NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: Ritchie Exploration Inc

ADDRESS: PO BOx 783188

Wichita, KS 67278

FACILITY: ANDERSON #1

LOCATION: NE1/4, SW1/4, S20, T3S, R52W

NEAR ANTON, CO 80801

ATTN: A. Scott Ritchie III, Pres

DMR Mailing ZIP CODE:

67278

MINOR

Discharge to Unnamed Drainage

External Outfall

No Discharge

		QUAN	ITITY OR LOADII	NG	C	QUALITY OR CONCENTRATION				FREQUENCY	SAMPLE
PARAMETER		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS	EX	OF ANALYSIS	TYPE
Н	SAMPLE MEASUREMENT	*****	*****	****	7.93	*****	7.99	SU			
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	****	*****	****	6.5 MINIMUM	*****	9 MAXIMUM	SU		Monthly	GRAB
olids, total suspended	SAMPLE MEASUREMENT	*****	*****	*****	*****	8.0	8.0	mg/L			
0530 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	30 30DA AVG	45 DAILY MX	mg/L		Monthly	GRAB
Arsenic, total recoverable	SAMPLE MEASUREMENT	****	*****	*****	****	<25	<25	ug/L			
00978 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Selenium, total recoverable	SAMPLE MEASUREMENT	****	*****	****	****	<50	<50	ug/L			
00981 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Beryllium, total recoverable [as Be]	SAMPLE MEASUREMENT	****	*****	*****	****	<10	<10	ug/L			
00998 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Nickel, total recoverable	SAMPLE MEASUREMENT	****	*****	*****	****	<30	<30	ug/L			
01074 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	****	******	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Zinc, total recoverable	SAMPLE MEASUREMENT	****	*****	****	****	<30	<30	ug/L			
01094 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 30DA AVG/	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE	supervision in a	ccordance with a system d	ment and all attachments we esigned to assure that qualifi	ed personnel properly g	ather and	1	>		TEL	EPHONE	DATE
Sohn Wernberger	system, or thos to the best of m	e persons directly responsi y knowledge and belief, tru	on my inquiry of the person ble for gathering the informal e, accurate, and complete. I ormation, including the possi	tion, the information sub- am aware that there are	mitted is,	URE OF PRINCIPAL	EXECUTIVE OFFIC	CER OR	316-6	91-9500	9.29.1
TYPED OR PRINTED	knowing violation	ons.				AUTHORIZE			AREA Code		MM/DD/YYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Oil and grease - see D.24, pg 14.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: Ritchie Exploration Inc

ADDRESS: PO BOx 783188

Wichita, KS 67278 FACILITY: ANDERSON #1

LOCATION: NE1/4, SW1/4, S20, T3S, R52W

NEAR ANTON, CO 80801

ATTN: A. Scott Ritchie III, Pres

COG840011 001-A PERMIT NUMBER DISCHARGE NUMBER **MONITORING PERIOD** MM/DD/YYYY MM/DD/YYYY 08/01/2014 08/31/2014

DMR Mailing ZIP CODE:

67278

MINOR

Discharge to Unnamed Drainage External Outfall

No Discharge

		QUAN	ITITY OR LOADI	NG		QUALITY OR CONCENTRATION). FREQUENCY	SAMPLE
PARAMETER		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS	EX	OF ANALYSIS	TYPE
Cadmium, total recoverable	SAMPLE MEASUREMENT	*****	****	*****	****	<10	<10	ug/L			
01113 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Lead, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	<50	<50	ug/L			
01114 1 0 Effluent Gross	PERMIT REQUIREMENT	****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Copper, total recoverable	SAMPLE MEASUREMENT	*****	*****	*****	*****	<10	<10	ug/L			
01119 1 0 Effluent Gross	PERMIT REQUIREMENT	****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Oil and grease	SAMPLE MEASUREMENT	*****	****	*****	****	****	NM				
03582 1 0 Effluent Gross	PERMIT REQUIREMENT	****	*****	*****	****	******	10 INST MAX	mg/L		Contingent	GRAB
Chromium, trivalent total recoverab	le SAMPLE MEASUREMENT	*****	*****	****	*****	<10	<10	ug/L			
04262 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Flow, in conduit or thru treatment p	lant SAMPLE MEASUREMENT	11.71	12.00	gal/min	****	****	*****	*****			
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	21 30DA AVG	Req. Mon. DAILY MX	gal/min	*****	******	*****	*****		Monthly	INSTAN
Solids, total dissolved	SAMPLE MEASUREMENT	*****	****	****	****	****	2790	mg/L			
	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	3500 MX 7D AV	mg/L		Monthly	GRAB
NAME/TITLE PRINCIPAL EXECUTIV	supervision in	penalty of law that this docum	esigned to assure that quali	fied personnel properly gath	er and	1		T	TEL	EPHONE	DATE
70295 1 0 Effluent Gross	PERMIT REQUIREMENT TO OFFICER System, or the to the best of the tot the text.	penalty of law that this docun accordance with a system de nformation submitted. Based se persons directly responsit my knowledge and belief, tru latiles for submitting false info	nent and all attachments w ssigned to assure that quali on my inquiry of the person le for gathering the informs , accurate, and complete.	ere prepared under my direct fied personnel properly gath or persons who manage th attion, the information submit I am aware that there are	ction or er and e ted is,	TURE-OF PRINCIPAL AUTHORIZE	3500 MX 7D AV	mg/		TEL 316-69	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Oil and grease - see D.24, pg 14.

NM = Not measured, see attachment 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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NEAR ANTON, CO 80801

ATTN: A. Scott Ritchie III, Pres

DMR Mailing ZIP CODE:

OD

67278

MINOR

Discharge to Unnamed Drainage

External Outfall

No Discharge

		QUA	NTITY OR LOADIN	IG	C	QUALITY OR CON	CENTRATION		NO.	FREQUENCY	
PARAMETER		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS	EX	OF ANALYSIS	TYPE
Chromium, hexavalent tot recoverable	e SAMPLE MEASUREMENT	*****	*****	****	*****	<10	<10	ug/L			
78247 1 0 Effluent Gross	PERMIT REQUIREMENT	****	*****	*****	*****	Req. Mon. 30DA AVG	Req. Mon. DAILY MX	ug/L		Monthly	GRAB
Oil and grease visual	SAMPLE MEASUREMENT	*****	N	0	*****	*****	****	*****			
84066 1 0 Effluent Gross	PERMIT REQUIREMENT	****	Req. Mon. INST MAX	Y=1;N=0	*****	****	*****	*****		Monthly	VISUAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and
South south the other	evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT AREA Code NUMBER MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Oil and grease - see D.24, pg 14.

Attachment 1 DMR for permit COG840011 Ritchie Exploration, Anderson #1

A sample for oil and grease was not collected since there was no visual evidence of oil and grease

WATER SAMPLING FOR ANN ALLISON AND ANDERSON Lse. In Washington County,

		Ann All	ison Lse		
Date	8/6	8/13	*8/20	8/27	
Cal. Time	6:00am	6:00am	6:00am	6:00am	
Calibration	4.28/4.01	4.76/4.00	7.43/7.00	4.21/4.00	
	7.32/7.00	9.54/10.01	9.36/10.00	7.37/7.01	
rab Sample Time	N/D	N/D	8:00am	8:00am	
n Reading Time	9:00am	9:00am	9:00am	9:00am	
eading	N/D	N/D	7.96	8.03	
sual Observation of Oil					
scharge Rage/gpm	N/D	N/D	3.62	3.56	
amples due second	and fourth we	ek of every	month		
indicates date of sai	mple process	and delivere	ed to lab.		



08/28/14





Technical Report for

Ritchie Exploration, Inc.

Anderson Lease

Accutest Job Number: D61209

Sampling Date: 08/20/14

Report to:

Ritchie Exploration, Inc. PO Box 783188 Wichita, KS 67278-3188 john@ritchie-exp.com; palisadestech@gmail.com

ATTN: John Niernberger

Total number of pages in report: 32



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman Laboratory Director

Seed a He

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

Mountain States • 4036 Youngfield St. • Wheat Ridge, CO 80033-3862 • tel: 303-425-6021 • fax: 303-425-6854 • http://www.accutest.com

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Sample Summary

Ritchie Exploration, Inc.

Anderson Lease

Job No:

D61209

Sample	Collected		Mat	rix	Client
Number	Date	Time By	Received Cod	е Туре	Sample ID
D61209-1	08/20/14	08:00 ET	08/20/14 AQ	Water	ANDERSON LSE WASH CO COLO.
D61209-1A	08/20/14	08:00 ET	08/20/14 AQ	Water	ANDERSON LSE WASH CO COLO.



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Ritchie Exploration, Inc.

Job No

D61209

Site:

Anderson Lease

Report Date

8/28/2014 8:39:29 AM

On 08/20/2014, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 15.4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D61209 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix AO

Batch ID: GTA1291

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61389-1MS, D61389-1MSD were used as the QC samples indicated.
- D61209-1: The pH of the sample was >2 at time of analysis.

Metals By Method SW846 6010C

Matrix AQ

Batch ID: MP13809

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61160-4SDL, D61160-4MS, D61160-4MSD, D61160-4SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of Selenium are outside control limits. Spike recovery indicates possible matrix interference.
- The RPD(s) for the MS and MSD recoveries of Selenium are outside control limits for sample MP13809-S2. High RPD due to possible sample matrix or nonhomogeneity.
- The serial dilution RPD(s) for Chromium, Copper, Lead, Nickel, Zinc are outside control limits for sample MP13809-SD1.
 Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- MP13809-SD1 for Zinc: Serial dilution indicates possible matrix interference.

Wet Chemistry By Method SM 2540C-2011

Matrix AQ

Batch ID: GN26118

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61130-1DUP were used as the QC samples for the Solids, Total Dissolved analysis.

Wet Chemistry By Method SM 2540D-2011

Matrix AQ

Batch ID: GN26135

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61098-2DUP were used as the QC samples for the Solids, Total Suspended analysis.

2

Wet Chemistry By Method SM 3500CR B-2011

Matrix AQ

Batch ID: GN26120

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61112-1FDUP, D61209-1MS, D61209-1MSD were used as the QC samples for the Chromium, Hexavalent analysis.
- D61209-1 for Chromium, Hexavalent: Sample preserved within 24hrs. to extend the hold time.

Wet Chemistry By Method SM4500HB+-2011/9040C

Matrix AQ

Batch ID: GN26130

D61209-1 for pH: Analysis performed past the required 15 minutes from collection time/holding time.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits Job Number: D61209

Account:

Ritchie Exploration, Inc.

Project:

Anderson Lease

Collected:

08/20/14

- 1	Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
	D61209-1	ANDERSON LSE	WASH CO CO	LO.			
	Xylenes (total) a		0.0027	0.0020	0.0020	mg/l	SW846 8021B
	Solids, Total Diss	solved	2790	10		mg/l	SM 2540C-2011
	Solids, Total Susp	pended	8.0	5.0		mg/l	SM 2540D-2011
	pH b		9.10			su	SM4500HB+-2011/9040C

D61209-1A ANDERSON LSE WASH CO COLO.

No hits reported in this sample.

(a) The pH of the sample was > 2 at time of analysis.

(b) Analysis performed past the required 15 minutes from collection time/holding time.

Page 1 of 1



Sample Results		
Report of Analysis		

Client Sample ID: ANDERSON LSE WASH CO COLO.

Lab Sample ID:

D61209-1

Date Sampled:

08/20/14

Matrix:

AQ - Water SW846 8021B Date Received:

08/20/14

Method: Project:

Percent Solids: n/a

Anderson Lease

DF

1

Analyzed By Prep Date Prep Batch **Analytical Batch** 08/26/14 EP GTA1291 n/a

Run #1 a Run #2

Purge Volume

TA23164.D

Run #1

5.0 ml

File ID

Run #2

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylenes (total)	ND ND ND 0.0027	0.0010 0.0020 0.0020 0.0020	0.00020 0.0010 0.0010 0.0020	mg/l mg/l mg/l mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
120-82-1	1 2 4-Trichlorobenzene	103%		60-14	10%	

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



Client Sample ID: ANDERSON LSE WASH CO COLO.

Lab Sample ID: Matrix:

D61209-1 AQ - Water Date Sampled: 08/20/14 Date Received:

Percent Solids: n/a

08/20/14

Project:

Anderson Lease

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	Ву	Method
Chromium, Hexavalent ^a Solids, Total Dissolved Solids, Total Suspended pH ^b	< 0.010 2790 8.0 9.10	0.010 10 5.0	mg/l mg/l mg/l su	1 1 1	08/21/14 09:30 08/21/14 08/22/14 08/21/14 15:00	AK AK	SM 3500CR B-2011 SM 2540C-2011 SM 2540D-2011 SM4500HB+-2011/9040C

(a) Sample preserved within 24hrs. to extend the hold time.

(b) Analysis performed past the required 15 minutes from collection time/holding time.

Client Sample ID: ANDERSON LSE WASH CO COLO.

Lab Sample ID: Matrix:

D61209-1A

AQ - Water

Date Sampled: 08/20/14

Date Received: Percent Solids: n/a

08/20/14

Project:

Anderson Lease

Total Recoverable Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Beryllium	< 10	10	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Cadmium	< 10	10	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Chromium	< 10	10	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Copper	< 10	10	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Lead	< 50	50	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Nickel	< 30	30	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C ¹	SW846 3010A ²
Zinc	< 30	30	ug/l	1	08/25/14	08/26/14 KV	SW846 6010C $^{\mathrm{1}}$	SW846 3010A ²

(1) Instrument QC Batch: MA5159

(2) Prep QC Batch: MP13809



Misc.	Forms

Custody Documents and Other Forms

Includes the following where applicable:

· Chain of Custody

ACCUTEST		C		utest Labo	oratories N	fountain S	lates					FED-I	X Trackin	g #	TO A SERVICE AND ADDRESS OF THE PARTY OF THE			PAG der Control		_ 0	F
LABORATORIE	8		4036 Young			Ridge, Co		3					est Quote				Accutest				
	•		I EL. J		303-425-6		721					Accus	est Quote				Accurest	T	(4)	120	9
Client / Reporting Information			Proj	ect Infe	ormatic	in .							Rec	uested	Analysi	s (see 1	TEST C	DDE sh	eet)	orko ang	Matrix Codes
Post Adress Post 383 188	Street:	E1000 47	Week	Mod	Hy	(CONDITION OF THE	201	Ner balen			- And A										DW - Drinking Water GW - Ground Water WW - Water
City State XS. 67 278-318	Project#	(2)	chox	Comp	Billing Into	formation	n (If di	lffere	nt from	n Rep	oort to)										SW - Surface Water SO - Soll SL- Sludge SED-Sediment OI - Oil
Phone # Fax #	Client PO#	(p.com)	Palisa	Aest	ech	OS r	NSI	ate C	mon	- 2		-	3	X							AIR - Air SOL - Other Solid
316-691-9555 34-6919556 Sampler(s) Name(s) Phone #	Project Manages			Attent	ilan:				PO#			_	Y	1	,						WP - Wipe FB-Field Blank EB- Equipment Blank
EDTLOMAS 720-841-9550		1	Collection				Γ.		of pres		Cart Co.		3/-	1							RB- Rinse Blank TB-Trip Blank
Accusest Souple # Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	E	T	H2SO4 9	1 2	MEOH	No No	10	780	XCF						LAB USE ONLY
Anderson Lse		8-20-14	8am	73	DO	W						7	4	X	X					-	01
Wash Co. Colo.	200																				
				-					1		4	+									
				-			H		+	H	+	+	-			-		+	_	-	70-02
				-				\forall	+	\forall	+	+-	+-	-		-		+	+		10-02
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	+			 	-		\vdash		+	\forall	+	+	-			-		_		+	
SOLVE SECTION OF THE		ale menyambershor				Date	Deliv	erabl	e Info	rmath	าก		1000			Comm	ients / S	pecial	nstruct	ons	
Turneround Time (Business days)	Approved By (Ac	cutest PM); / Date;		lease work		ial "A" (L				_	te Forms										
Std. 10 Business Days						ial "B" (L			_	_	Formo	at		-				-			
Std. 5 Business Days (By Contract only)				-		iai "B" +N (Level 3+		ď		PDI	-										
5 Day R/ SH 3 Day EMERGENCI					FULLTI	Level 3+	4)							-							
2 Day EMERGENO						Commerc	ioi "A" .	- Pasi	ilte Onl	h											
1 Day EMERGENO						Commerc					nmary		,								
Emergency & Rush T/A data available VIA Lablink																					
		mple Custody mu	ust be docum	nented b	elow eac	h time s	ample	s chu	nge p	osse	ssion, h	ncludii	g couri	er deliv			0.00245-025	io de base			
Relinguished by Sampler:	1:3087	Received By:	-	8/2	0/4	13:2	Rolling	ulshed	By:						Date Time:		Receive	f By:			
0.	10119			- , -			-	ulshed							Date Time:		2 Receive	J Day			
Relinquished by Sampler: Date Time		3					4								Date Time:		Received 4	з ву:			
Relinquished by: Date Time		Received By:					Custoc	dy Seal	*141	7		Intaci		Preserv	ed where ap	olicable		14	Op kee	Coole	er Temp. 15 4

Intact
Not intact

Custody Seal #HO

D61209: Chain of Custody

Page 1 of 1

Cooler Temp. 15. 7

TORO



-	-	-				
G	()	1	0	0	4:1	no
T		V		11	ш	Link

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary Job Number: D61209

Account:

RITEKSW Ritchie Exploration, Inc.

Project:

Anderson Lease

Sample GTA1291-MB	File ID TA23157.D	DF 1	Analyzed 08/26/14	By EP	Prep Date n/a	Prep Batch n/a	Analytical Batch GTA1291
W							

The QC reported here applies to the following samples:

Method: SW846 8021B

D61209-1

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2	Benzene	ND	1.0	0.20	ug/l
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l
108-88-3	Toluene	ND	2.0	1.0	ug/l
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l
CAS No.	Surrogate Recoveries		Limi	ts	
120-82-1	1,2,4-Trichlorobenzene	99%	60-14	10%	

Blank Spike Summary Job Number: D61209

Account:

RITEKSW Ritchie Exploration, Inc.

Project:

Anderson Lease

Sample GTA1291-BS	File ID TA23158.D	DF 1	Analyzed 08/26/14	By EP	Prep Date n/a	Prep Batch n/a	Analytical Batch GTA1291

The QC reported here applies to the following samples:

Method: SW846 8021B

D61209-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylenes (total)	27.2 45.6 212 216	24.2 41.7 183 205	89 91 86 95	70-130 70-130 70-130 70-130
CAS No.	Surrogate Recoveries 1,2,4-Trichlorobenzene	BSP 105%		nits	

^{* =} Outside of Control Limits.

Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary Job Number: D61209

Account:

RITEKSW Ritchie Exploration, Inc.

Project:

Anderson Lease

Sample D61389-1MS D61389-1MSD D61389-1	File ID TA23160.D TA23161.D TA23159.D	DF 1 1	Analyzed 08/26/14 08/26/14 08/26/14	By EP EP EP	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GTA1291 GTA1291 GTA1291

The QC reported here applies to the following samples:

Method: SW846 8021B

D61209-1

CAS No.	Compound	D61389-1 ug/l Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4	Benzene Ethylbenzene	ND ND	27.2 45.6	22.2 38.6	82 85	27.2 45.6	22.5 39.1	83 86	1	64-130/30 46-144/30
108-88-3	Toluene	ND	212	171	81	212	172	81	1	70-130/30
1330-20-7	Xylenes (total)	ND	216	192	89	216	192	89	0	59-143/30
CAS No.	Surrogate Recoveries	MS	MSD	D6	1389-1	Limits				
120-82-1	1,2,4-Trichlorobenzene	104%	107%	999	%	60-1409	%			

^{*} = Outside of Control Limits.



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

riep bate.					00/25/14	
Metal	RL	IDL	MDL	MB raw	final	
Aluminum	100	11	41			
Antimony	30	2.1	19			
Arsenic	25	3.8	5.6	-1.5	<25	
Barium	10	.2	1.4			
Beryllium	10	. 9	1.2	0.30	<10	
Boron	50	. 8	6.6			
Cadmium	10	. 2	.36	0.10	<10	
Calcium	400	2.4	41			
Chromium	10	.3	. 4	-0.10	<10	
Cobalt	5.0	.5	.57			
Copper	10	.8	1.9	-0.70	<10	
Iron	70	1.5	9.5			
Lead	50	2.1	21	0.20	<50	
Lithium	5.0	. 4	2.7			
Magnesium	200	6.8	19			
Manganese	5.0	.5	.46			
Molybdenum	10	. 4	.84			
Nickel	30	.5	.87	0.50	<30	
Phosphorus	100	15	20			
Potassium	1000	99	270			
Selenium	50	7.1	11	-1.5	<50	
Silicon	50	4.7	5.2	**		
Silver	30	.3	.6			
Sodium	400	7.3	170			
Strontium	5.0	.01	.12			
Thallium	10	1.8	4			
Tin	50	12	16			
Titanium	10	.1	2.1			
Uranium	50	2.9	5.5			
Vanadium	10	. 4	. 4			
Zinc	30	. 4	3.2	0.80	<30	

Associated samples MP13809: D61209-1A

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits



BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS

Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

				MB	
Metal	DT	IDL	MDT	raw	final
Metal	V.T.	TDL	MDL	Law	TINGT

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61209
Account: RITEKSW - Ritchie Exploration, Inc.
Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

Prep Date:				08/25/14				
Metal	D61160 Origina		Spikelot ICPALL2		QC Limits	,		
Aluminum								
Antimony	anr							
Arsenic	6060	6990	1000	93.0	75-125			
Barium	anr							
Beryllium	0.0	485	500	97.0	75-125			
Boron	anr							
Cadmium	52.8	566	500	102.6	75-125			
Calcium	anr							
Chromium	2.4	492	500	97.9	75-125			
Cobalt								
Copper	4.3	504	500	99.9	75-125			
Iron								
Lead	11.4	1000	1000	98.9	75-125			
Lithium								
Magnesium	anr							
Manganese								
Molybdenum								
Nickel	1.9	469	500	93.4	75-125			
Phosphorus								
Potassium	anr							
Selenium	0.0	327	1000	32.7N(a)	75-125			
Silicon								
Silver	anr							
Sodium	anr							
Strontium								
Thallium								
Tin								
Titanium								
Uranium								
Vanadium								
Zinc	196	686	500	98.0	75-125			

Associated samples MP13809: D61209-1A

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

Login Number: D61209
Account: RITEKSW - Ritchie Exploration, Inc.
Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS

Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

	D61160-4	Spikelot	QC
Metal	Original MS	ICPALL2 % Rec	Limits

(N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested (a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

Prep Date:					08/25/14		
Metal	D61160- Origina		Spikelot ICPALL2		MSD RPD	QC Limit	
Aluminum							
Antimony	anr						
Arsenic	6060	7100	1000	104.0	1.6	20	
Barium	anr						
Beryllium	0.0	496	500	99.2	2.2	20	
Boron	anr						
Cadmium	52.8	579	500	105.2	2.3	20	
Calcium	anr						
Chromium	2.4	502	500	99.9	2.0	20	
Cobalt							
Copper	4.3	517	500	102.5	2.5	20	
Iron							
Lead	11.4	1030	1000	101.9	3.0	20	
Lithium							
Magnesium	anr						
Manganese							
Molybdenum							
Nickel	1.9	478	500	95.2	1.9	20	
Phosphorus							
Potassium	anr						
Selenium	0.0	417	1000	41.7N(a)	24.2 (b)	20	
Silicon							
Silver	anr						
Sodium	anr						
Strontium							
Thallium							
Tin							
Titanium							
Uranium							
Vanadium							
Zinc	196	696	500	100.0	1.4	20	

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

(N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference.
(b) High RPD due to possible sample matrix or nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc.
Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS

Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

Prep Date:			08/25/1	.4	_
Metal	BSP Result	Spikelot ICPALL2		QC Limits	
Aluminum					_
Antimony	anr				
Arsenic	1060	1000	106.0	80-120	
Barium	anr				
Beryllium	488	500	97.6	80-120	
Boron	anr				
Cadmium	490	500	98.0	80-120	
Calcium	anr				
Chromium	498	500	99.6	80-120	
Cobalt					
Copper	481	500	96.2	80-120	
Iron					
Lead	1030	1000	103.0	80-120	
Lithium					
Magnesium	anr				
Manganese					
Molybdenum					
Nickel	475	500	95.0	80-120	
Phosphorus					
Potassium	anr				
Selenium	1090	1000	109.0	80-120	
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	519	500	103.8	80-120	

Associated samples MP13809: D61209-1A

Results < IDL are shown as zero for calculation purposes (\star) Outside of QC limits

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS

(anr) Analyte not requested

Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

	BSP Spikelot	QC	
etal	Result ICPALL2 % Rec	Limits	

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

Prep Date:			08/25/14		
Metal	D61160-4 Original	SDL 1:5	%DIF	QC Limits	
Aluminum					
Antimony	anr				
Arsenic	6060	6210	2.5	0-10	
Barium	anr				
Beryllium	0.00	0.00	NC	0-10	
Boron	anr				
Cadmium	52.8	52.5	0.6	0-10	
Calcium	anr				
Chromium	2.40	0.00	100.0(a)	0-10	
Cobalt					
Copper	4.30	0.00	100.0(a)	0-10	
Iron					
Lead	11.4	20.0	75.4 (a)	0-10	
Lithium					
Magnesium	anr				
Manganese					
Molybdenum					
Nickel	1.90	4.00	110.5(a)	0-10	
Phosphorus					
Potassium	anr				
Selenium	0.00	0.00	NC	0-10	
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	196	272	38.5*(b)	0-10	

Associated samples MP13809: D61209-1A

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

QC Batch ID: MP13809 Matrix Type: AQUEOUS

Methods: SW846 6010C Units: ug/l

Prep Date:

08/25/14

D61160-4 QC			
Original SDL 1:5 %DIF Lin	mits	mits	mits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.





General	Chemistry
Ocherai	Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

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METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN26120	0.010	0.0	mg/l	0.1	0.11	104.8	90-110%
Solids, Total Dissolved	GN26118	10	0.0	mg/l	400	393	98.3	90-110%
Solids, Total Suspended	GN26135	5.0	0.0	mg/l	300	306	102.0	90-110%
Н	GN26130			su	8.00	7.97	99.6	99.1-100.

Associated Samples:
Batch GN26118: D61209-1
Batch GN26120: D61209-1
Batch GN26130: D61209-1
Batch GN26135: D61209-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: D61209 Account: RITEKSW - Ritchie Exploration, Inc. Project: Anderson Lease

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN26120	D61112-1F	mg/l	0.0	0.0	0.0	0-20%
Solids, Total Dissolved	GN26118	D61130-1	mg/l	267	280	4.8	0-20%
Solids, Total Suspended	GN26135	D61098-2	mg/l	28.0	28.0	0.0	0-20%

Associated Samples:
Batch GN26118: D61209-1
Batch GN26120: D61209-1
Batch GN26135: D61209-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: D61209
Account: RITEKSW - Ritchie Exploration, Inc.
Project: Anderson Lease

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN26120	D61209-1	mg/l	0.0	0.1	0.10	103.0	85-115%

Associated Samples: Batch GN26120: D61209-1 (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: D61209
Account: RITEKSW - Ritchie Exploration, Inc.
Project: Anderson Lease

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chromium, Hexavalent	GN26120	D61209-1	mg/l	0.0	0.1	0.11	1.9	20%

Associated Samples:
Batch GN26120: D61209-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits