s)	
Water Source Type: X Spring	
Discharge Pipa Yes No Seep/Ground Surface Flow Yes No	Spring House Yes No Underground Vault Yes No
Water Source Type: Cistern	
Size of Cistern gallons Actual size Estimated	Unknown
Source of water: (e.g. Delivered, sp	oring, well, gutter, etc.)
Water Source Type: Surface Water	
Pond Lake Creek River	
Nater Source Type: Public Water Yes 📈 No 🗔 To Nichel	
PART E: DESCRIPTION OF WATER SOURCE (check all that apply	·)
Loose, missing, or damaged cover (circle one if applicable)	Evidence of erosion
Evidence of insects, spiders, animals (circle one if applicable)	Water source secured
Any cracked or damaged well casing/spring vault (circle one if applicable)	Source burled
Water source open to surface water	Location unknown
Additional storage or holding tank/coyote system (circle one if applicable)	Others
Cover flush with ground	
PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE provide approximate distance & compass course. Document hou	E (check all that apply) Show locations on site sketch and
Ground sloping toward water source	isekeeping conditions. (Attach photos.)
_	
Water source downgradient of septic system	
Signs of falling septic, soggy ground, foul odor (circle all that apply)	Received
Close proximity to garden, agricultural field, oxchard, greenhouse. (circle all the	Office of Oil & Ga
Close proximity to junkyard, dumping area, landfilt. (circle all that apply)	
Close proximity to fuel storage tanks, equipment storage or maintenance areas Localed in field with livestock, parn, barnyard, other out building. (circle all ti	
Close proximity to sait storage area, saited roadway,	пас врргуј
Close proximity to pipeline.	
Other:	
DDITIONAL REMARKS & COMMENTS:	

PART G: GAS MONITORING AND SAMPL	ing 71/	SILVALIO
Dissolved Phase Gas Sample Collected?: X Yes	No IS WELL VENTED?	Yes No Unknown
Gas Sample Collection Method: Water Displacement	Method A (non-preserve) Yes Direct Fill Method B (preserve)	Yes Two Phase Method Yes
	onducted? Yes No Combustible Gas Meter:	Meter Calibrated? Yes
Sustained Methane = VA (% of LEL) Peak Met	hane = <u>N A (</u> % of LEL)	
(Contact EQT Immediately If Sustained Methene Exce	ede 25% of LEL in Water Well Headspace OR 10% of LEL in Building or	Structure)
Description of Sample Screening and Collection (Loc	ation and Method):	
PART H: SAMPLING		
SAMPLED	SAMPLING POINT LOCATION	
Before Treatment After Treatment Not Sure	Inside Faucet: Pressure Tank Outside Faucet: Secrit	Overflow/Discharge Pipe
No Treatment Li Not Sure	- Brea -	Other:
	Stillage Water (sampled a	it coordinates In Part A)
	pling pump Low flow Disposable Baller Other:	
Was the water source purged before sampling? Yes		
	No lf no, please explain:	
Average water usage within last 24 hours		
Chain of custody attached? Yes No		
	Meter Calibrated? Yes No D PH: 7.31 Conductivity: 3213 Temperature:	8.6°C
FIELD PARAMETERS: Turbidity:		
approximate distance.	IS (use additional pages as necessary). Show compass co	ourse and provide
F	house	
A T		
/P	over hidre Rd	E
	<u> </u>	
		Possived
	1 cot	Received
T Kan	Sample Spot	Office of Oil & Gas
Barn		OCT 3 0 2014
	100 Mag	
A F W		
Sampler/Interviewer I hereby acknowledge that I have supplied the correct	anne S	
I Harry arringled that I have subhild the consec		10 12
Sign lynn hyn	Print OTOWOOU ON WWw Date 1	1-21.13
Company:Fairway Laboratories Inc	Address: Phone:	

Page 3 of 3



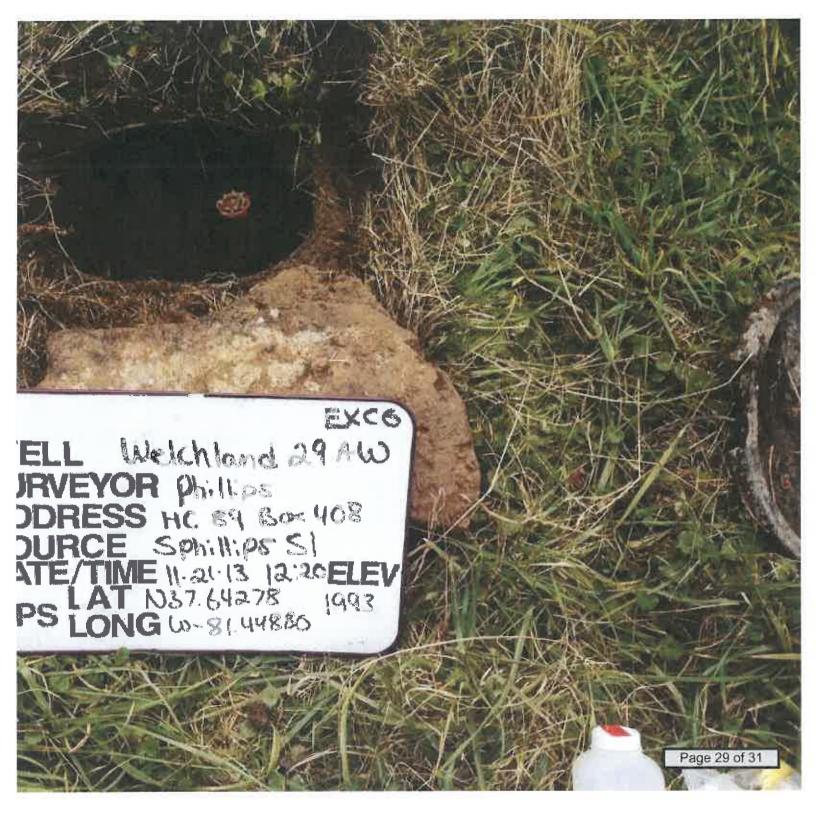
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3K 21140-ac

35-8-15 Water Supply Testing. W. Va. Code R.

15.3.b. Parameters - The operator shall analyze samples for the following parameters:

Hydrocarbons (GRO, DRO, ORO) 15.3.b.1. Total Petroleum

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese

Chief.

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15.3.b.11. pH

15.3.b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

determined by the operator or the 15.3.b.20. Any others parameters



3 K7 14 Page 31 of 31



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Daniels, Barbara

Reported:

Collector:

10/17/14 11:01

Number of Containers:

11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
646 PHILLIPS RD/BDANIELS S1	3K22099-01	Water	Grab	11/22/13 12:25	11/22/13 21:15

3K22099 Parameter list attached as page 17 of final report. This report replaces the report issued 09/30/14 13:11. 10/07/14 CL

3K22099 Report revised. Case narrative and MDL values added. This report replaces the report printed on 12/27/13 10:54. 09/30/14 mlf

The resample for GRO/DRO/ORO was collected 12/16/13 and is reported on separate laboratory work order ID: 4J17010. This report replaces the report printed on 10/07/14 11:20. 10/17/14 mlf

> Office of Oil & Gas OCT 3 0 2014

Fairway Laboratories, Inc.

Reviewed and Submitted by:

MAI

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684

FAIRWAY LABORATORIES

www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Daniels, Barbara

Reported:

Collector:

SS 11

10/17/14 11:01

Client Sample ID: 646 PHILLIPS RD/BDANIELS S1

Date/Time Sampled: 11/22/13 12:25

Laboratory Sample ID:

3K22099-01 (Water/Grab)

Number of Containers:

1								
Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Not
Calculated Analytes								
Hardness	32.8	0.0657	0.662	mg/l	12/05/13 09:58	Ch for top		
Metals by EPA 200 Series Methods					12/03/13 09:38	SM2340B	rab	
Aluminum	0.0556	0.0149	0.0500	mg/I	12/05/12 00.50	T.D		
Arsenic	< 0.00400	0.00202	0.00400	mg/l	12/05/13 09:58	EPA 200.7/4.4	rab	
Barium	0.0150	0.00132	0.0100	mg/l	12/05/13 10:00	EPA 200.7/4.4	rab	
Calcium	12.7	0.0131	0.100	mg/l	12/05/13 09:58	EPA 200.7/4.4	rab	
Iron	0.0342	0.00223	0.0200	mg/l	12/05/13 09:57	EPA 200.7/4.4	rab	
Manganese	< 0.00146	0.00146	0.0100	J	12/05/13 09:58	EPA 200.7/4.4	rab	
Sodium	0.968	0.0677	0.400	mg/l	12/05/13 10:00	EPA 200.7/4.4	rab	
olatile Organic Compounds by EPA	Mathad 9260m		0.400	mg/l	12/05/13 09:57	EPA 200.7/4.4	rab	
Benzene	<0.15							
Toluene		0.15	1.00	ug/l	11/26/13 16:31	EPA 8260B	bag	2d
Ethylbenzene	<0.12	0.12	1.00	ug/l	11/26/13 16:31	EPA 8260B	bag	2d
Xylenes (total)	<0.08	0.08	1.00	ug/I	11/26/13 16:31	EPA 8260B	bag	
Surrogate: 4-Bromofluorobenzene	<0.28	0.28	2.00	ug/l	11/26/13 16:31	EPA 8260B	bag	
Surrogate: 1,2-Dichloroethane-d4		92.4 %	70-1.	- •	11/26/13 16:31	EPA 8260B	bag	
Surrogate: Fluorobenzene		98.8 %	70-1.		11/26/13 16:31	EPA 8260B	bag	
onventional Chemistry Parameters by		99.9 %	<i>70-1</i> .	30	11/26/13 16:31	EPA 8260B	bag	

Fairway Laboratories, Inc.

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OCT 3 0 2014

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Daniels, Barbara

Reported:

Collector:

SS

10/17/14 11:01

Number of Containers:

11

Client Sample ID: 646 PHILLIPS RD/BDANIELS S1

Date/Time Sampled: 11/22/13 12:25

Laboratory Sample ID:

3K22099-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Conventional Chemistry Parameters l	y SM/EPA M	ethods						
Chloride	0.748 J	0.325	1.00	mg/l	11/23/13 11:42	EPA 300.0/2.1	bdw	
Methylene Blue Active Substances	<0.0250	0.00675	0.0250	mg/l	11/23/13 09:00	SM 5540 C-2011	elb	
pH @ 16.1°C	7.97			pH Units	11/23/13 14:29	SM20-4500H + B	cmh	
Total Dissolved Solids	140	4.00	40.0	mg/l	11/26/13 15:30	SM20-2540C	arr	
Sulfate as SO4	2.43	0.279	1.00	mg/l	11/23/13 11:42	EPA 300.0/2.1	bdw	
Microbiological Parameters by APHA	Standard Met	hods						
E. Coli	2.0	1.0	1.0	MPN/100 ml	11/22/13 21:19	SM20-9223B	cmh	7d
Total Coliforms	200.5	1.0	1.0	MPN/100 ml	11/22/13 21:19	SM20-9223B	cmh	7a, 7d
Field Sampled Parameters								
Specific Conductance (Field)	200	0.00	2.00	umhos/cm	11/22/13 12:25	SM20-2510B	SSS	
pH- Field @ 11.5°C	7.13			pH Units	11/22/13 12:25	SM20-4500H + B FIELD	SSS	
Temperature	11.5	0.00	0.100	degrees C	11/22/13 12:25	SM20- 2550B Field	SSS	
Dissolved Gases by RSK 175								
Butane	< 0.0200	0.00513	0.0200	mg/l	11/26/13 19:19	RSK 175	bag	
Methane	< 0.0200	0.00150	0.0200	mg/l	11/26/13 19:19	RSK 175	bag	

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www.fairwaylaboratories.com

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Weichland 29AW

Project Number:

Daniels, Barbara

Reported:

Collector:

SS

10/17/14 11:01

Number of Containers:

State Certifications: MD 275, WV 364

11

Client Sample ID: 646 PHILLIPS RD/BDANIELS S1

Date/Time Sampled: 11/22/13 12:25

Laboratory Sample ID:

3K22099-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Dissolved Gases by RSK 175								
Ethane Propane	<0.0100 <0.0150	0.00227 0.00363	0.0100 0.0150	mg/l mg/l	11/26/13 19:19 11/26/13 19:19	RSK 175 RSK 175	bag bag	

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Project:

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Welchland 29AW

Project Number:

Daniels, Barbara

SS

Reported: 10/17/14 11:01

Number of Containers:

11

Notes

2dThe LCS spike recovery was outside acceptance limits. Data accepted based on additional batch QC.

7a

> 200 TNTC.

7d

Contaminated - Not fit for human consumption.

Detected between the Method Detection Limit (MDL) and the Reporting Limit (RL); therefore, result is an estimated value.

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

Represents "less than" - indicates that the result was less than the reporting limit.

MDL

Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

RL

Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC]

Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Collector:

Welchland 29AW

Project Number:

Daniels, Barbara

SS

Reported: 10/17/14 11:01

Number of Containers:

11

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Office of Oil & Gas
OCT 3 0 2014

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Project:

Welchland 29AW

Project Number:

Number of Containers:

Daniels, Barbara

Reported:

Collector: SS

11

10/17/14 11:01

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact

Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. SUBCONTRACTING Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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OF CUSTODY/ T FOR ANALYSIS FAIRWAY LAB	ORATORIES Environment	3K22099-01 K 646 PHILLIPS RD./BDANIELS S1 Sampled: 11/22/13 12:25 Water-100 mL Bacti EXCO Resources
EXCO WV		LIMS #
		Fecal: HPC: Analyst: (4) Analysis Started: (2) In: 2133 Out 919 113 48
uested: Total Coliform Fecal Coliform clected: on/description:	HPC D	Type Treatment: UV Ozone Chlorine residual:
y: Signature	1102113	Number of containers: Number of containers: Matrix: Water other Comments:
200, 101,	r Mailing/Report	Pink - Customer Receipt Copy

Page 8 of 17

Received
Office of Oil & Gas
OCT 3:0 2014

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	CUSTODY / REQUEST	FAIR	WAY L	۸RA	DAT		DII	- -	I N I		coc	#	/- 		Page	e of
	OR ANALYSIS	1 7711		700	NA	U	Lin	23	1171	U.		Analy	ses Rec	uestec		
Client Name:	EXCO WV	Receiving In	fo	Y	N		T	T				1				l
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Contact:	Brian Rushe	Received on Ice	97			1	1		1	ľ	l ä	1	ł	1		
hone #:		COC/ Labels ag	ree?			1	1	1	1	1	펄	1	1			l
ax #:		Correct contain	ers?			1	1	1	l	1	ᆲ	1 x	ن ا	흔	녿	i
Project Name:	Weichland 29 AW	Correct preserv	ration?	T		1 2	1		ł]	ğ	Field pH	Field S.C.	e,	[a]	ĺ
Quate/PO #:	Daniels	VOA head spac	e			8	1	1	-	S	5	응	ᅵᇎ	-	<u></u>	
	TAT:	Sample Temp:_				Composite		1	Explain	Containers	EXCO WV Parameters	i i I] ≝	Field Temp	Trip Blank	ĺ
ormal		Report	to PADEP?			1 <u>5</u> .	l	l	웃	ä	9	1		<u></u>		
ush	1	PWSID #:				5		1	<u> </u>	ם	8	1		1		į
ate Required:						۱۵		ie l	ia .	၂႘၂	۳ ا	l .	ì			1
FLI use only	Sample Description /	Location	Sample Date	Sample	e Time	Grab	Soil	Water	Other?	# of		İ				Comments
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	Bdaniels S1		11.22.13	12:2	2.5	G		Х		44		212	a b			
	<u> </u>		11 20 10	120.0	~	9		_^_		11	Х	7.13	300 %	11.50		
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	 .														Х	Includes Bacti
<u> </u>	C:														Х	1 HCl Vial
mpled By:	Signature	1-1	Date	Tin							$\sqrt{2}$		emarks			
celved by:	that I	nell .	11:22:13			Circ	ele (One	: F	'A(WV	ОН				Receive
inquished by:	THE		11-22-13	174	5					_					Offi	Received co of Oil & G
eived by:	A HEAT		11-22-12	2113												
Inquished by:																OCT 3 0 2014
eived by:	<u> </u>		1/25													
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SOP FLI0601-002			Revi	sion 16			Date:	September 13, 2013	3		Page of
Receiver:								deceiving Doc P	age o	f	
Date/Time of this check	k: ()	2-13	21/2	Samp	ole Tem	perature	08	Client:	<u>co</u>	I	(ab# <u>3/())0990</u>
Received at Lab on IC	CE ?	'_ 🗆 * 🖫	Sample	Temper	ature v	vhen ar	rived at	Lab: O. Acc	eptable? \		In cool down process? *
Custody Seals?		Intact	· ·	1		`			ブ	,	- Production
COC/Labels on bottles	agree!	[□* c	orrect c	container	for all	the ana	lysis requ	iested?	* Matrix:	W	N
COC#				Nu	nber an	d Type	of BOT	TLES			Comments
	Poly Non- Pres.	Poly H2SO4	Poly HNO3	Amber H2SO4	Amber Non- Pres.	Poly NaOH	VOCS (Head space?)	Other	Properly Preserved	Bacti	
(9	·		1			6HL				
			<u> </u>							31	
					· <u>·</u>	-				46.8	
										264	
			·								
				·			<u>·</u>				
	·					<u> </u>		 	<u> </u>		
* DEVIATION PRES ® No Ice ® Not at Proper Tem ® Wrong Container ® Missing Information	perature	()		By Wh	T CAI YES om;		_Date:_		Proceed Will Res Provided No Resp	ample l Inform: onse; Pro	lysis; qualify data () () ation () oceed and qualified ()
* Comments:						<u> </u>		· · · · · · · · · · · · · · · · · · ·	Client C	ontact:	Date: Received Office of Oil & Gass
		<u> </u>									OCT 3 0 2014
		Tì	ois is a da					ceiving Docu			

Part A: GE	NERAL INFORMATION				D199-04	
Water Source S	Sample ID: BDaniels S	Well Pad Name: V	Velchla	nd 29AW Permit No.;	Well Operator: EXCO	
Coordinates: (li	n NAD83, in decimal degrees	Lat N37. 6447	15	Long W 81.44603 Elevation	2054 FT (msl)	
Date Sampled:	11. 22. 13 Time Samples				No Sample (See Notes)	
	wed (circle one): Own			Other:	(000 (1000)	
PROPERTY OW	/NER	· · · · · · · · · · · · · · · · · · ·	RESIG	DENT OR OTHER		
Name:	Barbara Daniels		Name			
Address:	646 Phillips Rd		Addre			
Address:	Saulsville, WV,		Addre			
Phone No.:	304-294-5048		Phone	No.:		
Part B: DO	CUMENTATION OF SAM	IPLING REFUSAL	1			
	ing the Property Owner as L		No	If No, Notify Property Owner		
	on or over phone:	Date of Refu	isal;	Time of Refusal:	Received	ł
Reason(s) for Re	efusal:				Office of Oil R	Ge
Name of Compa	ny Documenting Refusal:				OCT 3 0 2014	ļ
	ER QUALITY					
	Reported Quality	Observed Qualit			 -,	
	Yes No N/A		I/A	Treatment None UV Light	Pump Type	
itaining				Softening pH Adjustment	Gas Platon	
ldor			-	Chlorination Cther:	Submersible	
Cloudiness]	Iron Removai	Windmill	
heen				In-line Sediment Filter	☐ Jet	
fferveacence este			<u> </u>	Charcoal Filter	Other:	
asus	100 C	N/A (N/A) N	/A	Yes No Functioning Property		
Part D: WATE	ER SOURCE INFORMAT	TON		Yes No Functioning Properly	CapacityGPM	
	supply any other properties	124	na Irland	if a name will a c		
	ce(s) located on the property			fy propertiese explain:		
	using this water source? _			If metered:		
as water source	ever gone dry? Yes	-	May			
ressure Tank Y	es No Size	of tankgalio	ns 🗌	Actual size Estimated Un	known	
ater Use	Domestic Husband	ry Irrigation Ott	ter:			
ompass course	from water source to dwelling	. UW	stimated	distance from water source to dwelling	25_FT.	
e there any othe	er water sources on the prop	erty? Yes No	if yes, h	ow many?Total (2)		
ovide all water s	source ID(s)					
e you aware of a	any abandoned water source	(8)? WELL		If yes, where Several years w	hen	
		a		U		

Page 1 of 3

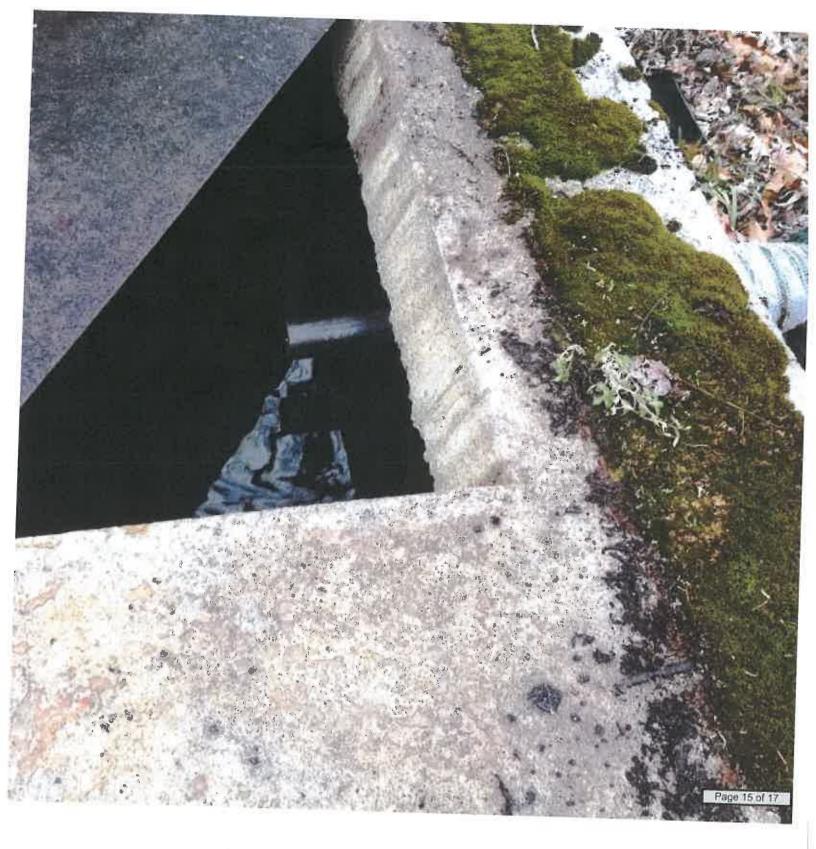
	3/22099-05
Weter Source Types Wester West	
Drilled Weil: Yes No Dug Weil: Yes No Artesian: Yes No	Other:
Reported total well depth:FT. Well casing diameter:IN. Missing/demage	d pit-less adaptor Yes No Unknown
Reported depth of water level:FT. Reported pump depthFT,	
Date Drilled Drilling Company Is the well in basem	ent or crawlapace?
Driller log available Yes No	
Signature of owner authorizing release of water log(s)	
Water Source Type: Spring	Holding Tank
Discharge Pipe Yes No Seep/Ground Surface Flow Yes No Spring House Yes	No Underground Vault Yes No
Water Source Type: Cleben	
Size of Cisterngallons	
(e.g. Delivered, spring, well, gutter, etc.)	
Pond Lake Creek River	
Neter Source Types: Public Water Yes A No	
PART E: DESCRIPTION OF WATER SOURCE (check all that apply)	
Loose, missing, or damaged cover (circle one if applicable)	
Evidence of insects, spiders, animals (circle one if applicable) Water source secure	ed .
Any cracked or damaged well casing/spring vault (circle one if applicable) Source buried	-
Water source open to surface water Location unknown	
Additional storage or holding tank/coyote system (circle one if applicable) Other:	
Cover flush with ground	
PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply	3 Shares I and I am a state of the state of
provide approximate distance & compass course. Document housekeeping conditions.	/ Attach photos \
Ground sloping toward water source	
Water source downgradient of septic system	
Signs of falling septic, soggy ground, foul odor (circle all that apply)	Received
Close proximity to garden, agricultural field, orchard, greenhouse. (circle all that apply)	Office of Oil & Ga
Close proximity to junkyard, dumping area, landfill. (circle all that apply)	
Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that app	OCT 3 0 2014
Located in field with livestock, barn, barnyard, other out building. (circle all that apply)	, in the second
Close proximity to sait storage area, saited roadway.	
Close proximity to sait storage area, saited roadway. Close proximity to pipeline.	1
Close proximity to pipeline. Other:	m Whenon to crab
Close proximity to pipeline. Other.	m vitenon to grab

Page 2 of 3

	PART G: GAS M	ONITORING AND SAMPL	ING	3/2209906					
	Dissolved Phase Gas	Sample Collected?: X Yes	No ·	IS WELL VENTE	D? Yes No Unknown				
	Gas Sample Collection	n Method: Water Displacement	Method A (non-preserve) Yes D	frect Fill Method B (preserve)	Yes Two Phase Method Ves				
	Free Phase Gas Water	Well Head Space Screening C	onducted? 🗌 Yes 🔀 No Comb	ustible Gas Meter: 13000	Meter Calibrated? Yes				
	Sustained Methane =	UA(% of LEL) Peak Met	hane = NA (% of LEL)		inner				
	(Contact EQT Immedia	italy if Sustained Methans Exce	eds 26% of LEL in Water Well Headspa	ce OR 10% of LEL in Building	or Structure)				
	I.	Screening and Collection (Loc							
	PARTH: SAMPL	ING							
	S	AMPLED		SAMPLING POINT LOCAT	ION				
	Before Treatment	After Treatment	Inside Faucet:	Pressure Tank	Overflow/Discharge Pipe				
	No Treatment	Not Sure	Outside Faucet:	Welfhead	Mother: hading trank				
			Seep .	Surface Water (sample	d at coordinates in Part A)				
			pling pump Low flow Disposabl	e Baller Other: Of	b				
	Was the water source p	ourged before sampling? Yes	No li yes, volume (gal.) a	ind/or time (min) purged:					
	is it possible to run wat	ter for 30 minutes? Yes	No If no, please explain:	-					
	Average water usage w	ithin last 24 hours	NA						
v	Chain of custody attact	nad? 🔽 Yes 🗌 No	Name of Cartified Laboratory:	when was	atemu				
Ĭ	FIELD METER TYPE:	Odyten	Meter Calibrated? Yes No						
	FIELD PARAMETERS:	Turbidity:	pH: 7.13 Conductivity: _	aco's Temperatu	n: 11.59C				
	PART I: PLAN SKE	TCH and PHOTOGRAPH	S (use additional pages as nece	essary). Show compass	COUrse and provide				
	approximate dista	nce. (LA)		4.)	\				
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ne	of Oil & Gas		Thuse	1 X /					
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	Sampler/Interviewe	or'		26	ant arien				
	I hereby acknowledge th	at I have supplied the gorrect li	nformation to the best of my knowledge	. 02					
	Sign	the hal	Steplan (D)	Sur lab	pinf origin				
	- Carly	1	rant Osygnow V	Dete_	11 66 1				
	Company:Fairway L	aboratories Inc.	Address:	Phor	le:				

Page 3 of 3





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W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. **Parameters** - The operator shall analyze samples for the following parameters:

15.3.b.1.	Total Petro	oleum	
11 1 .	1/000	rs no o	0001

Hydrocarbons (GRO, DRO, ORO)

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese R

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15.3.b.11. pH

15.3.b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

15.3.b.20. Any others parameters determined by the operator or the Chief.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Phillips, Ethel

Reported:

Cranberry Township PA, 16066

Collector:

SS

10/17/14 10:59

Project Manager:

Brian Rushe

Number of Containers:

11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
PO BOX 172/EPHILLIPS S1	3K22098-01	Water	Grab	11/22/13 11:45	11/22/13 21:15

3K22098 Parameter list attached as page 18 of final report. This report replaces the report issued 09/30/14 13:03. 10/07/14 CL

3K22098 Report revised. Case narrative and MDL values added. This report replaces the report printed on 12/27/13 10:53. 09/30/14 mlf

The resample for GRO/DRO/ORO was collected 12/19/13 and is reported on separate laboratory work order ID: 4J17009. This report replaces the report printed on 10/07/14 11:20. 10/17/14 mlf

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OCT 3 0 2014

Fairway Laboratories, Inc.

Reviewed and Submitted by:

mot

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



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Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Ethel

Reported:

Collector:

SS 11

10/17/14 10:59

Number of Containers:

Client Sample ID: PO BOX 172/EPHILLIPS S1

Date/Time Sampled: 11/22/13 11:45

Laboratory Sample ID:

3K22098-01 (Water/Grab)

			D 1	TT N.	Date / Time	Method	* Analyst	Note
Analyte	Result	MDL	RL	Units	Analyzed	Ivietnod	Analyst	Note
Calculated Analytes								
Hardness	50.0	0.0657	0.662	mg/l	12/05/13 09:46	SM2340B	rab	
Metals by EPA 200 Series Methods								
Aluminum	<0.0500	0.0149	0.0500	mg/l	12/05/13 09:46	EPA 200.7/4.4	rab	
Arsenic	<0.00400	0.00202	0.00400	mg/l	12/05/13 09:48	EPA 200.7/4.4	rab	
Barium	0.0214	0.00132	0.0100	mg/l	12/05/13 09:46	EPA 200.7/4.4	rab	
Calcium	17.9	0.0131	0.100	mg/l	12/05/13 09:46	EPA 200.7/4.4	rab	
Iron	0.0596	0.00223	0.0200	mg/l	12/05/13 09:46	EPA 200.7/4.4	rab	
Manganese	< 0.00146	0.00146	0.0100	mg/l	12/05/13 09:48	EPA 200.7/4.4	rab	
Sodium	2.31	0.0677	0.400	mg/l	12/05/13 09:46	EPA 200.7/4.4	rab	
Volatile Organic Compounds by EPA	Method 82601	3						25
Benzene	<0.15	0.15	1.00	ug/l	11/26/13 16:59	EPA 8260B	bag	2d
Toluene	< 0.12	0.12	1.00	ug/l	11/26/13 16:59	EPA 8260B	bag	2d
Ethylbenzene	< 0.08	0.08	1.00	ug/l	11/26/13 16:59	EPA 8260B	bag	
Xylenes (total)	<0.28	0.28	2.00	ug/l	11/26/13 16:59	EPA 8260B	bag	
Surrogate: 4-Bromofluorobenzene		92.0 %	70-	130	11/26/13 16:59	EPA 8260B	bag	
Surrogate: 1,2-Dichloroethane-d4		119 %	70-	130	11/26/13 16:59	EPA 8260B	bag	
Surrogate: Fluorobenzene		121 %	70-	130	11/26/13 16:59	EPA 8260B	bag	

Fairway Laboratories, Inc.

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89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684

LABORATORIES

www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Ethel

Reported:

Collector:

SS

10/17/14 10:59

11

Number of Containers:

Client Sample ID: PO BOX 172/EPHILLIPS S1

Date/Time Sampled: 11/22/13 11:45

Laboratory Sample ID:

3K22098-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
onventional Chemistry Parameters	by SM/EPA Me	thods						
Chloride	0.862 J	0.325	1.00	mg/l	11/23/13 11:25	EPA 300.0/2.1	bdw	
Methylene Blue Active Substances	<0.0250	0.00675	0.0250	mg/l	11/23/13 09:00	SM 5540 C-2011	elb	
оН @ 15.4°C	7.89			pH Units	11/23/13 14:29	SM20-4500H + B	cmh	
Total Dissolved Solids	92.0	4.00	40.0	mg/l	11/26/13 15:30	SM20-2540C	arr	
Sulfate as SO4	6.51	0.279	1.00	mg/l	11/23/13 11:25	EPA 300.0/2.1	bdw	
licrobiological Parameters by APH	A Standard Met	hods						
E. Coli	6.4	1.0	1.0	MPN/100 ml	11/22/13 21:19	SM20-9223B	cmh	7d
Total Coliforms	200.5	1.0	1.0	MPN/100 ml	11/22/13 21:19	SM20-9223B	cmh	7a, 7d
ield Sampled Parameters				<u>. </u>				
Specific Conductance (Field)	125	0.00	2.00	umhos/cm	11/22/13 11:45	SM20-2510B	SSS	
pH- Field @ 11.5°C	6.92			pH Units	11/22/13 11:45	SM20-4500H + B FIELD	SSS	
Temperature	11.5	0.00	0.100	degrees C	11/22/13 11:45	SM20- 2550B Field	SSS	
Dissolved Gases by RSK 175								
Butane	< 0.0200	0.00513	0.0200	mg/l	11/26/13 18:59	RSK 175	bag	
Methane	< 0.0200	0.00150	0.0200	mg/l	11/26/13 18:59	RSK 175	bag	

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State Certifications: MD 275, WV 364

11

Number of Containers:

Client Sample ID: PO BOX 172/EPHILLIPS S1

Date/Time Sampled: 11/22/13 11:45

Laboratory Sample ID:

3K22098-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Dissolved Gases by RSK 175 Ethane Propane	<0.0100 <0.0150	0.00227 0.00363	0.0100 0.0150	mg/l mg/l	11/26/13 18:59 11/26/13 18:59	RSK 175 RSK 175	bag bag	_

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Project Number:

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Cranberry Township PA, 16066

Collector:

SS

10/17/14 10:59

Project Manager:

1

Brian Rushe

Number of Containers:

11

Notes

2d The LCS spike recovery was outside acceptance limits. Data accepted based on additional batch QC.

7a > 200 TNTC.

._

7d Contaminated - Not fit for human consumption.

Detected between the Method Detection Limit (MDL) and the Reporting Limit (RL); therefore, result is an estimated value.

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

Represents "less than" - indicates that the result was less than the reporting limit.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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10/17/14 10:59

Project Manager:

Brian Rushe

Number of Containers:

SS 11

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

Unless the client indicates otherwise, this decision will be made by Fairway. SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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FOR ANALYSIS FAIRWAY LABORATORIES	3K22098-01 K P.O. BOX 172/EPHILLIPS S1 Sampled: 11/22/13 11:45 Water-100 mL Bacti EXCO Resources
P.O. Box 172	File#: 745 Total coliform: > 100,9,100M
Brian Rush Fax#: Welch land 29 A ested Total Coliforn Fecal Coliforn HPC 1	Fecal: HPC: Analyst: Analysis Started: 219 11015 In: 2123 Out: 919 1113 45
cted: 11-22-13 11:45 1/description: Sominos S	Type Treatment: UV O Ozone C Chlorine residual: Number of containers:
Stylen Snell 11.43 11:43	Matrix: Water other
White Original - FLI File Canary - Customer Mailing/Report Pink - € ★★ Please complete all of the grayed areas. ★★	Customer Receipt Copy

Page 8 of 18

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Campled Dr.	Signature	20 11	11-22-13	12:05	Ci	rcle	On	e :	PA	(w)	ОН				
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2019 9th Avenue, P.O. Box 1925, Altoona, PA 16602 • P: 814-946-4306 114-946-8791 • www.fairwaylaboratories.com

SOP FLI0601-002			Revisi					eptember 13, 2013			Page of	
Receiver:								ceiving Docu Pa	ge OI	- 	, , ,	7
Date/Time of this check	: 11-2	213	طلد	√ Sampl	e Temp	erature:	0-8	Client: EXC	(d)	Lab #	3K22098-05	Ś
Received at Lab on IC	E? <u> </u>	□ * S	ample '	Temper	ature w	hen arı	ived at l	ab: 0-8 Acce	ptable?	☐ * or In co	ol down process? 🔲	k
Custody Seals?				_						, 1		
COC/Labels on bottles	agree !	(□* C	orrect c				_		* Matrix:			
COC#				Nur	nber an	d Type	of BOT	TLES			Comments	
127	Poly Non- Pres.	Poly H2SO4	Poly HNO3	Amber H2SO4	Amber Non- Pres.	Poly NaOH	VOCS (Head space?)	Other	Properly Preserved	Bacti		
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* DEVIATION PRESENT: ® No Ice () ® Not at Proper Temperature () ® Wrong Container () ® Missing Information: ()			By W		LLED: S ()			Proceed Will Re	esample ed Informati	sis; qualify data ()	•	
O Minding Into mar		ζ.	,						Client	Contact:	Date:	
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* Comments:										C	Office of Oil & Ga	} _
											OCT 3 0 2014	
							4 3 T	D				

SITE VISIT FORM ONE FORM FOR EACH WATER SOURCE

Part A: GENE	RAL INFORMATION			ZK	22098	-04
Water Source Samp	-falls EPhillips S1	Well Pad Name: Wel	chland 29	AW P	ermit No.:	Well Operator: EXCO
	AD83, in decimal degrees) Lat	1127 1468	D Long	W-81.441	S95 Elevation 200	O FT (msl)
			empled By:			Sample (See Notes)
	22-13 Time Sampled (Militan	<i>**</i> 111				
Person Interviewed	d (circle one): Owner	Resident	Other	OR OTHER		
PROPERTY OWNE	IR .					
Name:	Ethel Phillips		Name:			
Madiana.	P.C. Box 172		Address:			
Address:	McGrans, WV, 25875		Address:	<u> </u>	<u> </u>	
Litette men	304-294-4869		FIIONE NO			
	UMENTATION OF SAMPLIN		N-1 1	If No, Notify Pro	nerty Owner	Received
	g the Property Owner as Listed /	Nove? Yes	No L		e of Refusal:	Office of Oil & G
Refusal in person		Date of Kein	JAI.			OCT 3 0 2014
Reason(s) for Ref	'usal:					001 5.7 = 1
Name of Compan	y Documenting Refusal:					
Part C: WATE						
	eported Quality	Observed Quali	ty	Trea	tment	Pump Type
	Yes No N/A	Yes No	N/A	None	UV Light	None
Staining			□ │	Softening	pH Adjustment	Gas Piston
Odor				Chlorination	Other:	Submersible
Cloudiness				Iron Removal		
Sheen			片	In-line Sedime		Sother: Ganity
Effervascence				Charcoal Fitter		*
Taste		NIA (NIA)	N/A	Yes No	Functioning Property	Capacity GPM
	<u> </u>					
Part D: WAT	TER SOURCE INFORMATIO					
	e supply any other properties?			tify properties		
is the water sou	urce(s) located on the property:			, if metered:		
	ple using this water source?	<u> </u>	28HOUSIA#A			
	rce ever gone dry? Yes.	No. 🔀 I tank9	usllone [Actual size	Estimated	Jnknown
Pressure Tank			Other:	1		
	Domestic Husbandry		Entlant	ed distance from wat	er source to dwelling	110 gras
Compass cour	se from water source to dwelling	3065	Estimati	how many?	25 E	
	rse from water source to dwelling other water sources on the prop	erty? Yes Mo	[™] ^{it yes}	, now menty :		
Provide all wa	ter source ID(s)			If you suborn		, when
i	e of any abandoned water source					
1 000	sible test 2	other Spri	N5	ク		Page 1 of 3
The hos	DITIAC IAII A			_		•

SITE VISIT FORM ONE FORM FOR EACH WATER SOURCE

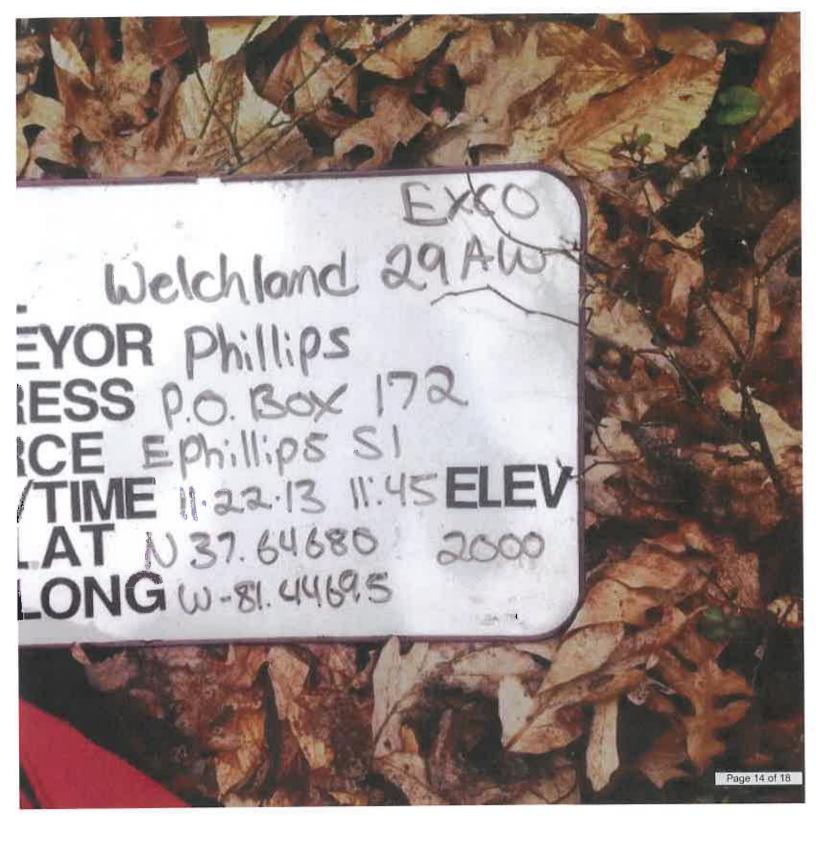
Water Stores Type: Walker Mo. Dog Walt: Yes No Arteslam: Yes No Other:		2/(700/0
Chief Well: Yee No Dug Well: Yee No Arcelate: Yee No Other:	Water Bource Type: Willer Wall	
Reported total will depth:FT. Well cashing diameterN. Missangidamaged phi-less adaptor Yes No	Orilled Well: Yes No Dug Well: Yes No Artesian: Yes	
Reported depth of wester level: FT. Reported pump depth FT. Deta Drilled Drilling Company Is the well in basement or crawlapace? Driller to available Yes No Septing No Underground Veult Yes Y		issing/damaged pit-less adaptor Yes No Unknown
Delicing of company		FT.
Discharge Pipe Yes	Reported deput of water coon	
No	Date of live	
No Septing Pipe Yes No Septing No Septing No Septing House Yes No Underground Vault Yes No		
Water source of ending tank/coyota system (circle one if applicable) Coher:		
Size of Clafern	Discharge Pipe Yes No Seep/Ground Surface Flow Yes No Spri	ing House Yes No Underground Vault Yes No
Size of Geleren geleren Section	Water Socios Types Cisters	
Part E: DESCRIPTION OF WATER SOURCE (check all that apply) Lose, missing, or differed covar-circle one if applicable) Evidence of rosion Water source secured Water source secured Water source secured Water source of the source	Size of Cisterngallons Actual size Estimated Unkn	помп
Pond		
PART E: DESCRIPTION OF WATER SOURCE (check all that apply) Loose, missing, or disaged covery circle one if applicable)		
PART E: DESCRIPTION OF WATER SOURCE (check all that apply) Loose, missing, or denaged cover_circle one if applicable)		
PART E: DESCRIPTION OF WATER SOURCE (check all that apply) Loose, missing, or definised cover/circle one if applicable)	Porid Care Care	
Loose, missing, or missing, or missing covered covered (circle one if applicable) Evidence of insects, spiders, animals (circle one if applicable) Any cracked or damaged well casing/spring vauit (circle one if applicable) Mater source open to aurface water Mater source open to aurface water Additional storage or holding tank/coyote system (circle one if applicable) Cover flush with ground PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply) Show locations on site sketch and provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.) Ground sloping toward water source Water source downgradient of septic system Signs of falling septic, soggy ground, foul odor (circle all that apply) Close proximity to garden, agricultural fletd, orchard, greenhouse. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Close proximity to test storage area, salted roadway. Close proximity to ealt storage area, salted roadway. Close proximity to pipeline. Office of Oil & Gas	Without Source Typic: Water Water 1 years 12 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Loose, missing, or maged covar (circle one if applicable)	PART E: DESCRIPTION OF WATER SOURCE (check all that apply)	
Evidence of insects, spiders, animals (circle one if applicable) Source burled		vidence of erosion
Any cracked or damaged well casing/spring vault (circle one if applicable) Source burled	T- y-	ater source secured
Any cracked or damaged well casing/spring yaum (circle one if applicable) Location unknown		nurce buded
Water source open to surface water Additional storage or holding tank/coyote system (circle one if applicable) Cover flush with ground PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply) Show locations on site sketch and provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.) Ground sloping toward water source Water source downgradient of septic system Signs of falling septic, soggy ground, foul odor (circle all that apply) Close proximity to garden, agricultural field, orchard, greenhouse. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to sait storage area, saited roadway. Received Office of Oil & Gas	Any cracked or damaged well casing/spring value (Gillote onto it approved to	
Cover flush with ground PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply) Show locations on site sketch and provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.) Ground sloping toward water source	Water source open to surface water	
PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (check all that apply) Show locations on site sketch and provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.) Ground sloping toward water source	Additional storage or holding tank/coyote system (circle one if applicable)	Wigi.
provide approximate distance & compass course. Document housekeeping conditions. (Attach photos.) Ground sloping toward water source		Market and
Water source downgradient of septic system Signs of falling septic, soggy ground, foul odor (circle all that apply) Close proximity to garden, agricultural field, orchard, greenhouse. (circle all that apply) Close proximity to junkyard, dumping area, landfill. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to salt storage area, salted roadway. Close proximity to pipeline. Other: Other:	PART F: DESCRIPTION OF AREA SURROUNDING WATER SOURCE (che	ck all that apply) Show locations on site sketch and
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Signs of falling septic, soggy ground, foul odor (circle all that apply) Close proximity to garden, agricultural field, orchard, greenhouse. (circle all that apply) Close proximity to junkyard, dumping area, landfill. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to salt storage area, salted roadway. Close proximity to pipeline. Other:	Ground sloping toward water source	
Close proximity to garden, agricultural field, orchard, greenhouse. (circle all that apply) Close proximity to junkyard, dumping area, landfill. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to sait storage area, saited roadway. Close proximity to pipeline. Other:	Water source downgradient of septic system	
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Close proximity to junkyard, dumping area, landfill. (circle all that apply) Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to sait storage area, saited roadway. Close proximity to pipeline. Other:	l —	iy)
Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage. (circle all that apply) Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to sait storage area, saited roadway. Close proximity to pipeline. Other:	1 - ·	
Located in field with livestock, barn, barnyard, other out building. (circle all that apply) Close proximity to sait storage area, saited roadway. Close proximity to pipeline. Other: Other:	Close proximity to fuel storage tanks, equipment storage or maintenance areas, garage	ge. (circle all that apply)
Close proximity to salt storage area, salted roadway. Close proximity to pipeline. Other: Other:	Located in field with livestock, barn, barnyard, other out building. (circle all that app	oly)
Close proximity to pipeline. Office of Oil & Gas		
OCT D D COLL	Giose proximity to pipeline.	
ADDITIONAL REMARKS & COMMENTS: OCT 3 0 2014	Other:	
	ADDITIONAL REMARKS & COMMENTS:	OCT 3 0 2014

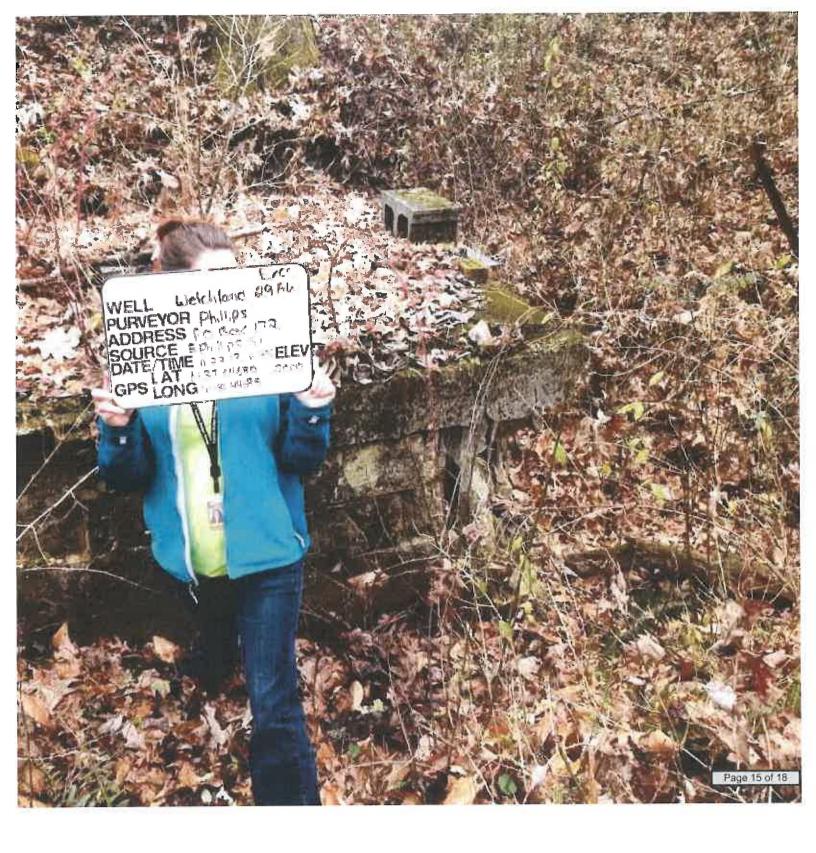
Page 2 of 3

SITE VISIT FORM ONE FORM FOR EACH WATER SOURCE

PART G: GAS MONITORING AND SAMPLIN	NG 3/C22	098-04
Dissolved Phase Gas Sample Collected?: Yes	NO	No Unknown
Gas Sample Collection Method: Water Displacement &	Method A (non-preserve) Yes Direct Fill Method B (preserve) Yes 1	wo Phase Method Yes
Free Phase Gas Water Well Head Space Screening Co.	inducted? Yes X No Combustible Gas Meter: 1500COVY N	leter Calibrated? Yes 🗶
Sustained Methane = NA (% of LEL) Peak Meth	Turn	
(Contact EQT Immediately if Sustained Methane Excee	eds 25% of LEL in Weter Well Headspace OR 16% of LEL in Building or Structure)
Description of Sample Screening and Collection (Loca		Y.
PART H: SAMPLING		
SAMPLED	SAMPLING POINT LOCATION	
Before Treatment After Treatment	Inside Lancer	rflow/Discharge Pipe
No Treatment Not Sure	Ontaide Lancar: Symposium	er:
-	Seep have Surface Water (sampled at coord)	nates in Part A)
SAMPLING METHOD: Existing well pump Sam	npling pump Low flow Disposable Baller Nother: 61016	
	s 🔀 No 🗌 If yes, volume (gal.) and/or time (min) purged: <i>15mil</i> .	5
L	s No 🗌 If no, please explain:	
	JA	
Chain of custody attached? Yes No	Name of Gertified Laboratory: Farway Laboratory	iso, the.
FIELD METER TYPE: Oak ton		
FIELD PARAMETERS: Turbidity:	Meter Calibrated? Yes No Dept. 125.05 Temperature: 11	.5
	PHS (use additional pages as necessary). Show compass course	and provide
approximate distance.	C	
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The state of the s	κ O	Iffice of Oil & Gas
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	~ INDUNCESSE	
	V serie	
Sampler/Interviewer I hereby acknowledge that I have supplied the corr	rect information to the best of my knowledge	
I hereby acknowledge that I have subplied the coll	N Sternam My MM/ Dato 11:	22-13
sign	Print Office Vision Dates	
Company:Fairway Laboratories Inc	Address: Phone:	
Company:rainway Laboratories inc		

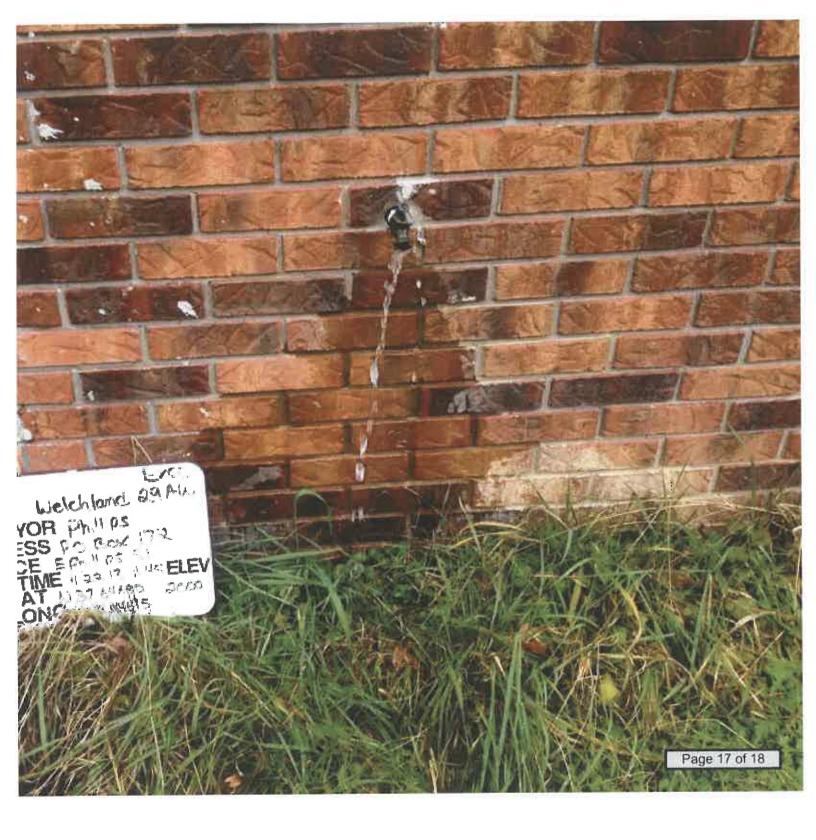
Page 3 of 3





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Office of Oil & Gas
OCT 3 0 2014





W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. Parameters - The operator shall analyze samples for the following parameters:

15.3.b.1. Total	Petro	leum	
Hydrocarbons ((GRO,	DRO,	ORO)

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese

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15.3.b.11. pH

15.3.b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

15.3.b.20. Any others parameters determined by the operator or the Chief.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

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EXCO Resources

Project Manager:

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Phillips, Shirley M.

Reported:

Cranberry Township PA, 16066

Brian Rushe

Collector: SS 10/17/14 11:02

Number of Containers:

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
HC 89 BOX 408/SPHILLIPS W1	4 J17007-01	Water	Grab	12/16/13 11:20	12/17/13 13:40
HC 89 BOX 408/SPHILLIPS S1	4J17007-02	Water	Grab	12/16/13 11:00	12/17/13 13:40

Laboratory ID: 4J17007 is the resamples for GRO/ORO/DRO for laboratory report ID: 3K21140. 10/17/14 mlf

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Fairway Laboratories, Inc.

Reviewed and Submitted by:

MAT

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical



State Certifications: MD 275, WV 364

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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

SS

10/17/14 11:02

Number of Containers:

Client Sample ID: HC 89 BOX 408/SPHILLIPS W1

Date/Time Sampled: 12/16/13 11:20

Laboratory Sample ID:

4J17007-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time	Made	*	
Allaryte	Result	MIDE		Uffits	Analyzed	Method	Analyst	Note
Extractable Petroleum Hydrocarbon	ns by 8015							
Oil Range Organics	<34.3	34.3	258	ug/l	12/21/13 03:51	EPA 8015D mod	rsr	
Diesel Range Organics	<63.1	63.1	258	ug/l	12/21/13 03:51	EPA 8015D mod	rsr	
Surrogate: o-Terphenyl		46.1 %	40-140		12/21/13 03:51	EPA 8015D mod	rsr	
olatile Petroleum Hydrocarbons by	8015 GRO							
Gasoline Range Organics	<9.35	9.35	100	ug/l	12/18/13 00:35	EPA 8015D mod	bag	
Surrogate: a,a,a-Trifluorotoluene		98.1 %	70-1	130	12/18/13 00:35	EPA 8015D mod	bag	

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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector: SS

10/17/14 11:02

Number of Containers:

Client Sample ID: HC 89 BOX 408/SPHILLIPS S1

Date/Time Sampled: 12/16/13 11:00

Laboratory Sample ID:

4J17007-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Extractable Petroleum Hydrocarbo	ns by 8015							
Oil Range Organics	<33.7	33.7	252	ug/l	12/21/13 05:07	EPA 8015D	rsr	
Diesel Range Organics	<61.9	61.9	252	ug/I	12/21/13 05:07	mod EPA 8015D mod	rsr	
Surrogate: o-Terphenyl		21.2 %	40-	140	12/21/13 05:07	EPA 8015D mod	rsr	2n
Volatile Petroleum Hydrocarbons by	y 8015 GRO					mou		
Gasoline Range Organics	<9.35	9.35	100	ug/l	12/18/13 01:11	EPA 8015D mod	bag	
Surrogate: a,a,a-Trifluorotoluene		96.6 %	70-130		12/18/13 01:11	EPA 8015D mod	bag	

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Fairway Laboratories, Inc.

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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Collector:

SS

10/17/14 11:02

Number of Containers:

Notes

The surrogate value is not within the indicated range, results are considered to be estimated. 2n

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252

Represents "less than" - indicates that the result was less than the reporting limit.

Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

Reporting Limit - is the lowest or minimum level at which the analyte can be quantified. RL

Indicates a calculated result. Calculations use results from other analyses performed under accredited methods. [CALC]

Fairway Laboratories, Inc.

MDL

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Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



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State Certifications: MD 275, WV 364

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EXCO Resources

260 Executive Drive

Project:

Welchland 29AW

Project Number:

Phillips, Shirley M.

Reported:

Cranberry Township PA, 16066

Collector: SS

10/17/14 11:02

Project Manager:

Brian Rushe

Number of Containers:

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING
Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date.

A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Pairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All rush requests must be pre-approved by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

2019 9th Ave. P.O. Box 1925 Altoona, PA 16602

** 45 17007 # 89 Kristi Rd **FAIRWAY LABORATORIES**

Pennsdale, PA 17756 Phone: (570) 494-6380

Phone: (814) 946-4306 Environmental Laboratory Please print. See back of COC for instructions/terms and conditions. Fax: (814) 946-8791 Page _____ of ___ Client Name: EXCO WU **Analyses Requested** Reportable to LAB USE ONLY Address: Received on ice? Y N PADEP? Yes 🖸 FedEx USPS Brian Ruske Contact: Sample Temp: PWSID# **UPS** Other Phone #: Fax #: Tracking # Project Name: Welchland 29AW Matrix **GRAB** Quote/PO#: -or-# of Containers Composite Composite TAT: Normal Rush Composite End Start GRAB Rush TAT subject to pre-approval and surcharge. Date Required: Water Other Start Start End Sample Description/Location End Bottle Type/Comments Date Time Sphillips W 12-16-13 11:20 Sphillips SI 12-16-13 11:00 Date Time Date 13/17 Time Remarks 12-16-13 11:30 10:00 Date Time Date Time Received by: 6,00 Date Time Date Time Received by: 13:40 Date Time Date Time Relinguished by: Received by: 1340 P/n/3

SOP FLi0601-002			" Revi	sion 16			Date:	Septem be r 13, 2	2013		Page of '	
Receiver: <u>S</u>					Chain	of Cus	stody R	eceiving D	ocument Page	of	4 J170077	
Date/Time of this chec	k:12/17	113	14:05	Samj	ple Temp	perature	:1.4	Client: Ex			Tah# 312 1140 2	
Date/Time of this check: 13/17/13 14:05 Sample Temperature: 1.4 Client: Exco W Lab# 3/2/146-2 Received at Lab on ICE? 4												
Custody Seals? Intact?												
COC/Labels on bottles agree? _ = * Correct containers for all the analysis requested? _ = * Matrix: _ = * Matrix:												
COC#	OC# Number and Type of BOTTLES											
	Poly Non- Pres.	Poly H2SO4	Poly HNO3	Amber H2SO4	Amber Non- Pres.	Poly NaOH	VOCS (Head space?)	Other	Properly Preserved	Bacti	Comments	
						<u>-</u>	HCL	*	*			
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* DEVIATION PRES B No Ice Not at Proper Tem Wrong Container Missing Information	perature	() = () = ()	ij	By Wh	VT CAL YES		_Date:_		Proceed Will Re Provide No Resp	sample d Inforn oonse; Pr	alysis; qualify data ()	

OCT 3 0 2014

Chain of Custody Receiving Document

This is a date sensitive document and may not be current after December 11, 2013.

W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. **Parameters** - The operator shall analyze samples for the following parameters:

15.3.b.1.	Total Petro	oleum	
I for all on a large	/CDO	DDO	ODA

Hydrocarbons (GRO, DRO, ORO)

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese

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15.3.b.11. pH

15.3.b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

15.3.b.20. Any others parameters determined by the operator or the Chief.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Collector:

Welchland 29AW

Project Number:

Phillips, Ethel

SS

Reported: 10/17/14 11:03

Number of Containers:

3

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Madei			
	Dabot atory ID	Matrix	Sample Type	Date Sampled	Date Received
PO BOX 172/EPHILLIPS S1	4J17009-01	Water	Grab	12/19/13 11:20	12/20/13 06:30

Laboratory ID: 4J17009 is the resample for GRO/ORO/DRO for laboratory report ID: 3K22098. 10/17/14 mlf

Client Sample ID: PO BOX 172/EPHILLIPS S1

Date/Time Sampled: 12/19/13 11:20

Laboratory Sample ID: 4J17009-01 (Water/Grab)

Analyte	Result	MDL_	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Extractable Petroleum Hydrocarbon	s by 8015							
Oil Range Organics	<41.7	41.7	312	ug/l	12/21/13 14:43	EPA 8015D	rsr	
Diesel Range Organics	162 J	76.6	312	ug/I	12/21/13 14:43	mod EPA 8015D mod	rsr	
Surrogate: o-Terphenyl		62.4 % 40-14		140	12/21/13 14:43	EPA 8015D mod	rsr	
Volatile Petroleum Hydrocarbons by	8015 GRO							
Gasoline Range Organics	<9.35	9.35	100	ug/l	12/23/13 11:50	EPA 8015D mod	bag	
Surrogate: a,a,a-Trifluorotoluene		92.0 %		30	12/23/13 11:50	EPA 8015D mod	bag	

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Fairway Laboratories, Inc.

Reviewed and Submitted by:

mot

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Collector:

Welchland 29AW

Project Number:

Phillips, Ethel

SS

Reported: 10/17/14 11:03

Number of Containers:

3

Notes

Detected between the Method Detection Limit (MDL) and the Reporting Limit (RL); therefore, result is an estimated value. J

State Certifications: MD 275, WV 364

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

Represents "less than" - indicates that the result was less than the reporting limit,

MDL

Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

RL

Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC]

Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

Received Office of Oil & Gas

OCT 3-0 2014

Fairway Laboratories, Inc.

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Phillips, Ethel

SS

Reported:

Cranberry Township PA, 16066

Collector:

Project Manager:

Brian Rushe

Number of Containers: 3

10/17/14 11:03

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

Received Fairway Laboratories, Office of Oil & Gas

OCT 3 0 2014

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

2019 9th Ave. P.O. Box 1925 Altoona, PA 16602

FAIRWAY LABORATORIES

● ● HJ17009#1 Pennsdale, PA 17756 Phone: (570) 494-6380

COC#

Please print. See back of COC for instructions/terms

Phone: (814) 946-4306 (814) 946-8791

Environmental Laboratory

Page _____ of _

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This is a date sensitive document and may not be current after December 11, 2013.

W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. Parameters - The operator shall analyze samples for the following parameters:

Hydrocarbons (GRO, DRO, ORO)

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese

Received
Office of Oil & Gas

15.3.b.11. pH

15.3,b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

15.3.b.20. Any others parameters determined by the operator or the Chief.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684

www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Daniels, Barbara

Reported:

Collector:

SS 3

10/17/14 11:04

Number of Containers:

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
646 PHILLIPS RD/BDANIELS S1	4J17010-01	Water	Grab	12/16/13 11:40	12/17/13 13:40

Laboratory ID: 4J17010 is the resample for GRO/ORO/DRO for laboratory report ID: 3K22099. 10/17/14 mlf

Client Sample ID: 646 PHILLIPS RD/BDANIELS S1

Date/Time Sampled:

12/16/13 11:40

Laboratory Sample ID:

4J17010-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Not
Extractable Petroleum Hydrocarbor	ns by 8015							
Oil Range Organics	<34.0	34.0	255	ug/l	12/21/13 06:23	EPA 8015D mod	rsr	
Diesel Range Organics	<62.5	62.5	255	ug/l	12/21/13 06:23	EPA 8015D mod	rsr	
Surrogate: o-Terphenyl		41.1 %	40-	140	12/21/13 06:23	EPA 8015D mod	rsr	
Volatile Petroleum Hydrocarbons by	8015 GRO							
Gasoline Range Organics	<9.35	9.35	100	ug/l	12/18/13 01:47	EPA 8015D mod	bag	
Surrogate: a,a,a-Trifluorotoluene Reco Office of	eived Oil & Gas	97.0 %	70-	130	12/18/13 01:47	EPA 8015D mod	bag	
	0 2014							

Fairway Laboratories, Inc.

Reviewed and Submitted by:

mot

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



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EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Collector:

Welchland 29AW

Project Number:

Daniels, Barbara

SS

10/17/14 11:04

Reported:

Number of Containers:

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

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reported result values that are less than the RL are considered estimated values.

RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

Indicates a calculated result. Calculations use results from other analyses performed under accredited methods. [CALC]

> Received Office of Oil & Gas OCT 30 2014

Fairway Laboratories, Inc.

MDL

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State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number:

Number of Containers:

Daniels, Barbara

Reported:

Collector:

SS 3 10/17/14 11:04

Terms & Conditions

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WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

Fairway Laboratories, Inc. Received
Office of Oil & Gas
OCT 3 0 2014

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

2019 9th Ave. P.O. Box 1925 Altoona, PA 16602

FAIRWAY LABORATORIES

北 89 Kristi Rd 451701 Pennsdale, PA 17756

Phone: (570) 494-6380

Please print, See back of COC for instructions/terms

Phone: (814) 946-4306 East (014) 046 0701

Environmental Laboratory

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This is a date sensitive document and may not be current after December 11, 2013.

W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. Parameters - The operator shall analyze samples for the following parameters:

15.3.b.1.	Total Petro	oleum	1.5
Hydrocar	bons (GRO)	, DRO	, ORO)

15.3.b.2. BTEX

15.3.b.3. Chloride

15.3.b.4. Sodium

15.3.b.5. Total Dissolved Solids (TDS)

15.3.b.6. Aluminum

15.3.b.7. Arsenic

15.3.b.8. Barium

15.3.b.9. Iron

15.3.b.10. Manganese Received Office of Oil & Gas

OCT 3 0 2014

15.3.b.11. pH

15.3.b.12. Calcium

15.3.b.13. Sulfate

15.3.b.14. Detergents (MBAS)

15.3.b.15. Dissolved Methane

15.3.b.16. Dissolved Ethane

15.3.b.17. Dissolved Butane

15.3.b.18. Dissolved Propane

15.3.b.19. Bacteria (total coliform)

15.3.b.20. Any others parameters determined by the operator or the Chief.



2019 Ninth Avenue PO Box 1925 Altoona, PA 16603 (814) 946-4306

NELAP: PA 07-062, VA 460212

89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Injection Well

Reported:

Cranberry Township PA, 16066

Collector:

SS

10/07/14 11:19

Project Manager:

Brian Rushe

Number of Containers:

11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
HC 89 BOX 300/INJECTION WELL	3K08103-01	Water	Grab	11/07/13 13:00	11/08/13 18:15

3K08103 Parameter list attached as page 10 of final report. This report replaces the report issued 09/30/14 13:32. 10/07/14 CL

3K08103 Report revised. MDL values added and GRO analysis name revised. This report replaces the report printed on 12/27/13 16:12, 09/30/14 mlf

Received Office of Oil & Gas OCT 3 0 2014

Fairway Laboratories, Inc.

Reviewed and Submitted by:

MAT

Michael P. Tyler Laboratory Director Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



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EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Injection Well

Reported:

Cranberry Township PA, 16066

Collector:

SS

10/07/14 11:19

Project Manager:

Brian Rushe

Number of Containers:

11

Client Sample ID: HC 89 BOX 300/INJECTION WELL

Date/Time Sampled: 11/07/13 13:00

Laboratory Sample ID:

3K08103-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Extractable Petroleum Hydrocarbons	by 8015							
Oil Range Organics	206000	100000	100000	ug/l	11/12/13 14:54	EPA 8015D mod	rsr	2a, 2b
Diesel Range Organics	135000	100000	100000	ug/l	11/12/13 14:54	EPA 8015D mod	rsr	2a, 2b
Surrogate: o-Terphenyl		38.7 %	40-	140	11/12/13 14:54	EPA 8015D mod	rsr	
Metals by EPA 200 Series Methods								
Barium	3.61	0.132	1.00	mg/l	11/15/13 01:54	EPA 200.7/4.4	rab	
Iron	426	0.223	2.00	mg/l	11/15/13 01:54	EPA 200.7/4.4	rab	
Manganese	13.8	0.146	1.00	mg/l	11/15/13 01:56	EPA 200.7/4.4	rab	
Volatile Organic Compounds by EPA	Method 8260E	3						
Benzene	2620	30.0	250	ug/l	11/14/13 00:27	EPA 8260B	MTC	
Toluene	14700	97.5	250	ug/l	11/14/13 00:27	EPA 8260B	MTC	
Ethylbenzene	1110	45.0	250	ug/l	11/14/13 00:27	EPA 8260B	MTC	
Xylenes (total)	11500	87.5	500	ug/l	11/14/13 00:27	EPA 8260B	MTC	
Surrogate: 4-Bromofluorobenzene		101 %	70-	130	11/14/13 00:27	EPA 8260B	MTC	
Surrogate: 1,2-Dichloroethane-d4		95.6 %	70-	130	11/14/13 00:27	EPA 8260B	MTC	
Surrogate: Fluorobenzene		93.4 %	70-	130	11/14/13 00:27	EPA 8260B	MTC	

Fairway Laboratories, Inc.

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Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



State Certifications: MD 275, WV 364

89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



www.fairwaylaboratories.com

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number: Injection Well

Collector:

11

Reported:

10/07/14 11:19

Client Sample ID: HC 89 BOX 300/INJECTION WELL

Date/Time Sampled: 11/07/13 13:00

Laboratory Sample ID:

3K08103-01 (Water/Grab)

Number of Containers:

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
						_		
Conventional Chemistry Parameters	by SM/EPA M	ethods						
Bromide	584	3.84	20.0	mg/l	11/12/13 15:58	EPA 300.0/2.1	bdw	
Chloride	49000	1070	5000	mg/l	11/13/13 23:25	EPA 300.0/2.1	bdw	
Specific Conductance (EC)	114000		2.00	umhos/cm	11/08/13 20:55	SM20-2510B	cmh	
pH @ 16.1°C	5.41			pH Units	11/08/13 20:55	SM20-4500H + B	cmh	
Total Dissolved Solids	80400	4.00	40.0	mg/I	11/11/13 15:30	SM20-2540C	arr	
Total Suspended Solids	150	2.00	8.00	mg/l	11/12/13 13:56	SM20-2540D	arr	2a
Sulfate as SO4	271	27.9	100	mg/l	11/12/13 15:58	EPA 300.0/2.1	bdw	
Volatile Petroleum Hydrocarbons by t	8015 GRO		5					
Gasoline Range Organics	370000	935	10000	ug/l	11/18/13 20:13	EPA 8015D mod	bag	
Surrogate: a,a,a-Trifluorotoluene		91.9 %	70)-130	11/18/13 20:13	EPA 8015D mod	bag	

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State Certifications: MD 275, WV 364

EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Injection Well

Reported:

Cranberry Township PA, 16066

Collector:

SS

10/07/14 11:19

Project Manager:

Brian Rushe

Number of Containers:

11

Notes

2a The RPD result exceeded the QC control limits for the duplicate, LCSD or MSD sample analyzed.

2b The sp

The spike recovery was outside acceptance limits for the MS and/or MSD. Data accepted based on acceptable LCS

recovery.

J

Detected between the Method Detection Limit (MDL) and the Reporting Limit (RL); therefore, result is an estimated value.

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252

certified.

Represents "less than" - indicates that the result was less than the reporting limit.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any

reported result values that are less than the RL are considered estimated values.

RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

Fairway Laboratories, Inc.

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State Certifications: MD 275, WV 364

EXCO Resources

260 Executive Drive

Cranberry Township PA, 16066

Project Manager:

Brian Rushe

Project:

Welchland 29AW

Project Number: Injection Well

Collector:

SS

Reported: 10/07/14 11:19

Number of Containers: 11

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Fairway Laboratories, Inc.

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.



2019 Ninth Avenue PO Box 1925 Altoona, PA 16603 (814) 946-4306

NELAP: PA 07-062, VA 460212

89 Kristi Road Pennsdale, PA 17756 (570) 494-6380 PaDEP: PA 41-04684



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EXCO Resources

Project:

Welchland 29AW

260 Executive Drive

Project Number:

Injection Well

Reported:

Cranberry Township PA, 16066

Collector: SS

10/07/14 11:19

Project Manager:

Brian Rushe

Number of Containers:

11

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

State Certifications: MD 275, WV 364

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

Fairway Laboratories, Inc.

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	CUSTODY/ OR ANALYSIS	FAIRWAY LAE	BORATORIES Environmental Lai	3K08103-01 K HC 89 BOX 300/INJECTION WELL Sampled: 11/07/13 13:00 /91 Water-100 mL Bacti EXCO Resources
Client Name: Address:	EXCO Resources HC 89 Box 300 Maben, WV 25870			LIMS # File #: 31+ Total coliform: ∠ 1 50 M3 Ecoli: ∠ 1 50 M3 Fecal:
Anaylsis Requested Date/time collected:	and the same of th	ecal Coliforn D	HPC 0	HPC: Analyst: 3AB Analysis Started: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
ampled by: eceived by: elinquished by: eceived by:	Signature Signature	13 18	Date Tim //=7_23 /3 C III N 13 INFALS C NES	Number of containers: Matrix: Water U other 1.1. Comments: DWD 1.2. AU AU
	Yhite Original - FLI File (**	Canary - Custom Please complete:	er Mailing/Report Pit all of the grayed areas.	uk - Customer Receipt Copy 상숙

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OCT 3 0 2014

CHAIN OF	CUSTODY / REQUEST	I =				<u> </u>	<u> </u>				COC#	3/	08	ל ט <u>ן</u>	Page	of												
	OR ANALYSIS	FAIRV	VAY LA	-	KAI	UH	(IE	5 1	NC	•		Analyse	s Requ	ested		Gas												
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W. Va. Code R. 35-8-15 Water Supply Testing.

15.3.b. Parameters - The operator shall analyze samples for the following parameters:

	Total Petroleum bons (GRO, DRO, ORO)
15.3.b.2.	BTEX
15.3.b.3.	Chloride
15.3.b.4.	Sodium
15.3.b.5.	Total Dissolved Solids (TDS)
15.3.b.6.	Aluminum
15.3.b.7.	Arsenic
15.3.b.8.	Barium
15.3.b.9.	Iron

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Chief.

15.3.b.10. Manganese

15.3.b.11. pH 15.3.b.12. Calcium 15.3.b.13. Sulfate 15.3.b.14. Detergents (MBAS) 15.3.b.15. Dissolved Methane 15.3.b.16. Dissolved Ethane 15.3.b.17. Dissolved Butane 15.3.b.18. Dissolved Propane 15.3.b.19. Bacteria (total coliform) 15.3.b.20. Any others parameters determined by the operator or the



Inspection Checklist for Owner / Operator Annual AST Inspection

Well Name: Welchlands 29 AW	/ 250*1551 79	WV Tank Ref. ID No.: MAB-Welchlands (08/28/2014)	3 29AW GRP 3
Permit No.: 4710900980		Tank ID No.: T2	
EXCO Facility Location: Maben	Office	Date of Inspection:	
Name of Person Conducting Ins	pection (print):		MAB03
	Den-19		
Signature of Person Conducting	Inspection:		
Section 1 - AST Design			
Does the AST continue to meet original design standards of the facility?	⊠ YES OR □ NO, If "NO" p	rovide details below;	
Section 2 – AST Construction	n and Installation		
Is the foundation of the AST Adequate?	⊠ YES OR □ NO, if "NO" pi	rovide details below;	
Is the AST system compatible with the material stored?	☑ YES OR ☐ NO, if "NO" pr	rovide details below;	
Section 3 – General Mainte			
 Examination of the Tank 	c system exterior surfaces for th	ne following:	}
	Areas of Excessive Wear, Corros	ion, Distortions, Deterloration or any cond	ition that may
adversely affect the affe	scrater integrated of the Wol photo	=111•	Received
			Office of Oil & Ga
			OCT 3 0 2014
Section 4 - Corrosion Prote	ction and Maintenance (e)	kisting and past corrosion protection	n)
*			
Does the AST system include a Galvanic and/or impressed Current System?	☐ YES OR ⊠ NO, If "YES" pr	ovide details below;	
Is there an External Coating applied to the AST system? (other than paint)	☐ YES OR ☒ NO, If "YES" pr	ovide details below;	
Is there Internal Coating or Liner for the tank?	☐ YES OR ☒ NO, If "YES" pr	ovide details below;	



Inspection Checklist for Owner / Operator Annual AST Inspection

Section 5 - Release Detecti	on Method and Procedures:
 The AST System is virilease is detected. the event of a release 	isually inspected on a routine basis and corrective measures are employed if a EXCO will follow the prepared Spill Prevention Response Plan for the facility in se.
Section 6 – Release Prevent	ion Methods and Procedures:
The AST System is vi	sually inspected on a routine basis.
Section 7 – Secondary Conta	
	Latties bigger
Secondary Capacity	133. Calculate Volume of Secondary Containment Structure;
Requirements;	(Length X Width X Height = Cubic Feet of secondary containment)
	Length (feet) 40.167 X Width (feet) 29.583_ X Height (feet) 2.33 = 2772.6 cf
	Calculated Secondary Containment Structure Volume =
	cf of Sec. Cont. 2772.6 X 7.48 gallons per cubic foot = 20,739.2, gallons
	134. Calculate Precipitation Volume (25 year, 24 hour) for Containment;
	Length (sec. cont. in feet) X Width (sec. cont. in feet) X 0.38 feet X 7.48 gallons per cubic foot = 3377.5, gallons
	135. Calculate Total Secondary Containment Volume Needed;
	Vol. of largest Tank in Containment Structure (gallons), <u>8820</u> + Precip. Vol., (No. 2) (gallons), <u>3377.5</u> = <u>12,197.5</u> , gallons
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	136.Is Secondary Containment Structure Volume (No. 1) greater than or equal to Total Secondary Containment Volume Needed (No. 3)?
OCT 3 0 2014 ~~~	☑ YES OR ☐ NO, If "YES" – Secondary Containment Structure is Adequate
	If "NO" - Secondary Containment Structure is Inadequate
s the Secondary Containment compatible with stored materials?	☑ YES OR ☐ NO, If "NO" provide details below;
Does the Secondary Containment	☑ YES OR ☐ NO, If "NO" provide details below;
nave Structure Soundness / ntegrity?	u 196



Inspection Checklist for Owner / Operator Annual AST Inspection

Section 8 - Record Keeping:

- Leak Detection System, (If applicable) Records of visual inspections are maintained at the local field office
- Corrosion Protection System, (if applicable) Records of maintenance of Corrosion Protection
 Systems are maintained at the local field office.
- General Operation and Maintenance (including upgrades and repairs to AST system) Records of General Operation and Maintenance are maintained at the local field office.

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API# Welchlands 29AW 47- 109-00980	Tank ID	Tank Location northing 4167292.10mN	easting 460890.71mE	installation date	tank age (mo.)	construction material	capacity (gal)	Type of fluid		tank type
	none			12/15/2006	100			stored	Gal. stored	
	none			• •	102	steel	8820	produced water	1690	single wall
				12/15/2006	102	steel	8820	produced water	1690	single wall
	none			Jun-09	60	nlacti-		*	1050	SHIRIE MAIL
				- 411 00	00	plastic	2100	produced water	10	single wall

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8. Include provisions for inspections of all GPP elements and equipment. Inspections must be made quarterly at a minimum.

EXCO personnel shall complete quarterly inspections at a minimum for all production tanks in accordance with the SPCC Plan; all secondary containment; all underground piping; and the injection well head for evidence of leakage and integrity issues.

Signature:

Date:

10/17/14

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Office of Oil & Gas
0CT 3 0 2014





EXCO Resources (PA), LLC

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

Jahuary 2, 2014

West Virginia Department of Environmental Protection Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304 Attn: Mr. James Peterson

RE: UIC Permit Renewal 2D0392419 (L.C. Wilson #4)
UIC Permit Renewal 2D1090980 (Welchlands 29AW)

Dear Mr. Peterson:

EXCO Resources (PA), LLC is submitting the following information for the L.C. Wilson #4 and Welchlands 29AW UIC Permit Renewals:

- 1. Three (3) copies of the Injection Well Permit Renewal Submittal for the L.C. Wilson #4 (UIC 2D0392419).
- 2. A check in the amount of \$5,000.00 made payable to the State of West Virginia for the Separate Bond Fee for the L.C. Wilson #4 (UIC 2D0392419).
- 3. Three (3) copies of the Injection Well Permit Renewal Submittal for the Welchlands 29AW (UIC 2D1090980).
- A check in the amount of \$5,000.00 made payable to the State of West Virginia for the Separate Bond Fee for the Welchlands 29AW (UIC 2D1090980).

If you should have any questions of require additional information, please contact me at (724) 720-2590.

Sincerely,

Brian E. Rushe, P.E.

Construction & Regulatory Manager

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Office of Oil & Gas
001 3 0 2014

Enclosures

NOT WV (AND THERE IS ONE FURTHER DOWN ON THE PAGE)

CE Field		1 =				ENGO OLIMINA		1										
Grp	Route Name	State	County	Apr Well Number	Exc. 250*	OPERATED	ACTIVE STATUS	GAS or OIL well	EVEC CLIANE	200 0 000	1	DOUBLE CHECK OF			Merrick	Year Drilled PO0=PRIOR		
ABEN	MAB05	KY	PIKE	1619572716	250*200039	Y	Active W! Well	IGAS OF OIL WEIL	EXCO SHARE 0.3558717	3RD Q 2014 status	long term shut in		Description	Disposition code	Completion_ID	TO 7000	Lease Name	Producing Descrip
ABEN ABEN	MAB05	'KY	PIKE	1619560156	250*200038	Ý	Active WI Well	GAS		Producing		1619572716 1619560156	Hamilton 3B Hamilton 2B	1 1000 - 1 100000 00000 00000 00000	880	P00	W-HAMILTON	Producing
ABEN	MAB05 MAB05	KY	PIKE	1619552229	250*200037	Y	Active WI Well	GAS	0.4975	Producing		1619552229	Hamilton 1B		5030		W-HAMILTON W-HAMILTON	Producing
ABEN	MABOS	VA VA	BUCHANAN	4502726654 4502720540	250*287998 250*204893	Y	Active WI Well	'GAS	0.4495012	Producing		4502726654	IBIG VEIN 02-05	4 . ** ** *** *** **** ****	11387		WV-PILGRAM KNOB CREEK	Producing Producing
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BEN	MAB07	WV	RALEIGH		250*287943	Ý	Active WI Well	GAS		Producing		4710902304	Newberry 017N		1765		W-NEWBERRY	Producing
BEN	MAB08	.wv	RALEIGH		250*287250		Active WI Well	GAS		Producing		4708101056	BEAVER COAL 161 BEAVER COAL 102		11109	man a steer w	WV-SULLIVAN_BEAVER	Producing
ABEN ABEN	MAB02	WV	RALEIGH		250*205604	Ÿ	Active WI Well	GAS		Producing	1	4710902305	Newberry 021N		10212		WV-RALEIGH_BEAVER W-NEWBERRY	Producing
BEN	MAB05	WV	WYOMING		250*287249 250*151289	.Y	Active WI Well	GAS		Producing	1	4708101091	BEAVER COAL 101		10097		WV-RALEIGH BEAVER	Producing Producing
BEN	MAB06	WV	BOONE		250*151289	· · · · · · · · · · · · · · · · · · ·	Active WI Well	GAS		Producing		4710902913	Crouch 25A	1	7365		W-CROUCH	Producing
BEN	MAB05	.wv	WYOMING		250*151291	V	Active WI Well	GAS		Producing Producing		4700502293	Y&O 15		11588		W-Y&O	Producing
		ŴV	WYOMING		250*205856	* T T T T TOTAL ALA	Active WI Well	GAS		Producing	1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4710902915	CROUCH 27A		7367		W-CROUCH	SI - Long Term_LTSI
BEN	:MAB08	WV	RALEIGH	4708101057	250*287251			GAS		Producing	1	4710902413 4708101057	WEICHLANDS 114 NW BEAVER COAL 104		1416		W-Bkly Welchind_NewBvr	Producing
	MABO1	WV	FAYETTE		250*287352	· Y	Active Wi Well	GAS		Producing		4701900892	NEW RIVER 3	and, plante a see as a que se see se	10776		WV-RALEIGH_BEAVER	Producing
		.WV	WYOMING RALEIGH	4710902914	250*151290	was said delication to see a said	Active WI Well	GAS	0.4975	Producing		4710902914	CROUCH 26A	***		written servers or act and	WV-NEW RIVER/ALLEGHENY W-CROUCH	Producing
	MAB03	WV	WYOMING		250*287272	4000- v .vm. 4- A	Active WI Well	GAS		Producing	I	4708101245	BEAVER COAL 139		10891		WV-SULLIVAN_BEAVER	Producing Producing
BEN	MABO8	- F 80 100 400 100	RALEIGH		250*205545 250*287286			GAS		Producing	1	:4710901397	Welchlands 062BW		-592		W-Bkly Welchind NewByr	Producing
BÉN			RALEIGH		250*287288	proceedings of a service of the serv	Active WI Well Active WI Well	GAS GAS		Producing	1	4708100483	BEAVER COAL A-19		10121		WV-RALEIGH_BEAVER	Producing
	IMABO8	WV	RALEIGH		250*287289	* m 1000 m m 1000 m .		GAS	*** * * * * * * * * * * * * * * * * * *	Producing Producing	·	4708100484	BEAVER COAL A-20		10122	80A	WV-RALEIGH BEAVER	Producing
			WYOMING	4710901154	250*205574			GAS		Producing		4708100472 4710901154	BEAVER COAL A-22	1	10123	A08 '\	WV-RALEIGH_BEAVER	Producing
	MABO2		WYOMING		250*205577	4 " w warm an any		GAS	0.4975	Producing	· ••••• • • • • • • • • • • • • • • • •	4710901154	Newberry 003 AN Newberry 005 AN	AM 49 . RV NI AMARIAM - 1788 TV .	2661		W-NEWBERRY	Producing
		**************************************	WYOMING		250*205560	:Y		GAS .	0.4975	Producing		4710901642	Welchlands 098BW		105		W-NEWBERRY	Producing
BEN			WYOMING RALEIGH		250*205542	of the terr is not an appropriate that I is		GAS	0.4975	Producing		4710901346	Welchlands 058BW		1 4M		W-Bkly Welchind NewByr W-Bkly Welchind NewByr	Producing Producing
			WYOMING		250*287283 250*205548	. PRANCE MANY PROOF PROPER ACRES	Active WI Well	GAS		Producing	1	4708100474	BEAVER COAL A-15	, , , , , , ,	10118		NV-RALEIGH BEAVER	Producing
		****		4710901410	250*205578			GAS		Producing	1	:4710901398	Welchlands 066BW			TTATEST AND 1 HARRISON	V-Bkly Welchind NewByr	Producing
	MAB03	WV	WYOMING		250*205554			GAS		Producing		4710901410	Newberry 006 BN		291		V-NEWBERRY	Producing
		ŴV	WYOMING		250*205556		Active Wi Well	GAS	*** * * ** ***	Producing Producing		4710901523	Welchlands 077BW		2126		V-Bkly Welchind_NewBvr	Producing
	MAB03		WYOMING	4710901626	250*205546			GĀS		Producing	1 *** ** ** *** ** ** ** ** ** ** ** **	4710901549 4710901626	Welchlands 082BW Welchlands 064BW		2483		V-Bkly Welchind_NewBvr	Producing
			RALEIGH		250*287279	:Ÿ 7	ctive WI Well	GAS		roducing	one in page ordered over an are by		BEAVER COAL 156 (E-10)		783		V-Bkly Welchind_NewBvr	Producing
	MAB03 MAB05		WYOMING		250*205538	TOTAL MAN AND AND AND AND AND AND AND AND AND A		GAS		roducing		4710901309	Welchlands 054 BW		10108		VV-SULLIVAN_BEAVER	Producing
		WV WV	WYOMING WYOMING		250*205623 250*205626			GAS	0.4975	Producing			Crouch 11A				V-Bkly Welchind_NewBvr V-CROUCH	Producing Producing
		wv .	M 1 MILLION W		250*205629			GAS :		roducing		4710901045	Crouch 17A		2846	W B 4 G	V-CROUCH	Producing
			WYOMING		250*205534	WHENCE IS AN IN THE PERSON AND ADDRESS OF		GAS GAS	T / T P P PARTY 1 married 1 marr	roducing			Crouch 22A	· · · · · · · · · · · · · · · · · · ·	294		V-CROUCH	Producing
		WV :	WYOMING		250*205627			GAS	0.4975	roducing			Welchlands 046AW		1575		V-Bkly WelchInd_NewBvr	Producing
				4710901021	250*205610	at the steam was to appear to	/ Management	GAS	0.422875,	roducing	·		Crouch 18A AGP 8			SHOWER CONTRACT CARROL - NO	V-CROUCH	Producing
			WYOMING		250*205609			GAS	0.422875			4710901021 4710901020	AGP 7				V-AGP/EASTER	Producing
					250*287285			GAS		roducing	M + WHITE PRINTS AND ADDRESS.		BEAVER COAL A-17		2845 il		V-AGP/EASTER	Producing
			WYOMING RALEIGH		250*205625	the second and comment of the di-		GAS	0.4601875 F				Crouch 16A			the new consens to have	VV-RALEIGH_BEAVER V-CROUCH	Producing Producing
					250*287284	****** ** ** ** **	ctive WI Well	GAS		roducing			BEAVER COAL A-16		10119		V-RALEIGH BEAVER	Producing
***********					250*205622	W. ANDRESS STATES THROWN AND A	ctive WI Well :	GAS	0.4975 F				Crouch 12A		2487	97 AMMER / NO AME NAME	V-CROUCH	Producing
BEN ;	MAB05		WYOMING		250*205620			GAS	0.4975 F 0.4975 F	roducing		4710900995	Crouch 10A		2130 , F	W; 00°	/-CROUCH	Producing
			WYOMING	4710900993 .2	250*205619 :			GAS	0.4975;F	roducing			Crouch 08A	,	1766 IF		/-CROUCH	Producing
BEN				4708100478	250*287282	Y	ctive WI Well	GAS	0.4975;P	roducing			Crouch 07A BEAVER COAL A-14				/-CROUCH	Producing
BEN i				4710901730 12	250*205561			GAS	0.4975 P	roducing	T 1 TOT OF ME 2 AND 2 TO SECURE M		Welchlands 1018W				/V-RALEIGH_BEAVER	Producing
BEN				,4710901018 ,2 ;4708101071 2	50*205628 50*287262			GAS	0.4975 P	roducing		4710901018	Crouch 21A				/-Bkly Welchind_NewBvr /-CROUCH	Producing
BEN :					250*287262 250*287270			GAS	0.4975 P	roducing	TO A AMERICAN SERVICE OF TAXABLE ASSESSED.	4708101071	BEAVER COAL 122				/V-RALEIGH_BEAVER	Producing
BEN :	MAB08		Ma r 2' 1 14500 50 1500 5000 500 100		50*287269			GAS .	0.4975 P	roducing	Attended to the case of manage of these	4708101085	BEAVER COAL 134	, , ,	10105		/V-RALEIGH BEAVER	Producing
EN I	MAB08	wv " "i	rāleigh	4708101095	50*287267	Y		GAS	0.4975 P	roducing			BEAVER COAL 133	, 11	10104 A	W: 80	/V-RALEIGH_BEAVER	Producing
EN	MAB08	٧٧	RALEIGH ,	4708101094 2	50*287266	Ÿ A	ctive Wi Well ;	GAS	0.4975 P	roducing			BEAVER COAL 130				V-RALEIGH BEAVER	Producing
EN !				4710902296 2	50*205570	Υ Α	ctive WI Well	GAS	0.4975 P	roducing			BEAVER COAL 129 WELCHLANDS 110			W 807	/V-RALEIGH_BEAVER	Producing
				4710901627 2	50*205845	Y A	ctive WI Well 📑	GĀS :	0.4975 P	roducing			Weichlands 0888W				/-Bkly Welchind_NewByr	Producing
EN I				4708101072 12	50*287263			GAS	0.4975,P	roducing	-W THE THE REAL PROPERTY CANADASSA C		BEAVER COAL 123		10218 A		/-Bkly Welchind_NewBvr /V-RALEIGH_BEAVER	Producing
EN 'i				4708101182 ,2 4708101066 2	50*287278 1 50*287261	Y A	ctive WI Well	GAS	0.4975 P	roducing	1,	4708101182	BEAVER COAL 154				V-SULLIVAN_BEAVER	Producing Producing
EN ;	MABO8 N	NV		4708101083	50*287259			GAS	0.4975 P	roducing		4708101066	BEAVER COAL 121	1	10216 A	. W. 80	V-RALEIGH BEAVER	Producing
EN Î	MAB08 V	ÑΫ		4708101177	50*287258	Y	ctive WI Well	GAS	0.4975 P 0.4975 P	roducing			BEAVER COAL 118	' .1	10102 A	WI 80	V-RALEIGH_BEAVER	Producing
EN i	MAB08	۸۷ j	RALEIGH :	4708101063	50*287257		Active WI Well	GAS		on Prod/Shut In	No abid decreases are a larger to the party of the control of		BEAVER COAL 117			.08 iW	V-RALEIGH_BEAVER	Producing
EN :	MAB08 (V			4708101060 2	50*287254	Ϋ́A	tive Wi Well ;	GAS	0.4975 P	roducine	TANTONIA - 440 V		BEAVER COAL 111 BEAVER COAL 108			.08 W	V-RALEIGH_BEAVER	SI - Long Term_LTSI
EN II	MAB08			4708101059 2	50*287253	Υ Α	ctive WI Well	GAS .	0.4975 P	roducing			BEAVER COAL 108		10751 A		V-RALEIGH_BEAVER	iProducing
EN ;			RALEIGH	4708101074 .2	50*287265 I	Y ,A	tive WI Well	GAS	0.4975 P	roducing			BEAVER COAL 127	1			V-RALEIGH_BEAVER	Producing
EN ;					50*288002		tive WI Well	GĀS	0.4975 P	roducing	1010 for present at 100.000		BEAVER COAL 167				-Sunny Acres 960520 V-SULLIVAN BEAVER	Producing
EN I				4708100477 2 4708100475 2	50*287325 (1 50*287318 (1			GAS	0.4975 P			4708100477	BEAVER COAL A-09		10116 IA		V-RALEIGH_BEAVER	Producing Producing
EÑ :	MABO8		Belletenburg recesses as 1 ass. of 1 and 1	4708100473	50*287309			GAS GAS	0.4975,P	roducing	AND DESCRIPTION AND PERSONS ASSESSMENT	4708100475	BEAVER COAL A-07	[1	10115 ,A		V-RALEIGH_BEAVER	Producing
ĒŇ I				4708100431	50*287304			GAS	0.4975 P			4708100438	BEAVER COAL A-06	:1	10114 A	08 W	V-RALEIGH BEAVER	Producing
	t effects were a non-sens and a sens as any		******* * * ******* ** ***** *** *				TO THE !		0.4975,P	rouucing	- 14	4708100431	BEAVER COAL A-05	11	I0113 A		V-RALEIGH_BEAVER	Producing

Roun	re Name 3	State WV	County	Apr Well Number	Exc_250*	THE PERSON NAMED ADDRESS OF THE PARTY OF	ACTIVE STATUS	GAS or OIL well	EXCO SHARE	3RD Q 2014 status	long term shut in	DOUBLE CHECK OF			Mernck	Year Drilled		
MAB08		WV -	RALEIGH	4708100462 4708100430	250*287298 250*287293		tive WI Well	GAS		Preducing	long term shut in	API 4708100462	Description BEAVER COAL A-04	Disposition co			Lease Name	Producing Desc
MABOT	7	WV	RALEIGH	4708101121	250*287273		tive WI Well	.GAS	0.497	Producing	700 mm 1 m p	4708100430	BEAVER COAL A-04		110112	A08	WV-RALEIGH_BEAVER	Producing
MAB08			RALEIGH	4708100548	250*287313	T TO AMERICA TERRETARING IN 1	tive WI Well tive WI Well	GAS	0.497!	Producing	3 3	4708101121	BEAVER COAL 141		10111	A08	WV-RALEIGH_BEAVER	Producing
MAB07			RALEIGH		250*287274		tive WI Well	GAS	0.4975	Producing		4708100548	BEAVER COAL A 65		10143	A08	W-Sunny Acres 960520	Producing
MAB07	A 10 TO MARKET		RALEIGH	4708101355	250*288001	رانت بها المحمد معرف المحمد	tive Wi Well	GAS	0.4975	Producing Producing	* ** ** . ** *** *** *** ***	4708101122	BEAVER COAL 142		10760		WV-RALEIGH_BEAVER W-Sunny Acres 960520	Producing
MABO7		WV WV	RALEIGH		250*287950	* *** *** *** ** *** ***	tive WI Well	GAS		Producing	2	4708101355	BEAVER COAL 165		11468		WV-SULLIVAN_BEAVER	Producing
MAB07		WVV	RALEIGH		250*287949	Y Ac	live WI Well	GAS		Producing	Spapers tale, 1970y January World	4708101341	BEAVER COAL 164		11362		WV-SULLIVAN_BEAVER	Producing
MAB07		WV	RALEIGH		250*287944		ive WI Well	GAS		Producing		4708101340 4708101333	BEAVER COAL 163		11467	A08	WV-SULLIVAN_BEAVER	Producing
MÄBÖ8			RALEIGH	man to be a commenced to	250*287942 250*287252		ive W! Well	GAS		Producing		4708101333	BEAVER COAL 162			80A	WV-SULLIVAN BEAVER	Producing
MAB08		wv	RALEIGH		250*287281	* *** ** ** * * * * ***	ive WI Well	GAS	0.4975	Producing			BEAVER COAL 160 BEAVER COAL 105		11108	A08	WV-SULLIVAN_BEAVER	Producing
MABO1	11	wv ·	FAYETTE		250*206764		ive WI Well	GAS		Producing		# Attended to the control of the con	BEAVER COAL A-01	4	10214	A08	WV-RALEIGH_BEAVER	Producing
MAB01			FAYETTE		250*287344		ive Wi Well	GAS		Producing	THE PET MAN APPROXIS THE PETER !		New River 86AR		.10109 .2730	A08 :	WV-RALEIGH BEAVER	Producing
:MAB01		999 94 PF D MR MAN	FAYETTE		250*205735		ive WI Well	GAS	0.4975	Producing		4701900891	NEW RIVER 1		10774	P00	WV-NEW RIVER/ALLEGHENY	Producing
MAB01			FAYETTE	4701900621	250*206763		ive W! Well	GAS	0.4975	Producing		4701900619	Price/Sun 06A	****** ** ***** * ****** * ********			W-Bkly NewRvr_CrabOrchrd	Producing
MAB01			FAYETTE		250*205733		ive Wi Well	GAS	0.49/5	Producing Producing	A MARKET MAD - FRAME HERE THAT	4701900621	Berwind Land 6A				W-Bkly NewRvr_CrabOrchrd WV-NEW RIVER/ALLEGHENY	Producing
MAB01			FAYETTE		250*205728		ive WI Well	GAS	0.49/5	Producing			Price/Sun 04A		795		W-Bkly NewRvr_CrabOrchrd	Producing
iMAB01			FAYETTE	4701900646	250*205695		ive Wi Well	GAS	0.4975	Producing			New River 77AR	-	2853	Poo	W-Bkly NewRvr_CrabOrchrd	Producing Producing
MABO1		T 107 TO FAMILIAN .	FAYETTE FAYETTE		250*205813	Y Act	ive WI Well	GAS TOTAL		Producing		4701900646	McNeely 1A	1	3028	P00 TT	W-Bkly NewRvr_CrabOrchrd	Producing
MAB01			FAYETTE		250*205732			GAS .		Producing		701900647	Berwind Land 7A		.2857	P00	W-BERWIND/FAY1 Brwnds &	Producing
MAB01	· · · · · · · · · · · · · · · · · · ·	70 0 00 0	FAYETTE		250*205812		ve WI Well	GAS	0.4975	Producing		1701900648 1701900616	Price/Sun 03A		!604	P00 ;	W-Bkly NewRyr CrabOrchrd	Producing
MAB01	V		FAYETTE		250*205736 250*205811	* TOTAL OF MATERIAL TO A A SEA AND AND THE REAL PROPERTY.		GAS	0.4975	Producing			Berwind Land 5A Price/Sun 08A		2675	200 1	W-BERWIND/FAY1 Brwnds &	Producing
.MAB01	v		FAYETTE		250*206766		ve WI Well	GAS	0.24875	Producing		701900611	Berwind Land 4A		1222	1; 009	W-Bkly NewRvr CrabOrchrd	Producing
MAB01	v		AYETTE		250*206765	" the reservence of the description of the laws of	ve Wi Well ve Wi Well	GAS		Producing	*** * * * * ** ** **		Burlee 1B	* ** ** ** ** ** ** ***	3089		W-BERWIND/FAY1 Brwnds &	Producing
MAB01	V		AYETTE		250*287864	tells of comment of the comment of t		GAS		Producing			New River 88N	-			W-BURLEE	Producing
MAB01	V		RALEIGH	4708101244	250*286677			GAS		Producing	14	701900990	NEW RIVER 44		A . Mr		WV-NEW RIVER/ALLEGHENY	Producing
MAB01			AYETTE	4701900935	250*286676		**** PROFESSION IN TA C	GAS		Producing		708101244	NEW RIVER 31 (G-51)		10892		NV-NEW RIVER/COLLINSWOO V-Bkly NewRvr_CrabOrchrd	
MAB01			ALEIGH		250*287351	The Property of the Party of th		GAS	0.49/5,	Producing Producing		701900935	NEW RIVER 30	1	10955	108	V-Bkly NewRvr_CrabOrchrd	Producing
MABO1	ner		RALEIGH		50*287347		ve WI Well	GAS		Producing			IEW RIVER 23 NR-B 06		" The same and distributions where we'll	.08	V-Bkly NewRvr_CrabOrchrd	Producing
MAB01			AYETTE		250*287345	Y Acti	ve Wi Well	GAS	0.4975	Producing			EW RIVER 15		10785	08 IV	V-Bkly NewRvr_CrabOrchrd	:Producing
MABO1			ALĒIGH	4701900649	50*205734	Where you was notice to seem to see an arrange of	ve Wi Well	GAS		roducing			IEW RIVER 12		10781	08 IV	V-Bkly NewRvr_CrabOrchrd	Producing
MAB06	W		OONE		50*287797 50*206747			GAS		Non Prod/Shut In	me products we as a man of comman to start.		rice/Sun 05A IEW RIVER 38-1	The same of the sa	,345 ,F	00 iv	V-Bkly NewRvr_CrabOrchrd	Producing
MÄB06	. W		BOONE		50*206748	* " " " " " " " " " " " " " " " " " " "		GAS	0.4975	Producing		700500978	Tract 6			.08 iii	V-Bkly NewRvr_CrabOrchrd	Producing
MAB06			OONE	4700501929	50*205807	" War I 10-1000 and page 1 hard many		GAS	0.4975	Producing	PERSONAL PROPERTY AND ADDRESS OF THE PARTY IN THE PARTY I		Tract 7				V-C TRACT	Producing
MAB06	W		OONE	4700501931 2	50*205808		ve Wi Well	GAS		Producing	of Tablettonesses and it is we make here ma-		80 05		2909		V-C TRACT	Producing
MAB06	W		OONE		50*150078	CHARLES AND C PROPERTY AND CONTRACTOR	***	GAS .		roducing	T - THE STATE OF THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO I		&O 07		1956		/-Y&O	Producing
МАВ06	W		OONE		50*150079			GAS		roducing	47	700502078 Y	&O 06		1936 (i		/-Y&O	'Producing
MAB06	١W	, -	OONE	4700502169 2	50*150620		AMERICAN AND THE PARTY OF THE P	SAS	0.4975		147		&O 08 [.875]	1	7171 10	10.00	/-Y&U /-Y&O	Producing
MAB06 MAB01	W		OONE		50*150621	area to compare to the on the second	e Wi Well	GAS		roducing			&O 10		7228 0	apr 1 may 1 pages, age	/-Y&O	Producing
MAB06	W		AYETTE		50*205731			GĀS T		roducing			&O 11	the term and the property before	7173		7-Y&O	Producing Producing
MAB01	W		OÖNE ALEIGH		50*151155	Y Activ	e Wi Well	GAS		roducing			rice/Sun 02A				/-Bkly NewRvr_CrabOrchrd	Producing
MAB01	:W	-	AYETTE		50*287353	- 10000 was no do many	e Wi Well	SAS	0.4975 F	roducing	- I'm name through common you are a common		RO 14		7318 10		/-Y&O	Producing
MABO1	······································			4701900937 ,2 4701900936 2	50*287416 50*287417		e WI Well (AS		roducing	. Here targeton mean to quart we had not a		EW RIVER 4	- /	:10777 A	08 W	-Bkly NewRyr CrabOrchrd	Producing
MAB01	W				50*205814			GAS	0.4975:P	roducing			EW RIVER 26 EW RIVER 25 (NR-D 32)		11993 A	. N	-BECKWITH	Producing
MAB01	W	V ~ F/	PROTECT OF MARKET OF THE PARKET		50*205809		***************************************	ĀS	0.472625;P	roducing		01900593 N	ew River 70AR BCP		11247 A		-BECKWITH	Producing
MABO1	W	V F/			50*205726			AS AS	0.4601875 P		TO MANAGEMENT OF WAN - MANAGE		erwind Land 1A		3035 P	n n man n	-BERWIND/FAY1 Brwnds &	Producing
MAB01	W		AYETTE		50*205727			AS	0.4975 P	roducing	:47		ew River 75AR		2141 P	,	-BERWIND/FAY1 Brwnds &	∤Producing
MAB01	W		AYETTE	4701900607 2	0*205730			iAS	0.4975 P	roducing	:47	01900603 N	ew River 76AR		.2493 PC		-Bkly NewRvr_CrabOrchrd	Producing
MAB01 MAB06		VF/		4701900609 2	0*205810	Y Activ		AS	0.4975 P 0.24875 P	roducing		01900607 Pr	ice/Sun 01A		116 PC		-Bkly NewRvr_CrabOrchrd -Bkly NewRvr_CrabOrchrd	Producing
MAB08	:W			4700502171 25	0*150622			AS	0.24875 P				erwind Land 3A	,	2319 P		-BERWIND/FAY1 Brwnds &	Producing
MABO8	W				0*287302	Y Activ	e Wi Weli	AS	0.4975 ₁ P	roducine			KO 12		7172 107		-Y&O	Producing
MAB08	·W		The second commence of the second	4708100557 25	0*287316	Y Activ	e WI Well G	AS	0.4975 P		CARLES OF PERSONS OF PERSONS AND . WA		AVER COAL A-45		:10134 A	18 W	V-RALEIGH_BEAVER	Producing
MAB08	(W				0*287315	Y Activ		AS	0.4975 P	roducing			AVER COAL A 674 C		10146 :A(8 W	V-RALEIGH_BEAVER	Producing
MABO8					0*287314 0*287312	Activ		AS	0.4975 P	oducing			AVER COAL A-67A S AVER COAL A-66A S		10145 AC		V-RALEIGH_BEAVER	Producing
MAB08	W			defends a service of the service of	0*287311		Wi Well G		0.4975 P	oducing			AVER COAL A-664	m , man a	10144 AC		V-RALEIGH_BEAVER	Producing
MABO8	iWi	7	ALEIGH		0*287310		e Wi Well :G	AS	0.4975 P	oducing	on he has differed the case. He do narrays, while		AVER COAL A-61		10142 AC		V-RALEIGH_BEAVER	Producing
VIABO8			ALEIGH ;		0*287308			AS	0.4975 P	oducing			AVER COAL A-60	the street service and	10141 AC		V-RALEIGH_BEAVER	Producing
MAB08	_ W		ALEIGH	4708100521 25	0*287307			AS	0.4975 P	oducing	of home. A different construction and a name of		AVER COAL A-59	1	10140 AL		v-raleigh_beaver v-raleigh_beaver	Producing
MABO1		/ FA		4701900903 25	0*287355		WI Well G		0.4975 Pi 0.4975 Pi	oducing		08100521 BE	AVER COAL A-57		10139 AC	_ ,	v-raleigh_beaver v-raleigh_beaver	Producing
MABO8	W۱			4708100509 25	0*287303			AS	0.4975 Pi	oducing		01900903 NE	W RIVER 7]	10779 IAC			Producing Producing
MAB08	.W\			4708101087 25	0*287320		Wi Well G		0.4975 Pr				AVER COAL A-46	1	10135 AO		/-RALEIGH_BEAVER	Producing
VIABUS				4708100508 25	0*287301	Y Active	Wi Well G	AS	0.4975 Pr	Oducing			AVER COAL A-71		10195 AO	8 :W	/-RALEIGH_BEAVER	Producing
MABO8	- W	KA		4708100512 25	0*287300	Y Active	Wi Well G	AS	0.4975 Pr				AVER COAL A-44		10133 AÖ	8 .W.	-RALEIGH BEAVER	Producing
VABO8	- WV			4708100507 .25 4708100500 25	0*287299		Wi Well G		0.4975 Pr	oducing			AVER COAL A-43	, and 444	10132 ÃŌ	8 W	/-RALEIGH_BEAVER	Producing
MAB08	WV		******* ** ** * ** ****** ***		0*287297 v 0*287296 j			AS	0.4975 Pr	oducing			AVER COAL A-41 AVER COAL A-38		10131 AO	B W\	/-RALEIGH_BEAVER	Producing
MABO8	·WV	,		4708100495 25 4708100503 25	0*287295 i		Wi Well G		0.4975 Pr	oducing			AVER COAL A-38 AVER COAL A-35		10130 A0		-RALEIGH_BEAVER	Producing
AB08	~ iwv		- TATALON - MAN		0*287294		Wi Well :G		0.4975 Pr	oducing		1000 August 44 11	AVER COAL A-35 AVER COAL A-34		10129 AO	W\	-RALEIGH BEAVER	Producing
AB08	WV				0*287292		Wi Well G		0.4975 Pr	oducing		T V	AVER COAL A-34	to a secondary room a sec	10128 A0		-RALEIGH_BEAVER	Producing
						ACTIVE	WI Well G	AS	0.4975 Pr	- I		08100486 BE	AVER COAL A-27		.10127 A0	TAT:	-RALEIGH BEAVER	Producing

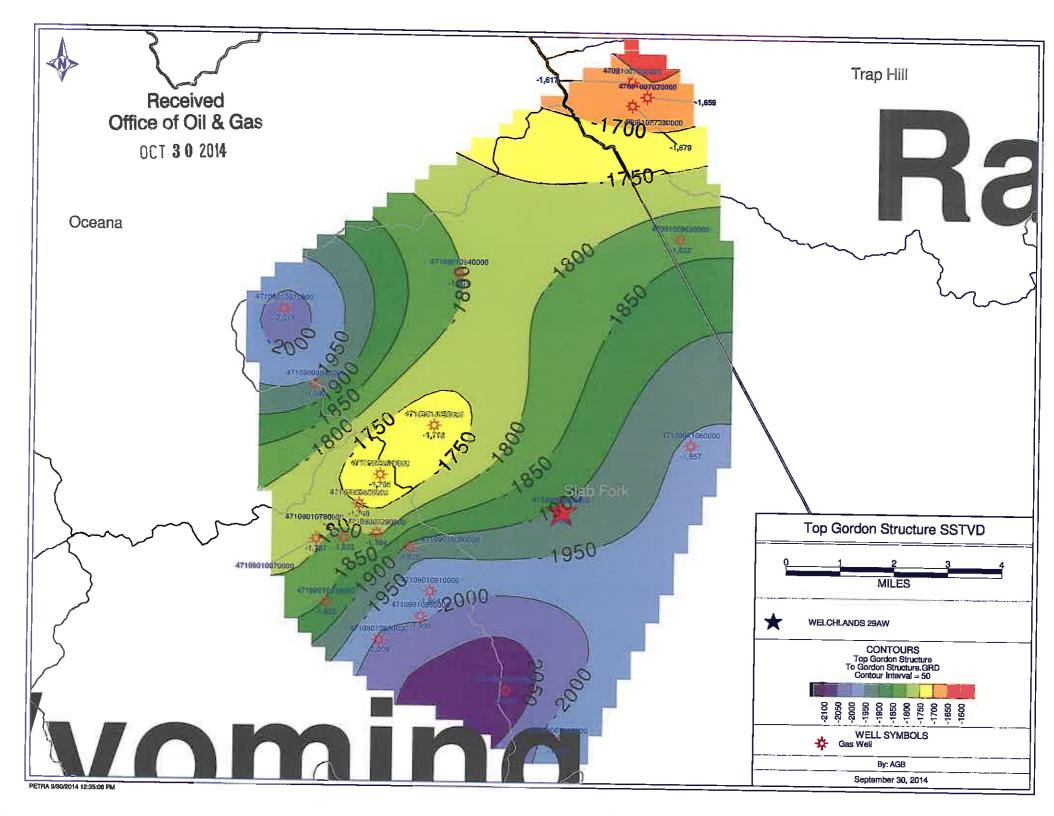
CE Field Grp ABEN	Route Name	State	County	Api Well Number	Exc_250*	EXCO OWNED/ OPERATED ACTIVE STATUS	GAS or OiL well	EXCO SHARE 3RD Q 2014 status	DOUBLE CHECK OF	and the second second	Merrick	Year Onlied Pron-Prings	
BEN		1.	RALEIGH		250*287306 250*287330	Y Active WI Well	GAS	0.4975 Producing	4708100520	Description BEAVER CCAL A-53	Disposition code Completion_ID 10137	To 2000 Lease Name	Producing Description
BEN	.MAB08	WV	RALEIGH		250*287291	Y Active Wi Well Active Wi Well	GAS	0.4975 Producing	4708101210	BEAVER COAL A-85 (C6)		A08 JWV-RALEIGH_BEAVER A08 WV-RALEIGH BEAVER	Producing
BEN		WV	FAYETTE		250*287356	Y Active Wi Well	,GAS	0.4975 Producing	4708100485	BEAVER COAL A-26	10126	A08 WV-RALEIGH BEAVER	Producing Producing
BEN	MAB01		FAYETTE		250*287349	Y Active WI Well	GAS	0.4975 Producing 0.4975 Producing	4701900907	NEW RIVER 8	10780	A08 W-BECKWITH	Producing
BEN		,wv	WYOMING	4710900991	250*205630	Y Active Wi Well	GAS	0.4975 Producing	4701900902 4710900991	NEW RIVER 2	10775	A08 IWV-NEW RIVER/ALLEGHENY	Producing
		ŴV	RALEIGH	;4708100531	250*287366	Y Active Wi Well	GAS	0.4975 Producing	470900991	Crouch 23A	597	POO W-CROUCH	Producing
BEN			RALEIGH		25C*287365 250*287364	Y Active Wi Well	iGAS	0.4975 Producing	4708100519	WESTMORELAND COAL 2	10211	AÖ8 WV-RALEIGH_BEAVER	Producing
BEN			RALEIGH		250*287245	Y Active WI Well	GAS :	0.4975 Producing	4708101215	WESTMORELAND 1 BCC-B C26	10210	A08 WV-RALEIGH_BEAVER A08 IWV-RALEIGH BEAVER	Producing
BEN		WV	RALEÏGH		250*287317	Y Active WI Well Y Active WI Well	GAS	0.4975 Producing	4708101241	BEAVER COAL A-88 (BCCA-14)		A08 WV-RALEIGH BEAVER	Producing
BEN		WV	RALEIGH	4708101222	250*287326	Y Active Wi Well	GAS	0.4975 Producing 0.4975 Producing	4708100975	BEAVER COAL A-69	10193	A08 WV-RALEIGH BEAVER	Producing
BEN BEN			RATEIGH		250*287319	Y Active Wi Well	IGAS	0.4975 Producing	:4708101222 4708100563	BEAVER COAL A-86 BEAVER COAL A-70		A08 WV-RALEIGH_BEAVER	Producing
BEN			RALEIGH		250*287329 250*287328	Y Active Wi Well	GAS	0.4975 Producing	4708101209	BEAVER COAL A-81 (B22)		AOB WV-RALEIGH_BEAVER	Producing
BEN			RALEIGH		250*28/328 250*28/327	Y Active Wi Well	GAS	0.4975 Producing	4708101208	BEAVER COAL A-79 (A10)		A08 WV-RALEIGH_BEAVER A08 IWV-RALEIGH_BEAVER	ISHUT IN_Temporary
BEN		WV I	RALEIGH		250*287247	Y Active WI Well Active WI Well	,GAS	0.4975 Producing	4708101206	BEAVER COAL A-78 (C17)		AOS WV-RALEIGH BEAVER	Producing
BEN			RALEIGH	4708101197	250*287324	Y Active WI Well	GAS	0.4975 Producing 0.4975 Producing	4708101205	BEAVER COAL A-76-2 (A11)		408 WV-RALEIGH BEAVER	Producing Producing
BEN			RALEIGH		250*287323	Y Active WI Well	GAS	0.4975 Producing	4708101197	BEAVER COAL A-75 (BCC-A C4)		408 ,WV-RALEIGH_BEAVER	ISI - Long Term_LTSI
BEN	****		RALEIGH RALEIGH	4708101195	250*287322	Y Active WI Well	GAS	0.4975; Producing	4708101196 4708101195	BEAVER COAL A-74		NOS WV-RALEIGH_BEAVER	'Producing
BEN			RALEIGH		250*287321	Y Active WI Well	GAS	0.4975 Producing	:4708101194	BEAVER COAL A-73		08 WV-RALEIGH_BEAVER	Producing
BËN	1 1 100 000		RALEIGH	4708101174	250*287354 250*287244	Y Active WI Well	GAS	0.4975 Producing	4708101174	NEW RIVER 6		A08 :WV-RALEIGH_BEAVER A08 :W-Bkly NewRvr_CrabOrchrd	Producing
BEN	MAB01	WV	RALEIGH		250*205716	Y Active WI Well Y Active WI Well	IGAS	0.4975 Producing	4708101240	BEAVER COAL A-87 (BCC-A4)		NOS WV-RALEIGH BEAVER	Producing Producing
			RALEIGH		250*205724	Y Active WI Well	GAS	0.4975 Producing 0.472625 Producing	4708100685	New River 49AR		00 .W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		250*205774	Y Active WI Well	GAS	0.4975 Producing	4708100716	New River 66AR	'2136	00 .W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH RALEIGH		50*205710	Y Active WI Well	GAS	0.4975 Producing	4708100668 4708100672	Daniels 1A New River 34AR	1954 F	00 :W-Bkly NewRvr_CrabOrchrd	IProducing
BEÑ	** * * * * * * * * * * * * * * * * * * *		RALEIGH		50*205712	Y Active Wi Well	GAS	0.4975 Producing		New River 37AR	was not observed an extension of the contract	00 ;W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		50*205707	Y Active WI Well	GAS	0.4975 Producing		New River 42AR	*****	00 (W-Bkly NewRyr CrabOrchrd	Producing
			RALEIGH		50*205766	Y Active WI Well Y Active WI Well	GAS	0.4975 Producing	4708100666	New River 28AR		00 iW-Bkly NewRvr_CrabOrchrd 00 iW-Bkly NewRvr_CrabOrchrd	Producing Producing
			RALEIGH	4708100663 2	50*205708	Y Active WI Well	GAS	0.398 Producing :	4708100683	Crab Orchard 5AC	,606 F	00 W-Bkly NewRyr CrabOrchrd	Producing
	Water		RALEIGH		50*205753	Y Active WI Well	GAS	0.398 Producing		New River 29AR		00 W-Bkly NewRvr_CrabOrchrd	Producing
	MAB07		RALEIGH		50*205717	Y Active WI Well	GAS	0.4975 Producing		Crab Orchard 16AC New River 50AR	1223 P	00 W-Bkly NewRvr_CrabOrchrd	Producing
		THE MANNEY BY MANNEY OF THE	RALĖIGH		50*205787 ° 50*205719 ¦	Y INActive WI Well	GAS	0.4975 Non Prod/Shut In HGO		Southern Lands 2A	1343 IP	00 W-Bkly NewRvr_CrabOrchrd	Producing
	MAB01		RALEIGH		50*205721	Y Active WI Well Y Active WI Well	GAS	0.4975;Producing		New River 60AR	1221	00 .W-Bkly NewRvr_CrabOrchrd 00 .W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		50*205825	Y Active Wi Well	IGAS	0.4975 Producing 0.4975 Producing	4708100706	New River 62AR	i1587 P	00 W-Bkly NewRvr_CrabOrchrd	Producing
	MAB01 V		RALEIGH		50*205714	Active W/ Well	GAS	0.4975;Producing	4708100967 4708100678	New Beaver 21C	,1957 P	00 .W-Bkly Welchind_NewByr	Producing
			RALEIGH RALEIGH		50*205760	Y Active WI Well	GAS	0.4975 Producing	4708100653	New River 41AR Crab Orchard 28AC	;300 P	00 .W-Bkly NewRvr_CrabOrchrd	Producing
	MAB07				50*205749 50*205755	Active WI Well	GAS	0.4975 Producing		Crab Orchard 11AC	2495 P	00 W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		50*205756	Y Active WI Well Y Active WI Well	GAS	0.4975 Producing	4708100634	Crab Orchard 22AC	1589 P	00 iW-Bkly NewRvr_CrabOrchrd 1W-Bkly NewRvr_CrabOrchrd	Producing Producing
			ALEIGH	4708100642 2	50*205705	Active WI Well	IGAS	0.4975 Producing 0.4975 Producing	4708100641	Crab Orchard 23AC	.1775 P	00 IW-Bkly NewRvr_CrabOrchrd	Producing
	MAB06 V				50*205635	Y Active WI Well	GĀS	0.4975; Producing		New River 24AR	1772 P	00 W-Bkly NewRvr_CrabOrchrd	Producing
			ALEIGH ALEIGH		50*205775	Active Wi Well	GAS	0.4975 Producing		Dorothy Sarita 007A Hawley 1A	1402 (P)	00 'W-DOROTHY	Producing
************			ALEIGH		50*205758 "" ; 50*205711 ;	Active Wi Well	GAS	0.4975 Producing		Crab Orchard 26AC	2139 ;P(00 W-Bkly NewRvr_CrabOrchrd	Producing
EN	MAB07 IV		ALEIGH		50*205757	Active WI Well Active WI Well	GAS .	0.4975 Producing		New River 36AR	,2851 Pi	00 IW-Bkly NewRvr_CrabOrchrd W-Bkly NewRvr_CrabOrchrd	Producing Producing
			ALEIGH		50*205784	Active WI Well	GAS	0.4975 Producing 0.4975, Producing		rab Orchard 25AC	1953 P	00 W-Bkly NewRvr_CrabOrchrd	Producing
	MAB07 V				50*205783	Active WI Well	GAS	0.4975 Producing	The state of the s	acy 1A	1798 PC	00 iW-Bkly NewRvr_CrabOrchrd	Producing
			ALEIGH ALEIGH		50*205776	Active W! Well	GAS	0.4975 Producing		acy 2A lawley 2A	1607 (PC	00 #W-Bkly NewRvr CrabOrchrd	Producing
					0*205786 ii	Active WI Well	GAS	0.4975 Producing		outhern Lands 1A	i2317 PC	00 :W-Bkiy NewRvr_CrabOrchrd	Producing
ĒΝ ː	MAB07 W				0*205759	Active WI Well Active WI Well	GAS	0.4975 Producing		lew River 27AR	1950 (PC	0 W-Bkly NewRvr_CrabOrchrd W-Bkly NewRvr_CrabOrchrd	Producing
EN :		VV 1Ř	370 HERSE DE PROGRAME 40 11 CT NAME		0*205637		GAS	0.4975 Producing 0.4975 Producing		rab Orchard 27AC	2316 :P0	0 W-Bkly NewRvr_CrabOrchrd	Producing Producing
	MAB06 W		waterway were of traver t		0*205636 .Y	Active WI Well	GAS	0.4975 Producing		Porothy Sarita 012	1767 PC	O IW-DOROTHY	Producing
	MAB01 W		Attended and the party of the		0*205725 Y	Active WI Well	GAS	0.4975 Producing		orothy Sarita 008A	1581 PC		Producing
EN I					50*205659 IN	Active WI Well	GAS	0.4975 Producing		resbytery 1A	2314 PC	7	Producing
	MAB06 :W		ALEIGH		0*205642 :Y	'Active WI Well	GAS	0.4975 Producing		Velchlands 047AW	2666 ;PC		Producing
EÑ " I	MAB06 W		TANK MANAGE PROPERTY AS ASSESSED AS		0*205639 ·Y	Active WI Well	GAS	0.4975 Producing	4708100910	orothy Sarita 021A	2665 PC	,	Producing Producing
	VABO7 - W		ALEIGH	4708100938 25	0*205744 Y		GAS	0.4975 Producing 0.4975 Producing	The state of the s	orothy Sarita 015ADS	2131 PO		Producing
	WABO6 W	man - matter me	T AN THREE COME COME !		0*205641 ,Y	Active WI Well	GAS	0.4975 Producing		EAVER 19B	12672 PO		Producing
N :!	MABO3 W				0*205540 Y	:Active WI Well	GAS , T	0.4975 Producing		orothy Sarita 017ADS Velchlands 056BW	,2488 (PO	0 ;W-DOROTHY	Producing
	MABO3 W	- ments taken! busses! -		4708100954 25 4708100955 25	0*205537 ,y 0*205541 Y	Active WI Well	GAS	0.4975: Producing		Velchlands 053	2658 .P0 2125 ,P0	0 W-Bkly Welchind_NewBvr	Producing
N N	MAB07 W	/V ** * Ř		4708100955 25 4708100957 .25	0*205754 Y		GAS	0.4975 Producing		velchlands 057BW	2125 PO 2840 PO		Producing
N N	MAB06 W	7V R	ALEIGH .		0*205644 Y		GAS GAS	0.4975 Producing	4708100957	rab Orchard 17BC	.1410 PO	0 W-Bkly NewByr CrahOrchrd	Producing Producing
N N	VIABO3 (W	/V R	ALEÏGH "	4708100966 125	0*205824 IY		GAS	0.4975 Producing 0.4975 Producing		orothy Sarita 028	13024 PÓ	0 (W-DOROTHY	Producing
	MAB03 W			4708100915 ;25	0*205840 IY		GAS	0.4975 Producing		ew Beaver 20C	1779 PO	W-Bkly Welchind NewByr	Producing
	WAB01 ,W				0*205704 IY	Active WI Well	GAS	0.4601875 Producing		/elchlands 050AW ew River 22AR	1594 PO	.W-Bkly Welchlnd_NewBvr	Producing
	VIABOT W		At 100 1 100 100 100 100 100 100 100 100	4708100718 :25 4708100719 :25	0*205722 Y 0*205723 Y		GAS	0.4975 Producing		ew River 63AR	1585 IPO 1773 PO	- Total Control	Producing
					U 203723 . !Y	Active WI Well	GAS	0.4975;Producing		ew River 64AR	17/3 PO	, , c. aborciila	Producing Producing

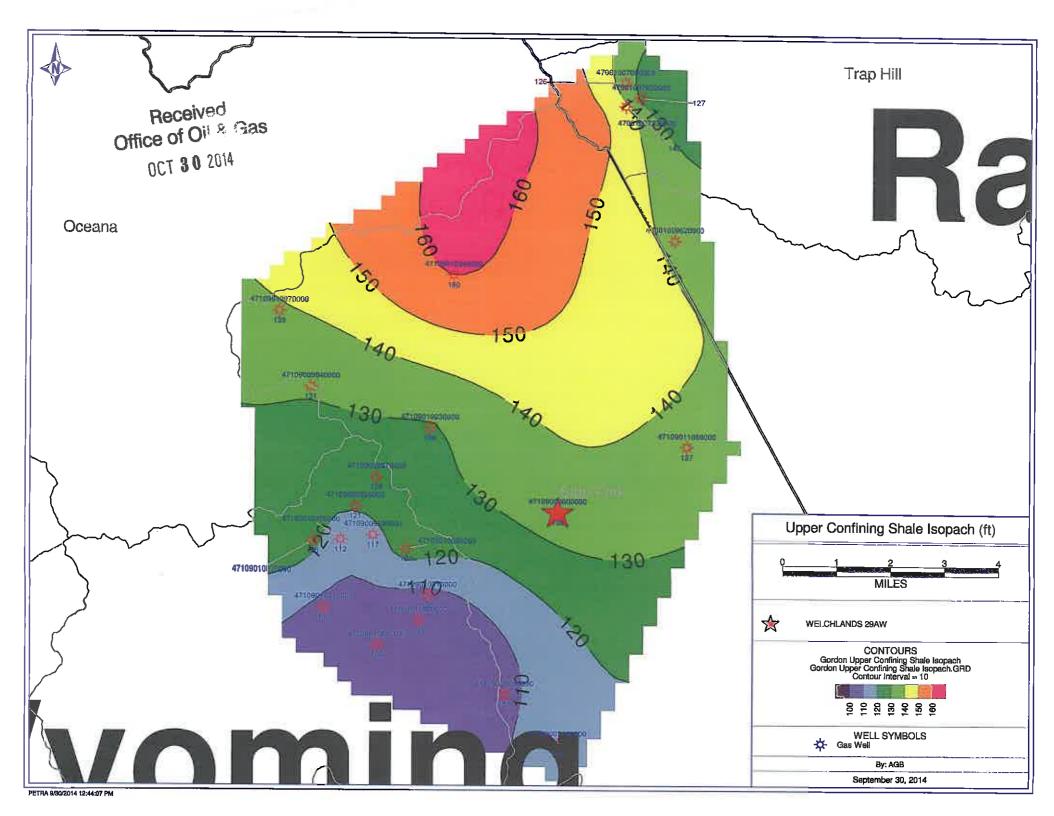
retd						EXCO OWNED/									Ĭ			
9	Route Name	State	County	Api Well Number	Exc_250*		CTIVE STATUS	GAS or OIL well	EXCO SHARE	200 0 2014		DOUBLE CHECK OF		li	Merrick	Year Drilled POU-PHIOR		Ť
			RALEIGH	4708100720	250*205709		ve WI Well	GAS CI CIL WEI	J	Producing	long term shut in	API	Description	Disposition code		TO REDO	Lease Name	Producing Des
	MAB07 NAB01		RALEIGH	4708100722	250*205738		ve Wi Well	GAS	0.4975	Producing	* ** ** ** ** ** ** ** ** * * * * * *	4708100720	New River 33AR BEAVER 01A	****	1588		W-Bkly NewRvr_CrabOrchrd	Producing
	-		RALEIGH	4708100727 4708100820	250*205718 250*205743		ve Wi Well	GAS		Producing		4708100727	New River 58AR		1045		W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH	4708100820	250*205743		ve Wi Well ve Wi Well	IGAS		Producing	1	4708100820	BEAVER 18A		2494		W-Bkly NewRvr_CrabOrchrd W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH	4708100621	250*205782		ve Wi Weli	GAS	0.2114375	Producing Producing		4708100768	BEAVER 12A		2137		W-Bkly NewRyr CrabOrchrd	Producing
			RALEIGH	4708100788	250*205742		ve Wi Well	GĀŠ	0.4975		M M THE CAN ARREST TO AN ADDRESS OF	4708100621	Jones Gibson 8AJ		:304	P00	W-Bkly NewRvr_CrabOrchrd	Producing
	**************************************	-	RALEIGH RALEIGH		250*205764		ve W! Well	GAS	0.4975	Producing	"0 m. seems and Hr me or "000 m.	4708100788 4708100792	.BEAVER 13A Crab Orchard 35AC		,2315	P00	W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH	.4708100796 :4708100800	250*205765 250*205638	" THE PERSON NAMED IN	ve Wi Well	GAS	0.4975	Producing		4708100796	Crab Orchard 39AC		118		W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH		250*205763	. V WAS . BUT I YAM	ve Wi Well ve Wi Well	GAS	0.4975	Producing		4708100800	Dorothy Sarita 014ADS		,1945		W-Bkly NewRvr_CrabOrchrd W-DOROTHY	Producing
			RALEIGH		250*205640	man, or production may among the first manager		GAS		Producing Producing	ATT	4708100811	Crab Orchard 33AC	. Mar and a company of the company	3032		W-Bkly NewRyr CrabOrchrd	Producing Producing
	VIABO7		RALEIGH		250*205739		ve WI Well	GAS		Producing		4708100812 4708100746	Dorothy Sarita 016ADS	E	2308	P00	W-DOROTHY	Producing
			MINGO	* *** *******	250*205665			,GAS		Producing	THE PERSON NAMED IN COLUMN 2 IN COLUMN 2 IN COLUMN 2	4705901155	BEAVER 02A Harelands 002AH				W-Bkly NewRvr_CrabOrchrd	Producing
			RALEIGH MINGO		250*205751 250*205671	THE PERSON AND THE PERSON NAMED IN		GAS	0.4975	Producing	" Hi to warrance settleds or as as	4708100632	Crab Orchard 13AC				W-HARELANDS	Producing
	Manager 10" Manager 11"		MINGO	4705901032	250*205671	* * * * ********** * *******	2.000	ĞĀS		Producing		4705900857	Harelands 167	'H			W-Bkly NewRvr_CrabOrchrd W-HARELANDS	Producing Producing
		VV i	MINGO		250*205694	100. T to the Happing of Person		GAS	0.4664063				Leo 1A (Signiago)				W-SIGNIAGO	Producing
			MINGO	4705901126	250*205688			GAS	0.4353125	Producing		4705901034	Leo 4A		2850		W-SIGNIAGO	Producing
		- Contraction of the Contract	MINGO		250*205687		Pr	GAS		Producing		4705901126 4705900706	Skillet Fork 004ASF Skillet 114		1770 '	Materian	W-SKILLET FORK	Producing
			MINGO MINGO	4705901154 4705900705	250*205664			ĞAS	0.4975	Producing			Harelands 001AH				W-SKILLET FORK	'Producing
	MABO2 W		MINGO		250*205686			GAS	0.4975	Producing		4705900705	Skillet 113		- 40 Mar. Addition		W-HARELANDS W-SKILLET FORK	Producing
· N	ABO2 W				250*205689	· · · · · · · · · · · · · · · · · · ·		GAS		Producing		4705901158	Harelands 003AH				W-HARELANDS	Producing
		VV i	MINGO	4705901625	250*205691	There	www	GAS		Producing Producing	44444 V THE FAME 1 AV 1	4705901163	Skillet Fork 005ASF	4 m	1948		W-SKILLET FORK	Producing
			MINGO	4705901636	250*205692	TO THE ASSESSMENT OF THE R. P. LEWISSESSMENT OF		GAS		Producing Producing			Skillet Fork 006 N		TT	200 IV	W-SKILLET FORK	Producing
			VINGO		250*205672	Y Activ	e Wi Well	GAS		Producing	the supplement assets to review water	*** ***********************************	Skillet Fork 002B Harelands 005NH				V-SKILLET FORK	Producing
			MINGO MINGO		250*205673		e Wi Well	GAS	THE THE P. LANSINGS	Producing	* ** **** * * *** * * * **** ** ***		Harelands 006NH	* * ***	1947 (V-HARELANDS	Producing
			MINGO		250*205667 250*205680			GAS	0.4975	Producing			Harelands 004AH		2133 (1041	W	V-HARELANDS V-HARELANDS	Producing
			WYOMING		250*205617			GAS GAS		Producing		4705900689	Skillet 104			del communication of a	V-SKILLET FORK	Producing
			VINGO		250*205675	* * * ** *** *** *** * *** * *** * *** *		GAS		Producing	OTHER ADDRESS OF THE PARTY AS NOT THE PA		Crouch 05A				V-CROUCH	Producing
		******	VINGO		250*205668			GAS		Producing Producing			Skillet 013		2490 i	VI 000	V-SKILLET FORK	Producing
			MINGO		250*205676	Y Active	e Wi Well	GAS		Producing		4705900533 4705900663	Harelands 058 Skillet 092		1217		V-HARELANDS	Producing
			VINGO		250*205677	. His was . In other at 1997 to make assume		GAS		Producing			Skillet 098		2667 F		V-SKILLET FORK	Producing
	ABO2 W		MINGO		250*205670 250*205679	reveal sections. was 1 d by 1 and		GAS		Producing	************** ** * AA1 A44		Harelands 122		1583		V-SKILLET FORK V-HARELANDS	Producing
	ABO3 W		ALEIGH		250*205543	"Make you carried and you was a second of		GAS GAS		roducing		4705900686	Skillet 102		112	PM NY MYTAN	**************************************	Producing
	AB02 W		/INGO		250*205681			GAS		Producing			Welchlands 059		104 , F		V-Bkly Welchind_NewBvr	Producing
	ABO2 W		INGO		250*205682			GAS	0.4975 P		to other than the company of the com-		Skillet 105 Skillet 106		500 F	00 : VA	V-SKILLET FORK	Producing
	AB02 W		/INGO		250*205669	Active	Wi Well ;	GAS	0.4975:P	roducing			Harelands 108	,			/-SKILLET FORK	Producing
	AB02 W	V	AINGO		250*205683 250*205684	P 400	Minimum manager	GAS	0.4975;P	roducing			killet 109			- Interview me	/-HARELANDS	Producing
			MINGO		250*205685		WI Well	GAS	0.4975 P		-4		killet 110		1042 P		/-SKILLET FORK /-SKILLET FORK	Producing
M	AB02 W		INGO		250*205678			GAS	0.4975 P				killet 111	ANALYSIS ANALYSIS ANALYSIS ANALYSIS AND ANALYSIS ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS ANA	218 P		/-SKILLET FORK	Producing
- +	AB07 W		ALEIGH		250*205821		Mall Mall	GAS	0.4975 P	roducing			killet 100	/3	026 P	1860 TOTAL AND	/-SKILLET FORK	Producing
	AB01 W				250*205699	Y Active		SAS	0.4975 P	roducing			rab Orchard 6AC		227 P		/-6AC	Producing
	AB01 W		ALEIGH		250*205698		Wi Well 10	ŠAŠ		roducing		**** * ** ****** ** **** *** ***	lew River 10AR lew River 09AR		792 iP		/-Bkly NewRvr_CrabOrchrd	Producing
	AB07 W				250*205748 250*205747	Y Active		SAS		roducing			rab Orchard 10AC	·	02 P	00 ;W	/-Bkly NewRvr_CrabOrchrd	Producing
M	ABO6 W			***************************************	250*205634	Active		GAS	0.4975 P	roducing			rab Orchard 09AC		17 .P	יאי טע אוי סרי סרי	-Bkly NewRvr_CrabOrchrd -Bkly NewRvr_CrabOrchrd	Producing
٠M	AB02 W	V	INGO		250*205674			GAS ,	0.4975 P	roducing		708100598	orothy Sarita 003A	1	.215 P	00 W	-bkly Newkyr_CrabOrchrd	Producing
	AB07 W		ALEIGH	4708100601	250*205779	Y Active		iAS	0.4975 P	roducing			larelands 007NH	,2	310 0	4 , W	-HARELANDS	Producing
	AB07 :W				250*205777	Y Active	Wi Well ;	AS :	0.4975 Pi		14		ones Gibson 5AJ ones Gibson 2AJ	2	855 P	00 W	-Bkly NewRvr_CrabOrchrd	Producing
	ABO1 W				250*205750	Y Active	Wi Well 6	AS	0.4975;Pi	roducing		of party is a real entered and the same of	rab Orchard 12AC		496 P		-Bkly NewRvr_CrabOrchrd	Producing
	AB01 W				250*205700 250*205701		WI Well	SAS	0.4975:Pi	roducing		A RESPONDED OF THE REAL PROPERTY.	lew River 14AR		96 P	W. Or	-Bkly NewRvr_CrabOrchrd -Bkly NewRvr_CrabOrchrd	Producing
,M	AB07 W	V IR	ALEIGH	******** ** **** **** ***** ****	250*205780	Y Active		AS	0.4975, P	roducing	14	708100617 iN	ew River 18AR			00 W	-Bkly NewRvr_CrabOrchrd -Bkly NewRvr_CrabOrchrd	Producing Producing
	ABO1 W	V IR	ALEIGH	4708100619	50*205702			AS	0.4975 Pi 0.4975 Pi	roducing			nes Gibson 6AJ	13	033 Pi	00 W	-Bkly NewRvr CrabOrchrd	Producing
	ABO1 W				50*205713	Y Active		iAS	0.4975 Pi	roducing			ew River 20AR	1	220 :P	00 W	-Bkly NewRvr_CrabOrchrd	Producing
	AB07 W		98 4 Minimum 110m 1984 4 10 100		50*205752	Y Active	Wi Well	AŜ	0.4975 Pr	roducing			ew River 40AR rab Orchard 15AC		15 PC	1W	-Bkly NewRvr_CrabOrchrd	Producing
	AB07 .W				50*205564 50*205781			iAS	0.4975 Pr	roducing	;47	708100276 W	Velchlands 144		047 iP(72 !P(.W. ∪	-Bkly NewRvr_CrabOrchrd	Producing
	AB06 W				50*205781 1 50*205652 1			AS	0.4975,Pr		[47		ones Gibson 7AJ		19 .PC			Producing
:M/	AB06 ·W		Head' make you to page you		50*205653			AS AS	0.4975 Pr		47	708100223 D	orothy Sarita 063	.1	403 .PC			Producing Producing
	ABO3 (W)	V R	ALEIGH	4708100230 2	50*205552	Y INActive	ve Wi Weli .G		0.4975 Pr		TI MAN A At observe or Associa ampages of the		orothy Sarita 070	11	582 iP(0 W	DOROTHY	Producing
	ABO6 W		THE PERSON OF TH	4708100232 2	50*205654	Y Active		AS	0.4975;No				/elchlands 075 BW	. 1	576 P	W: 00	-Bkly Welchind_NewByr	Producing
	AB06 W\ AB07 .W\				50*205655	Y Active	Wi Well G	AS	0.4975 Pr			training or the term process and the	orothy Sarita 078 orothy Sarita 084	1	768 P(10 !W-	-DOROTHY	Producing
	AB07 .W\ AB06 .W\				50*205746			AS	0.4975 Pr	oducing	MARKET AND AND AND AND AND AND AND AND AND AND		rab Orchard 02AC		946 PC		-DOROTHY	Producing
(M	\B07 \W\				50*205657 50*205778	Active	Wi Well G	AS	0.4975 Pr	oducing		708100241 ID	orothy Sarita 094		031 PC 309 PC		Bkly NewRvr_CrabOrchrd -DOROTHY	Producing
M	ÄBÖ7 W\	/	the state water to the state of the state of		50*205785			AS	0.4975 Pr	oducing	[47	708100577 Ja	nes Gibson 3AJ		673 PC			Producing Producing
·M	\B01 W\	/ ;Ř/	ALEIGH		50*205697		The second second	AS AS	0.4975 Pr 0.4975 Pr	oducing		708100540 R	owland 1A	137	48 PC	ioiw-		SI - Long Term LTS
	\B03 W\	7			50*205520	,,,,,,,,,	Wi Well G	,	U.49/5 Pr	outcing	1/17	708100560 N	ew River OGAR	177AFF IA # 40 Heldel brief 1704 _ 190	98 PC			Producing

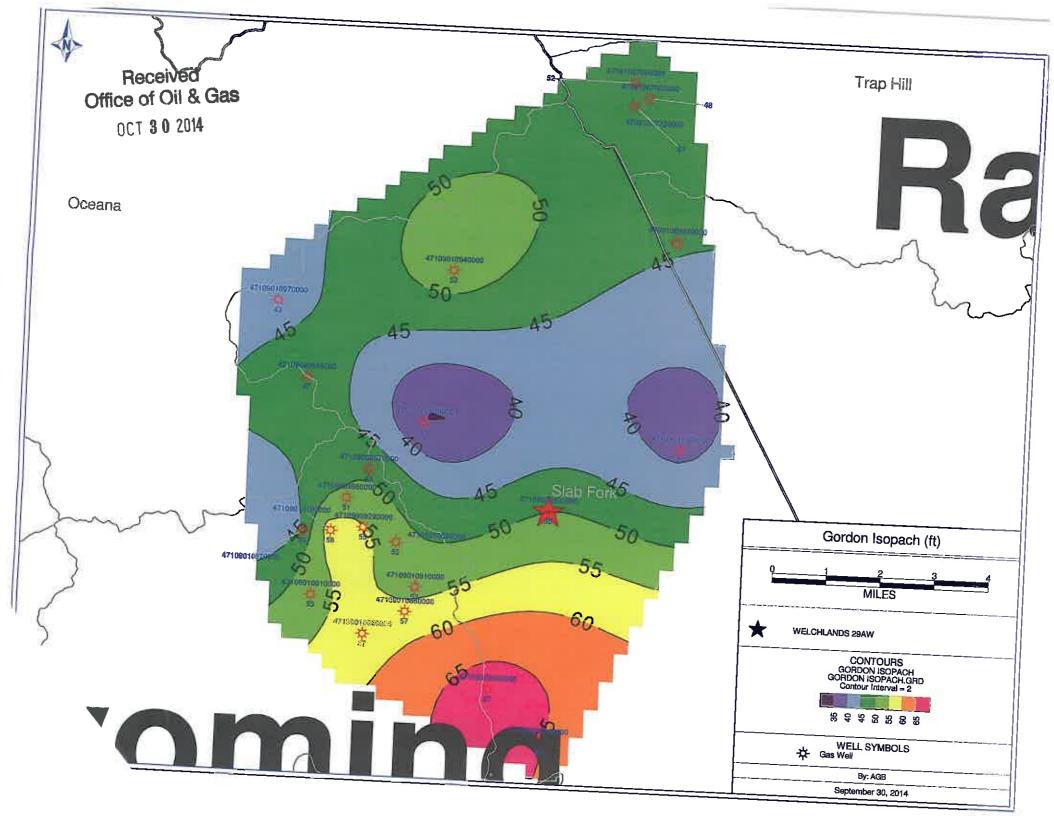
NCE Field						EXCO OWNED/						DOUBLE CHECK OF			Ba d. la	Year Driller		
Grp	Route Name	State	County	Api Well Number	Exc. 250*	OPERATED	ACTIVE STATUS	GAS or OIL well	EXCO SHARE	3RD Q 2014 status	long term snut in	DOUBLE CHECK OF	Description	Dispusition code	Merrick Completion ID	POO=PRIME TO 2000	Lease Name	Producing Description
MABEN	MAB03	WV	RALEIGH	4708100568	250*205519	Ÿ	/ hear No. 000000/10000-000 10 10 10 10 10	GAS	0.4975	Producing	Tong termonia to	4708100568	Welchlands 001AW		1938	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MABO1	WV	RALEIGH	4708100573	:250*205696	Y	Active WI Well	GAS		Producing		4708100573	New River 04AR		13		W-Bkly NewRvr_CrabOrchrd	Producing
MABEN	:MAB01 MAB06	WV	FAYETTE RALE!GH	4701900910 4708100238	250*287346 250*205656	.' Y		GAS		Producing Producing		4701900910 4708100238	NEW RIVER 13 Dorothy Sarita 091		0784 2132	A08	W-Bkly NewRvr_CrabOrchrd W-DOROTHY	Producing Producing
MABEN	,MABO2	WV	WYOMING	4710900444	250*205587	Y		GAS		Producing		4710900444	Newberry 028		132	P00	W-DOROTHY W-NEWBERRY	Producing
MABEN	MAB03	,WV	RALEIGH	4708101097	250*205850	Y		GAS	man a management of the control of	Producing	1	4708101097	Welchlands 097	13	808	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MABO6	:WV	RALEIGH RALEIGH		250*151080	ΙÝ		GAS		Producing		4708101436	DOROTHY SARITA 047 NDS		854	07	W-DOROTHY	Producing
MABEN	MAB05	WV	WYOMING	4708101437 4710900096	250*151225 .250*205562	·Y		GAS GAS		Producing Producing		4708101437 4710900096	DOROTHY SARITA 048 NDS Welchlands 132		7329	07	W-DORCTHY W-Bkiy Welchind NewByr	Producing
MABEN	MAB05	.wv	WYOMING		250*205527	Y		GAS		Producing	,	:4710900406	Welchlands 022		287	P00	W-Bkly Welchind_NewByr	!Producing
MABEN	MAB06	WV	RALEIGH		.250*151078	·Y	Active WI Well	GAS		Producing	1	4708101434	DOROTHY SARITA 044 NDS		313	07	W-DOROTHY	Producing
MABEN	MAB05	WV WV	WYOMING	4710900431 4708101396	250*205529 250*205858	Y		GAS GAS		Producing		4710900431	Welchlands 027		81	P00	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	RALEIGH	4708101336	250*205826	Y		GAS		Producing Producing		4708101396 4708100976	Welchlands 119 New Beaver 22C		781	P00	W-Bkly Welchind NewByr W-Bkly Welchind NewByr	Producing Producing
MABEN	MAB05	wv	WYOMING	4710900457	250*205531	IY		GAS		Producing	1	4710900457	Welchlands 036		.033		W-Bkly Welchind NewByr	Producing
MABEN	,MAB07	WV	RALEIGH		250*205762	Ϋ		GAS		Producing		4708100682	Crab Orchard 32AC			P00	W-Bkly NewRvr_CrabOrchrd	Producing
MABEN	MAB02 MAB05	WV W	WYOMING	.4710900466 .4710900468	250*205602 250*205533	Υ		GAS GAS		Producing		4710900466	NEWBERRY 038		579	02 ;	W-NEWBERRY	Producing
MABEN	MAB05	WV	WYOMING	4710900468	250*205539	, '		GAS		Producing Producing		4710900468 4710900491	Welchlands 039 Welchlands C55			P00	W-Bkly Welchind NewByr W-Bkly Welchind NewByr	Producing Producing
MABEN	MAB05	WV	WYOMING	4710900420	250*205528	Y		GAS	0.4975	Producing	***	4710900420	Welchlands 025		91		W-Bkly Welchind NewByr	Producing
MABEN	MAB06	WV	RALEIGH	(4708101314	250*205660	Y		GAS		Producing		4708101314	DOROTHY Sarita 039N			P00 ;	W-DOROTHY	Producing
MABEN	MAB06 MAB06	WV	RALEIGH	4708101104 4708101112	250*205649 250*205648	.Y	Active WI Well Active WI Well	GAS :		Producing		4708101104	Dorothy Sarita 034			P00 i	W-DOROTHY	Producing
MABEN	MAB06	WV	RALEIGH		250*205650	ıY		GAS		Producing Producing	TELEFORE WITHOUT AND A MARKET A. MARKET A.	4708101112 4708101156	Dorothy Sarita 033 Dorothy Sarita 035BDS		89 j	POO	W-DOROTHY W-DOROTHY	Producing
MABEN	MAB06	WV ***	RALEIGH	4708101157	:250*205651	Υ		GAS		Producing			Dorothy Sarita 037BDS		216		W-DOROTHY	Producing
MABEN	iMAB03	WV	RALEIGH	THE ADMINISTRAL CONTRACTOR VICTOR AND A TO	250*205851	Y		GAS		Producing		4708101249	WELCHLANDS 103		11 ,	02	W-Bkly Welchind_NewBvr	Producing
-MABEN MABEN	MAB06 MAB03	WV The	RALEIGH	4708101435 4708101313	250*151079 250*205853	Y	Active WI Well Active WI Well	GAS		Producing Producing	*** * * * ***** ** ** * **** **** **	4708101435	DOROTHY SARITA 045 NDS		315 50	07	W-DOROTHY	Producing
MABEN	MAB05	:WV	WYOMING	4710900529	250*205553	Y		GAS :		Producing		4708101313 ,4710900529	WELCHLANDS 111N Welchlands 076				W-Bkly Welchind_NewBvr W-Bkly Welchind NewBvr	Producing
MABEN	MABO1	·WV	RALEIGH		250*205737	Υ	Active Wi Well	GAS		Producing			New River 39 EOG [NR_039]		409	04 ~~~ ,	W-Bkly NewRyr CrabOrchrd	Producing
MABEN	MAB03	WV	RALEIGH		250*205854	Ϋ́		GĀS		Producing		,4708101321	WELCHLANDS 112 NW		053	04	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03	WV	RALEIGH RALEIGH	4708101342 4708101347	250*205857 250*205661	,Y		GAS I		Producing Producing		4708101342	WELCHLANDS 115 NW		595	05	W-Bkly Welchind_NewBvr	Producing
	MAB06	·WV	RALEIGH		250*205662	Y		GAS		Producing		4708101347	DOROTHY SARITA 040 NDS DOROTHY SARITA 042 NDS		025 ;		W-DOROTHY W-DOROTHY	Producing
MABEN	MAB06	·WV	RALEIGH		250*205663	Ÿ		GAS		Producing		4708101394	DOROTHY SARITA 041 N	2	96 ,	Ö6 1	W-DOROTHY	Producing
	MAB03	WV	RALEIGH	4708101250	250*205852	Y	P-1 27012 270100 1401000000000 04700-47404	GAS .		Producing		4708101250	WELCHLANDS 104	_	02 ;	02	W-Bkly Welchind NewByr	Producing
MABEN	MAB03	WV	WYOMING	4710900939 4710900889	,250*205532 250*205524	Y		GAS :		Producing Producing	*******************************	4710900939	Welchlands 038AW				W-Bkly Welchind_NewBvr	Producing
MABEN	MAB05	·WV	WYOMING		250*205612	Y		GAS		Producing		4710900889 4710900894	Welchlands 016AW Rundle 1A			U 185544 MA ALLES	W-Bkly Welchind_NewBvr W-AGP/EASTER	Producing Producing
MABEN	MAB05	WV	WYOMING	4710900895	250*205613	Υ		GAS	0.4975	Producing		4710900895	Smith 1A				W-AGP/EASTER	Producing
MABEN	MAB05	WV .	WYOMING		250*205526	Ϋ́	Active WI Well	GAS		Producing			Welchlands 021AW			P00		Producing
MABEN	MAB05	IWV	WYOMING		250*205606 250*205544	·V	Active WI Well Active WI Well	GAS	0.4813313	Producing Producing	4 - N - PRO - MINIS M - CAMPAN	4710900903 4710900503	AGP 2 Welchlands 061		306 89		W-AGP/EASTER	Producing
MABEN		WV	WYOMING	4710900931	250*205614	Ŷ		GAS	0.3864083				Cooke 1A				W-Bkly Welchind_NewBvr W-CROUCH	Producing Producing
MABEN	MAB05	WV	WYOMING	4710900886	250*205608	Y	Active WI Well	GAS	0.4813313	Producing		4710900886	AGP 4		663	P00	W-AGP/EASTER	Producing
MABEN	MAB05 MAB05	WV	WYOMING		250*205615 250*205616	Y	1 7 - 200 MW CARRAGE	GAS ;		Producing			Crouch 01A	9	75	P00	W-CROUCH	IProducing
	IMAB05	·WV	:WYOMING :WYOMING		250*205633	V		GAS .	0.4975	Producing Producing			Crouch 02A McGuire 2A	10	038 : 039	P00 ! P00 i	W-CROUCH W-CROUCH	Producing
	MABO5	WV	WYOMING		250*205631	Ý		GAS :		Producing		4710900960	Glydys 1A				W-CROUCH	Producing
	MABO5	:WV	IWYOMING		250*205618	Y		GAS ,	0.398	Producing		4710900966	Crouch 06A	;	401	P00 .	W-CROUCH	Producing
MABEN	MAB05	WV WV	WYOMING		250*205621			GAS		Producing			Crouch 09A	1	944		W-CROUCH	Producing
	IMAB05		WYOMING WYOMING		250*205632 250*205521			GAS		Producing Producing	* *********** * *** *** **************	4710900930 4710900855	McGuire 1A Welchlands 007AW	9			W-CROUCH W-Bkly Welchlnd_NewBvr	Producing .
MABEN	MABO5	wv	:WYOMING	4710900447	250*205530	'Y" ,	Active WI Well	GAS	0.4975	Producing		4710900447	Welchlands 032			P00 :	W-Bkly Welchind_NewBvr	Producing
	MAB05	WV	WYOMING		250*205558	TO THE CONTRACT OF THE CO.		GAS .	0.4975	Producing	19 A 40 100 N 40 , June 14 100 A	4710900554	Welchlands 087	, = = = = = = = = = = = = = = = = = = =	842	P00 1	W-Bkly Welchind_NewBvr	Producing
	MAB03	WV	WYOMING :WYOMING		250*205563 250*205566		***************************************	GAS '		Producing Producing		4710900657	Welchlands 140				W-Bkly Welchind_NewBvr	Producing
	MABOS	:WV	WYOMING		250*205565			GAS		Producing		4710900665 4710900668	Welchlands 155 Welchlands 150				W-Bkly Welchind_NewBvr W-Bkly Welchind_NewBvr	:Producing
MABEN	MAB03	WV	WYOMING	4710900681	250*205567	Ÿ.	Active WI Well	ĜAS	0.4975	Producing		4710900681	Welchlands 162					Producing
MABEN	MAB03	,WV	WYOMING		.250*205523	Y	Active WI Well	GAS		Producing		4710900888	Welchlands 015AW	,Ži	657	P00 "	W-Bkly Welchind_NewBvr	Producing
MABEN	MAB03 MAB05	,WV	WYOMING WYOMING		.250*205569 250*205525			GAS :	0.4975	Producing Producing			Welchlands 166				W-Bkly Welchind NewByr	Producing
	MAB05	WV	WYOMING	4710900859	250*205611			GAS	0.4975	Producing		the desire array on the end of a secondary	Welchlands 018AW Easter 1AE				W-Bkly Welchind_NewBvr W-AGP/EASTER	Producing
	iMAB05	WV	:WYOMING	4710900871	250*205522			GAS	0.4975	Producing		4710900871	Welchlands 009AW	1 2	480		W-Bkly Welchind_NewBvr	Producing
MABEN		WV	:WYOMING		250*205822	Y		GAS		Producing	H		Bond 1	1	414 ;	P00	W-BOND	Producing
MABEN	MAB05 MAB05	WV	.WYOMING		250*205605 250*205607		MANUFACTURE AND ADDRESS OF THE PERSON AS A SECOND AS A	GAS	0.4813313	Producing			AGP 1		129		W-AGP/EASTER	Producing
	MAB02	WV	WYOMING		250*205595	/ FORTH BOTH IF THE STATE		GAS .	0.4813313	Producing Producing		4710900885 4710900527	AGP 3 Newberry 073				W-AGP/EASTER W-NEWBERRY	Producing Producing
MABEN	MAB03	WV	WYOMING	4710900744	250*205568	The second of th		GAS	0.4975	Producing	C BANGER, THE MARKET MARKET PROPERTY CASE, C AM	4710900744	Welchlands 165					Producing
	IMAB02	.WV	LOGAN		250*205573	.Y	Active WI Well :	GAS ;	0.4975	Producing		4704500285	Newberry 003		484 i	P00 .	W-NEWBERRY	Producing
	MAB03 MAB02	IWV	RALEIGH		250*205839	Y		GAS		Producing		4708101022	Welchlands 049BW				W-Bkly Welchind NewBvr	Producing
	IMAB02	WV	LOGAN		250*205600	Ý		GAS GAS	the first own to be a first work.	Producing Producing		4704501395 4704501396	Newberry 009-NN Newberry 012-NN		213 400	ANTONIO CONTRA CARRO CARRO ACI.	W-NEWBERRY W-NEWBERRY	Producing
MABEN	MAB02	WV	LOGAN	4704501968	250*150617	Y		GAS ;		Producing			Newberry 022NN	17	222		W-NEWBERRY	Producing Producing
	AND IN ORDERS OF THE PARTY WASHINGTON TO STREET	7 7 W. W. W.		#F.V PATATORNEY TARRESTONE #1/70/2014/11/11/11		a finding opposite design about the core	· · · · · · · · · · · · · · · · · · ·											

NCE Field Grp	Route Name	State	County	Api Well Number	Ежс_250*	EXCO OWNED/ OPERATED	ACTIVE STATUS	GAS or OIL well	EXCO SHARE	3RD Q 2014 status	long term shut in	DOUBLE CHECK OF	Description	Disposition code	Merrick Completion ID	Year Dolled POD=PRIOR FU 2008	(anna Nussan	Denderson 7
MABEN MABEN	MAB02 MAB02	WV	LOGAN	4704501969	250*150618	Ϋ́	Active WI Well	GAS	0.4975	Producing	1	4704501969	Newberry 027NN	o-spesition code	7224	1.07	Lease Name W-NEWBERRY	Producing Description Producing
VIABEN		,WV ·WV	LOGAN	4704501970 4704502000	:250*150619 :250*151224		Active WI Well	GAS		Producing		.4704501970	Newberry 029NN	-	7223	07	W-NEWBERRY	Producing
MABEN		WV	LOGAN	4704500816	250*205599		*****	GAS GAS		Producing Producing		.4704502000	Newberry 026N	1	7225		W-NEWBERRY	:Producing
VABEN	MABO2	WV	LOGAN		250*205575	10 -000 TO 1 TO 100 TO 100		GAS		Producing		4704500816 4704500286	Newberry 131 Newberry 004		1037		W-NEWBERRY	Producing
MABEN		WV	LOGAN	4704500813	250*205598			GĀS		Producing		:4704500813	Newberry 130		2843		W-NEWBERRY W-NEWBERRY	Producing Producing
MABEN		WV	LOGAN	4704500284	.250*205572		H *****	GAS		Producing	* ** * n . *****		Newberry 002		2304		W-NEWBERRY	Producing
MABEN		WV	LOGAN		250*205571		************	GAS		Producing	a very m man arrente reste estate .		Newberry 001		·		W-NEWBERRY	Producing
MABEN		WV	LOGAN RALEIGH	4704500323	,250*205581)250*205645			GAS		Producing		4704500323	Newberry 011		973	P00 i	W-NEWBERRY	Producing
MABEN			RALEIGH		250*205646		Active WI Well	GAS		Producing Producing		4708100982	Dorothy Sarita C30BDS		110		W-DOROTHY	:Producing
MABEN			RALEIGH		250*205842			GAS .		Producing		.4708100986 .4708100993	Dorothy Sarita 031BDS Welchlands 067 BW	m :			W-DOROTHY	Producing
MABEN		WV	RALEIGH		250*205831			GAS		Producing		470810100993	:New Beaver 27C				W-Bkly Welchind_NewBvr	Producing
MABEN		WV	RALEIGH	4708100977	250*205827	(Y)	Active WI Well	GAS	***************************************	Producing	1	4708100977	New Beaver 23C	THE THE PERSON MADE AREA ANY			W-Bkiy Welchind_NewBvr W-Bkly Welchind NewBvr	Producing
MABEN		WV	LOGAN	4704500570	250*205590			GAS		Producing	f	4704500570	Newberry 052	To the same of the same of the same of	2485		W-NEWBERRY	Producing
MABEN MABÉN		;WV	LOGAN		250*205582	**		GAS !		Producing	,		Newberry 014	AM	1036		W-NEWBERRY	Producing
NABEN NABEN	MAB02	WV	LOGAN		250*205583			GAS I		Producing			Newberry 008		785	P00 :	W-NEWBERRY	Producing
/ABEN		WV	LOGAN		250*205579	0 m = m 0 m 10	Active WI Well	GAS		Producing Producing	1	4704500352	Newberry 015		1212	P00	W-NEWBERRY	Producing
AABEN		WV	LOGAN		250*205584	W 17 / 17 FAMILY 10 AM 1		GAS		Producing	·	4704500306 4704500356	Newberry 007 Newberry 016		594	P00 1	W-NEWBERRY	Producing
ABEN		WV	LOGAN	4704500386	250*205585		7 H (1994) Bridge Bridge Bridge	GAS		Non Prod/Shut In	LTSI	4704500386	Newberry 019		1399 1578	POO	W-NEWBERRY W-NEWBERRY	Producing
/ABEN			LOGAN		250*205586	Y	Active WI Well	GAS	HARD. OR DE LANGUE THE PERSON AND	Producing			Newberry 020				W-NEWBERRY	Producing Producing
AABEN		WV	LOGAN		250*205576			GAS	0.4975	Producing			Newberry 004 AN		3020		W-NEWBERRY	Producing
AABEN AABEN			LOGAN RALEIGH		250*205589			GAS		Producing			Newberry 035				W-NEWBERRY	Producing
		WV	RALEIGH		250*205828 250*205849			GAS	- to the same reporter . There are a common to	Producing	THE THE W. P. SHE MANY AND	4708100984	New Beaver 24C		2499 ,	P00 " (1	W-Bkly WelchInd_NewBvr	Producing
ABEN		WV	LOGAN	4704500611	250*205591	* 46 Year 7 7 70 mm 100 annual 100	Active WI Well (Control of the Control SAS	the right core is come to constitution and a constitution of	Producing	a second secondary of my to be .		Welchlands 094BW				W-Bkly Welchind_NewBvr	Producing	
ABEN			LOGAN		250*205592		ctive WI Well	TAC		Producing Producing		4704500611	Newberry 054 Newberry 062		2662		W-NEWBERRY	Producing
/ĀBEN		WV	LOGAN		250*205593			SAS		Producing			Newberry 067		2844 . 3021 .		W-NEWBERRY	Producing
		WV	LOGAN		250*205594	Y ,		GAS		Producing			Newberry 071				W-NEWBERRY W-NEWBERRY	Producing Producing
MABEN	MAB02	WV	LOGAN		250*205596	N obert merennen errennen		FAS .	0.4975	Producing	Mindrey a st or or or at the st or or or or or or or or or or or or or		Newberry 077		595		W-NEWBERRY	Producing
ABEN ABEN	/ NOS - with Administration of the control of the c		LOGAN LOGAN		250*205597			SAS :		Producing			Newberry 081	·	786		W-NEWBERRY	Producing
ABEN	F STREET, St. C. COMMANDE	WV	RALEIGH	4704500471 4708101042	250*205588 250*205838			AS I		Producing			Newberry 031			P00 1	W-NEWBERRY	Producing
ABEN		WV	RALEIGH		250*205559	With the second second second		AS SAS		Producing	ARTHUR III	4708101042	New Beaver 37C		1228		W-Bkly Welchind_NewBvr	Producing
ABEN			RALEIGH		250*205848			AS .		Producing Producing	V - hetter return in carry convenue come manager	4708101079	Welchlands 092BW				W-Bkly Welchind NewBvr	Producing
1ABEN	MAB03	WV	RALEIGH		250*205847			AS	Contract code or commercial contract code or c	Producing		4708101078 4708101077	Welchlands 091BW Welchlands 090BW		3037 i 2859 i		W-Bkly Welchind_NewBvr	Producing
IABEN	MAB03	WV	RALEIGH		250*205846	Ϋ́	ctive WI Well	AS		Producing			Welchlands 089BW		2677		W-Bkly Welchind_NewBvr W-Bkly Welchind NewBvr	Producing
1ABEN			RALEIGH		250*205557			SAS .	0.4975	Producing			Welchlands 085BW				W-Bkly Welchind NewByr	;Producing
ABEN TABEN			RALEIGH RALEIGH		250*205647	M1 1744 A . M A . M		AS		Producing	A strain 1 years and manage		Dorothy Sarita 032BDS	* [598		W-DOROTHY	Producing
ABEN			RALEIGH		250*205829 250*205823	At 1 terms and 1 areas and		AS		Producing			New Beaver 25C			P00	W-Bkly Welchind_NewByr	Producing
			RALEIGH		250*205549		ctive Wi Well	AS .		Producing Producing	COUNTY OF A THOM STORM AND COMMAN		Bonds 02B		1593		W-Bkly Welchind_NewBvr	Producing
ABEN			RALEIGH	4708101041	250*205835	" At the Application of the Community of		AS		Producing			Welchlands 071BW New Beaver 32C			TANTON TANTON AT 11	N-Bkly Welchlnd_NewBvr	Producing
			RALEIGH		250*205837	Let M. Le term marriage assessed by the		iAS ;	0.24875				New Beaver 36C	T 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	801 · i 1052 · i		N-Bkly Welchind_NewBvr N-Bkly Welchind NewBvr	Producing Producing
IABEN	MAB03		RALEIGH	***************************************	250*205834	Ϋ́	ctive WI Well	iAS	0.24875	Producing	999 weighten 707 com av av av		New Beaver 31C		610	P till streemen streems o	N-Bkly Welchind NewByr	Producing
			RALEIGH		250*205551		ctive WI Well	ias ,		Producing		4708101025	Welchlands 074	• ,	1762		V-Bkly Welchind_NewBvr	Producing
			RALEIGH RALEIGH		250*205833 250*205844			ias :	0.24875	Producing			New Beaver 30C	1		P00 V	V-Bkly Welchind NewByr	Producing
ABEN	IVIADOS .		BUCHANAN		250*205844 250*287954			iAS		Producing Non Prod/Shut In		A	Welchlands 079BW		2321	P00 V	V-Bkly Welchind_NewBvr	Producing
	MAB08	***********	RALEIGH		250*287357		active WI Well				LTSI		BIG VEIN 1-04 POCAHONTAS 1	LTSI		408		!
ABEN			RALEIGH		250*287700	Ÿ TI	nactive WI Well	AS		Non Prod/Shut In	LTSI		BEAVER COAL 321-C	LTSI		408 IV	V-VA Pocahontas	ISI - Long Term_LTSI
			RALEIGH		250*205703	Y	nactive Wi Well	AS		Non Prod/Shut In			New River 21AR				V-Bkly NewRyr CrabOrchrd	'SI - Long Term_LTSI
IABEN	Unassigned (RALEIGH		250*205658		nactive WI Well		0.4975	Non Prod/Shut In	LTSI		Dorothy Sarita 119				V-DOROTHY	,SI - Long Term_LTSI
IABEN I	MABO1	WV !	RALEIGH FAYETTE		250*287614		nactive W! Well			Non Prod/Shut In	LTSI		WPP 3-C	LTSI	,	408 TOTAL	W NO DO NAME - THE PROPERTY OF THE PROPERTY AND ADDRESS OF THE PARTY O	100 cong rem
IABEN	IVIABUT		FAYETTE		250*287348 250*287526		active WI Well G		C 1 PATE PATENT UN UMAN ANALYSISSES	Non Prod/Shut In	LTSI :		NEW RIVER 17	LTSI	10787	408 , V	V-Bkly NewRvr_CrabOrchrd	Producing
	MABO1		RALEIGH		250*205720		active WI Well			Non Prod/Shut In Non Prod/Shut In	LTSI		NEW RIVER 33	LTSI		408		
			RALEIGH		250*287481			AS					New River 61AR BEAVER COAL 311-C		1408 F		V-Bkly NewRvr_CrabOrchrd	'Producing
ABEN I	1)		FAYETTE		250*287893		active WI Well				LTŠI		NEW RIVER 47	ilisi ':	10688	408 V 408 I	VV-SLAB FORK	SI - Long Term_LTSI
	MAB03		WYOMING	4710901261	250*205536		ctive WI Well	AS		Producing			Welchlands 051AW				V-Bkly Welchind_NewByr	Producing
			RALEIGH	The	250*205855		nactive Wi Well G			Non Prod/Shut In	LTSI		WELCHLANDS 113 NW				V-Bkly Welchind NewByr	SI - Long Term_LTSI
			FAYETTE RALEIGH		250*205729	Y th	active WI Well G			LTSI_HGO			New River 80AR	LTSI	3030 F		V-Bkly NewRvr CrabOrchrd	Producing
			RALEIGH		250*286739 250*287359		nactive WI Well		A ATT THE MADE AND ADDRESS NAME AND ADDR				BEAVER COAL A-82 (C15)	LTSI		408 V	VV-RALEIGH_BEAVER	'SI - Long Term_LTSI
IABEN	. Hatter and of Markey before and author		RALEIGH		250*287359 i		active Wi Weli G			Non Prod/Shut In Non Prod/Shut In			RALEIGH COUNTY	LTSI	(0208 A		VV-RALEIGH BEAVER	Producing
IABEN :	MAB07 ,\		RALEIGH		250*287615		active WI Well						NEW RIVER 20 B3				V-Bkly NewRvr_CrabOrchrd	SI - Long Term_LTSI
ABEN :	MAB08	WV	RALEIGH		250*287255		active WI Well			Non Prod/Shut in		offitting and the second secon	WPP 4-C [mid 11723 deleted] BEAVER COAL 109				VV-SLAB FORK	SI - Long Term_LTSI
			RALEIGH	4708100502	250*287290	Y :In	active WI Well G	AS		Non Prod/Shut In	LTSI		BEAVER COAL A-24				VV-RALEIGH_BEAVER VV-RALEIGH BEAVER	SI - Long Term_LTSI SI - Long Term_LTSI
			RALEIGH		250*205832 ;		ctive WI Well G		0.4975	Producing	18990 1990 THE THE THE TANKS AND ADDRESS OF A	4708101006	New Beaver 28C		122 F		V-RALEIGH_BEAVER V-Bkly Welchind NewByr	SI - Long Term_LTSI
IABEN '			RÄLEIGH		250*287256		active WI Well G			Non Prod/Shut In	LTSI	4708101062 E	BEAVER COAL 110	LTSI	10099	VI 80/	VV-RALEIGH_BEAVER	SI - Long Term_LTSI
			RALEÏGH RALEÏGH		250*287246		active WI Well G		10 0 00000 00 total 0 miles 10 miles		LTSI	E	BEAVER COAL 116	LTSI		108	The second secon	1
	* *********** / ******** /**		RALEIGH		250*287260 · · · · · · · · · · · · · · · · · · ·		active WI Well (G		** ** ** ** ***				BEAVER COAL 119	LTSI			VV-RALEIGH_BEAVER	ISI - Long Term_LTSI
- 10-11					LUU ZUJDJU	·	active WI Well G	A)	0.49751	Non Prod/Shut In	LTSI	4708101003 N	New Beaver 26C	ÎTSI 12	2858 P	Vi 000	V-Bkly Welchind NewByr	SI - Long Term_LTSI

NCE Field Grp	Route Name	State	County	Api Well Number	Exc_250*	EXCO OWNED/ OPERATED	ACTIVE STATUS	GAS or Oit well	EXCO SHARE	3RD Q 2014 status	long term shut in	DOUBLE CHECK OF	Description	Disposition code	Merrick Completion ID	Year Drilled POP-PBICIR TO 2000	i ease Name	Producing Description
// ABEN	MAB08	.WV	raleigh '	4708101224	250*287358	Ϋ́	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI	4708101224	POCAHONTAS 2	LTSI	10773	.A08	W-VA Pocahontas	SI - Long Term LTSI
ABEN		WV	IRALEIGH	The state of the s	250*287268	Υ	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI		BEAVER COAL 131	LTSI		A08		
/ABEN	MAB08	,WV	:RALEIGH	4708100358	250*287287	·Y	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI	4708100358	BEAVER COAL A-02	LTSI	10110	A08	WV-RALEIGH BEAVER	Producing
//ABEN	.MAB03	:WV	IRALEIGH	4708101010	250*205841	ΥΥ	Active WI Well	IGAS	0.4975;1	roducing		4708101010	Welchlands 060BW	LTSI	1780		W-Bkly Welchlad NewByr	Producing
/ABEN	,MAB03	WV	RALEIGH	4708101016	250*205555	, Y	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI	:4708101016	Welchlands 078BW	LTSI	2303		W-Bkly Welchind NewByr	SI - Long Term LTSI
ABEN	MAB06	:WV	RALEIGH	4708100877	250*205643	lY The second	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI		Dorothy Sarita 022ADS	LTSI	2847	P00	W-DOROTHY	'SI - Long Term LTSI
/IABEN	MABC3	WV	RALEIGH	:4708101024	250*205843	Υ	Inactive WI Well	GAS	0.4975	Non Prod/Shut In	LTSI	4708101024	Welchiands 073BW	LTSI	2143	P00	W-Bkly Welchlad NewByr	Producing
ABEN	MAB07	WV	RALEIGH	4708101131	250*287275	;Y	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSI	4708101131	BEAVER CCAL 144	LTSI	10762	A08	W-Sunny Acres 960520	SI - Long Term LTSI
ABEN	:MAB08	WV	:RALE!GH	4708101178	250*287280)Y	Inactive WI Well	:GAS	0.4975	Non Prod/Shut In	LTSI	4708101178	BEAVER COAL 303-C	LTSI	10771		WV-RALEIGH BEAVER	SI - Long Term LTSI
//ABEN	MAB08	WV	RALEIGH	4708100525	250*287305	Y	Inactive WI Well	GAS	0.4975;1	Non Prod/Shut In	LTSI	4708100525	BEAVER COAL A-52	LTSI	10136	A08	WV-RALEIGH BEAVER	SI - Long Term LTSI
MABEN	MABO7	WV	RALEIGH	4708100735	250*205740	; Y	Active WI Well	IGAS 1	0.44775	Producing	1	4708100735	BEAVER 05A	LTSI	1952	P00	W-Bkly NewRyr CrabOrchrd	Producing
ABEÑ	MAB08	.WV	RALEIGH	1	250*287271	".Y"	Inactive WI Well	'GAS	0.4975:1	lon Prod/Shut in	LTSI		BEAVER COAL 135	LTSI	10106		WV-RALEIGH BEAVER	SI - Long Term_LTSI
ABEN		·WV	RALEIGH	1	250*287525	Y	Inactive WI Well	GAS	0.4975	Von Prod/Shut In	LTSi	1 44 44 4m2 x 110 mm	New River 32	LÍSI			***************************************	
ABEN	1	WV	RALEIGH		250*287243	Y	Inactive W! Well	GAS	0.4975 N	ion Prod/Shut In	LTSI		BEAVER COAL 305-C	LTŠI		ANR		



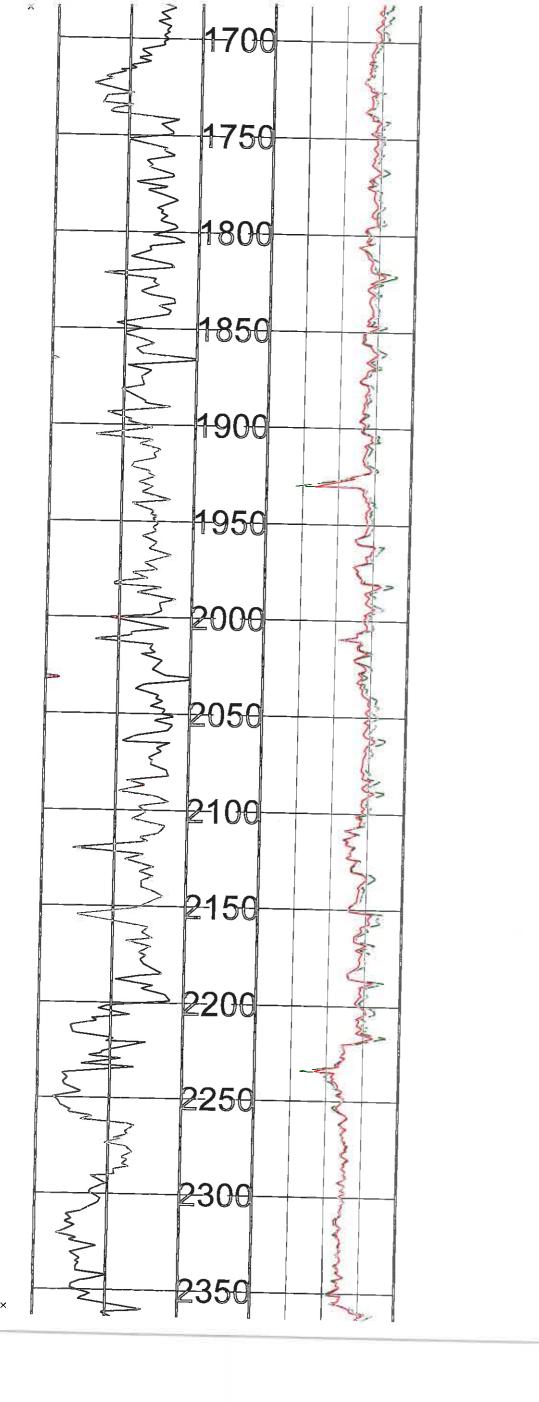


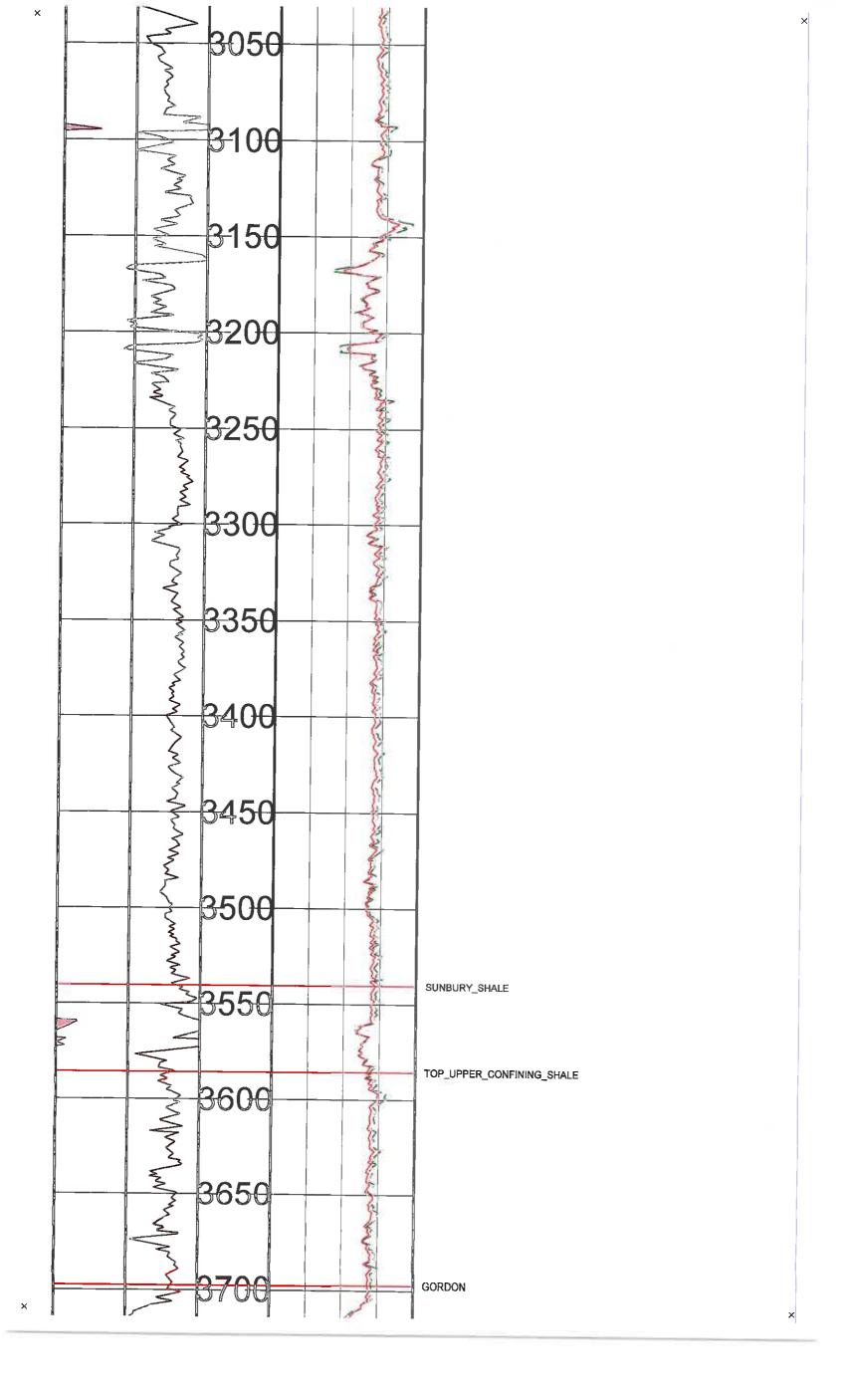


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Received
Office of Oil & Gas







EXCO Resources (PA), LLC

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

March 18, 2015

West Virginia Department of Environmental Protection Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304 Attn: Mr. Zachary Stevison

RE: Response to Comments

Welchlands 29AW

UIC Permit # 2D1090980

Dear Mr. Stevison:

We are submitting the following information to you.

- 1. One (1) check made payable to the WVDEP in the amount of \$5,000.00 for the Welchlands 29AW UIC Bond.
- 2. One (1) check made payable to the WVDEP in the amount of \$5,000.00 for the LC Wilson #4 UIC Bond.
- 3. Two (2) original and executed Request to Invest West Virginia Consolidated Investment Fund forms.
- 4. Two (2) copies of the completed W-9 Request for Taxpayer Identification Number and Certification forms.

The following are our responses to your email comments dated February 25, 2015.

1. Where are the "formation fluids" coming from? Is the annulus open at surface? If closed, what is pressure gauge range that is being used to monitor this annulus? What other approach, if any, is being used to ensure that formation fluids are not migrating further up the 2 3/8" x 4 1/2" annulus?

RESPONSE: The annulus is open at the surface. The annulus is per at the surface. sales line that has 20psig on it. We have a check valve on the annulus line so we can keep backpressure off of the annulus. In addition to a pressure of 15 gauge, we have a chart recorder on the casing line to record and how at surface. The current pressure reading is 0 psig with no flow at surface to the of WV Department of WV Department of Protect

Environmental Protection

also monitor the liquid level in the 2 3/8" x 4 ½" annulus to monitor any subsurface fluid movement.

2. The Welchlands 29AW well appears to have been reworked by squeezing off previous perforations in the Ravencliff Ss (from 2,019'-2,098') and Weir Ss (from 3,828'-3,888') formations. Were one or both of the squeezes unsuccessful or fail later on in the life well? If so, which formation(s) and what are the respective formation pressure(s)?

RESPONSE: The cement squeeze on the Weir SS did not hold pressure after the plug was drilled out and tested in April 1994. In response to the first question, the "formation fluids" in the 2 3/8" x 4 ½" annulus would be coming from the Weir SS and using the liquid level from the echometer shots the estimated formation pressure is 1060 psig.

If you should have any questions or require additional information, please contact me at (724) 720-2590.

Sincerely,

Brian E. Rushe, P.E.

Construction & Regulatory Manager

Enclosures

Office of Oil and Gas

MAR 2 0 2015

WV Department of
Environmental Protection