



11/16/11

Technical Report for

KRW Consulting, Inc.

XOM FRU 297-20A

1108-10A

Accutest Job Number: D29403

Sampling Date: 11/10/11

Report to:

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Total number of pages in report: 73



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


Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

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

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Sample Summary

KRW Consulting, Inc.

Job No: D29403

XOM FRU 297-20A
Project No: 1108-10A

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D29403-1	11/10/11	14:20 CB	11/11/11	SO	Soil	CUTTINGS #1 CONTENTS
D29403-1A	11/10/11	14:20 CB	11/11/11	SO	Soil	CUTTINGS #1 CONTENTS

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: KRW Consulting, Inc.

Job No D29403

Site: XOM FRU 297-20A

Report Date 11/16/2011 7:50:37 PM

On 11/11/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D29403 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 GCMS By Method SW846 8260B

Matrix: SO

Batch ID: V3V839

- All samples were analyzed within the recommended method holding time.
- Sample(s) D29198-4MS, D29198-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: SO

Batch ID: OP4843

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D29397-1MS, D29397-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The blank spike (BS) recovery(s) of Benzo(b)fluoranthene, Indeno(1,2,3-cd)pyrene are outside control limits. Compound(s) ND in associated samples.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of Acenaphthene, Benzo(b)fluoranthene, Indeno(1,2,3-cd)pyrene are outside control limits. ISTD outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Sample(s) OP4843-MS, OP4843-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- OP4843-MSD: ISTD outside control limits due to possible matrix interference. Confirmed by reanalysis.
- OP4843-MS: ISTD outside control limits due to possible matrix interference. Confirmed by reanalysis.
- D29403-1: Elevated RL due to matrix interference.
- OP4843-MS for Nitrobenzene-d5: Outside control limits due to possible matrix interference.
- OP4843-MSD for Nitrobenzene-d5: Outside control limits due to possible matrix interference.

Volatiles by GC By Method SW846 8015B

Matrix: SO

Batch ID: GGB787

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29362-1MS, D29362-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix: SO

Batch ID: OP4840

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D29416-2MS, D29416-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010B

Matrix: AQ

Batch ID: MP6269

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29403-1AMS, D29403-1AMSD were used as the QC samples for the metals analysis.

Matrix: SO

Batch ID: MP6253

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29399-1MS, D29399-1MSD, D29399-1SDL were used as the QC samples for the metals analysis.
- The matrix spike duplicate (MSD) recovery(s) of Nickel, Zinc are outside control limits. Probable cause due to matrix interference.
- The serial dilution RPD(s) for Selenium, Silver, Barium, Nickel, Zinc are outside control limits for sample MP6253-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP6253-MB1 for Barium: All sample results >10x method blank concentration.
- MP6253-SD1 for Barium, Nickel, Zinc: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix: SO

Batch ID: MP6254

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29399-1MS, D29399-1MSD, D29399-1SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471A

Matrix: SO

Batch ID: MP6259

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29400-1MS, D29400-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix: SO

Batch ID: GN12483

- The data for ASTM D1498-76M meets quality control requirements.

Wet Chemistry By Method SM19 2540B M

Matrix: SO

Batch ID: GN12484

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 3060/7196A M

Matrix: SO

Batch ID: R10756

- The data for SW846 3060/7196A M meets quality control requirements.
- D29403-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 3060A/7196A

Matrix: SO

Batch ID: M:GP13807

- The data for SW846 3060A/7196A meets quality control requirements.
- D29403-1 for Chromium, Hexavalent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C**Matrix:** SO**Batch ID:** GN12482

- The following samples were run outside of holding time for method SW846 9045C: D29403-1

Wet Chemistry By Method USDA HANDBOOK 60**Matrix:** SO**Batch ID:** MP6269

- D29403-1A for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

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.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D29403

Site: KRWCCOL: XOM FRU 297-20A

Report Date 11/16/2011 5:32:51 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 11/10/2011 and were received at Accutest on 11/11/2011 properly preserved, at XXXXNO TEMPERATURE FOUNDXXXX Deg. C and intact. These Samples received an Accutest job number of D29403. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO

Batch ID: GP13807

- All samples were distilled 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) D29398-1DUP, D29398-1MS were used as the QC samples for Chromium, Hexavalent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D29403).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CUTTINGS #1 CONTENTS	
Lab Sample ID:	D29403-1	Date Sampled: 11/10/11
Matrix:	SO - Soil	Date Received: 11/11/11
Method:	SW846 8260B	Percent Solids: 65.7
Project:	XOM FRU 297-20A	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V14560.D	1	11/11/11	DC	n/a	n/a	V3V839
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	130	100	45	ug/kg	
108-88-3	Toluene	652	200	100	ug/kg	
100-41-4	Ethylbenzene	142	200	51	ug/kg	J
1330-20-7	Xylene (total)	733	410	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	105%		61-130%
460-00-4	4-Bromofluorobenzene	102%		53-131%
17060-07-0	1,2-Dichloroethane-D4	99%		62-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CUTTINGS #1 CONTENTS	Date Sampled:	11/10/11
Lab Sample ID:	D29403-1	Date Received:	11/11/11
Matrix:	SO - Soil	Percent Solids:	65.7
Method:	SW846 8270C BY SIM SW846 3546		
Project:	XOM FRU 297-20A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G06938.D	25	11/16/11	TMB	11/14/11	OP4843	E3G256
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	250	200	ug/kg	
120-12-7	Anthracene	ND	250	230	ug/kg	
56-55-3	Benzo(a)anthracene	ND	630	330	ug/kg	
50-32-8	Benzo(a)pyrene	ND	630	460	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	630	470	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	630	280	ug/kg	
218-01-9	Chrysene	ND	630	280	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	630	470	ug/kg	
206-44-0	Fluoranthene	ND	250	250	ug/kg	
86-73-7	Fluorene	ND	250	220	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	760	700	ug/kg	
91-20-3	Naphthalene	307	250	240	ug/kg	
129-00-0	Pyrene	ND	250	240	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	32%		10-145%
321-60-8	2-Fluorobiphenyl	51%		10-130%
1718-51-0	Terphenyl-d14	50%		22-130%

(a) Elevated RL due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CUTTINGS #1 CONTENTS	
Lab Sample ID:	D29403-1	Date Sampled: 11/10/11
Matrix:	SO - Soil	Date Received: 11/11/11
Method:	SW846 8015B	Percent Solids: 65.7
Project:	XOM FRU 297-20A	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB13848.D	1	11/11/11	SK	n/a	n/a	GGB787
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	34.4	20	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CUTTINGS #1 CONTENTS
Lab Sample ID: D29403-1
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: XOM FRU 297-20A

Date Sampled: 11/10/11
Date Received: 11/11/11
Percent Solids: 65.7

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI04471.D	1	11/14/11	CS	11/14/11	OP4840	GFI327
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	281	20	13	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	105%		61-142%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CUTTINGS #1 CONTENTS

Lab Sample ID: D29403-1

Matrix: SO - Soil

Date Sampled: 11/10/11

Date Received: 11/11/11

Percent Solids: 65.7

Project: XOM FRU 297-20A

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	17.4	0.61	mg/kg	5	11/14/11	11/15/11 GJ	SW846 6020 ²	SW846 3050B ⁵
Barium	4290	1.5	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Cadmium	2.0	1.5	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Chromium	20.4	1.5	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Copper	26.9	1.5	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Lead	32.5	7.7	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Mercury	< 0.15	0.15	mg/kg	1	11/14/11	11/15/11 JB	SW846 7471A ¹	SW846 7471A ⁶
Nickel	16.1	4.6	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Selenium	< 7.7	7.7	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Silver	< 4.6	4.6	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴
Zinc	88.4	4.6	mg/kg	1	11/14/11	11/15/11 JB	SW846 6010B ³	SW846 3050B ⁴

(1) Instrument QC Batch: MA1972

(2) Instrument QC Batch: MA1974

(3) Instrument QC Batch: MA1975

(4) Prep QC Batch: MP6253

(5) Prep QC Batch: MP6254

(6) Prep QC Batch: MP6259

RL = Reporting Limit

Report of Analysis

Client Sample ID: CUTTINGS #1 CONTENTS**Lab Sample ID:** D29403-1**Matrix:** SO - Soil**Project:** XOM FRU 297-20A**Date Sampled:** 11/10/11**Date Received:** 11/11/11**Percent Solids:** 65.7**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.69	0.59	mg/kg	1	11/16/11 15:34	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	19.7	2.1	mg/kg	1	11/16/11 15:34	AMA	SW846 3060/7196A M
Redox Potential Vs H2	249		mv	1	11/13/11 09:25	JK	ASTM D1498-76M
Solids, Percent	65.7		%	1	11/14/11	SWT	SM19 2540B M
Specific Conductivity	16500	1.0	umhos/cm	1	11/15/11	CJ	DEPT.OF AG, BOOK N9
pH	12.04		su	1	11/13/11 09:25	JK	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CUTTINGS #1 CONTENTS	Date Sampled:	11/10/11
Lab Sample ID:	D29403-1A	Date Received:	11/11/11
Matrix:	SO - Soil	Percent Solids:	65.7
Project:	XOM FRU 297-20A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	6.38	2.0	mg/l	1	11/15/11	11/15/11 JB	SW846 6010B ¹	EPA 200.7 ²
Magnesium	< 1.0	1.0	mg/l	1	11/15/11	11/15/11 JB	SW846 6010B ¹	EPA 200.7 ²
Sodium	1290	2.0	mg/l	1	11/15/11	11/15/11 JB	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1975
(2) Prep QC Batch: MP6269

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CUTTINGS #1 CONTENTS	Date Sampled:	11/10/11
Lab Sample ID:	D29403-1A	Date Received:	11/11/11
Matrix:	SO - Soil	Percent Solids:	65.7
Project:	XOM FRU 297-20A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	138		ratio	1	11/15/11 14:50	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Mountain States
 4036 Youngfield Street Wheat Ridge, CO 80033
 TEL: 303-425-6021 877-737-4521
 FAX: 303-425-6021

 FED-EX Tracking # _____
 Accutest Quote # _____
 Bottle Order Control # D29403
 Accutest Job # _____

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes	
Company Name KRW Consulting Inc		Project Name XOM FRU 297-20A		<div style="writing-mode: vertical-rl; transform: rotate(180deg);">Table 910-1</div>												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Street Address 8000 W. 14th Ave Ste 200		Street															
City State Zip Lakewood CO 80214		Billing Information (If different from Report to)															
Project Contact Dwayne Knudson		Company Name															
Phone # 970 675 4066		Street Address															
Fax #		Project# 1108-10A		City		State		Zip		Client PO#		Attention:		PO#			
Sampler(s) Name(s) Craig Burger		Phone # 970 756 2493		Project Manager Joe Heller		Collection		Sampled by		Matrix		# of bottles		Number of preserved Bottles			
Field ID / Point of Collection Cuttings #1 Contents		MEQH/DI Vial #		Date 11-10-11		Time 14:20		LAB		50		5		HCl <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NONE <input type="checkbox"/> DI Water <input type="checkbox"/> MEQH <input type="checkbox"/> ENCORE <input type="checkbox"/> Baseline <input type="checkbox"/>			
Accutest Sample #																	
<div style="display: flex; justify-content: space-between;"> <div> Turnaround Time (Business days) <input type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day # SH <input checked="" type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY </div> <div> Approved By (Accutest PM): / Date: _____ _____ _____ </div> <div> <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Commercial "B" + Narrative <input type="checkbox"/> FULLT1 (Level 3-4) Commercial "A" = Results Only Commercial "B" = Results + QC Summary </div> <div> <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input checked="" type="checkbox"/> PDF </div> </div>																	
Comments / Special Instructions Please email results to KRW finance or XOM Team																	
Emergency & Rush T/A data available VIA Lablink																	
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:			
1 L. Baker		11.10.11 17:50		1 Rite Service Center		2				2 Jacob Portin		11/11/11		12:20			
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:			
3				3		4				4							
Relinquished by:		Date Time:		Received By:		Custody Seal #		<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable		<input checked="" type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp.		3.0			
5				5		HOLD											

D29403: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D29403

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 11/11/2011 12:20:00 P

No. Coolers: 1

Client Service Action Required at Login: No

Project: XOM

Airbill #'s: CO

Cooler Security
Y or N
Y or N

- | | |
|--|--|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|--------------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | Infrared gun |
| 2. Cooler temp verification: | Ice (bag) |
| 3. Cooler media: | |

Quality Control Preservation
Y or N
N/A

- | | |
|---|--|
| 1. Trip Blank present / cooler: <input type="checkbox"/> <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: <input type="checkbox"/> <input type="checkbox"/> | |
| 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | |
|---|--|
| 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Condition of sample: Intact | |

Sample Integrity - Instructions
Y or N N/A

- | | |
|--|--|
| 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 3. Sufficient volume rec'd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Comments

 Accutest Laboratories
 V: (303) 425-6021

 4036 Youngfield Street
 F: (303) 425-6854

 Wheat Ridge, CO
 www.accutest.com

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V839-MB	3V14548A.D 1		11/11/11	DC	n/a	n/a	V3V839

The QC reported here applies to the following samples:

Method: SW846 8260B

D29403-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	22	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	100	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	106% 61-130%
460-00-4	4-Bromofluorobenzene	100% 53-131%
17060-07-0	1,2-Dichloroethane-D4	103% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D29403

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V839-BS	3V14551A.D 1		11/11/11	DC	n/a	n/a	V3V839

The QC reported here applies to the following samples:

Method: SW846 8260B

D29403-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	54.9	110	70-130
100-41-4	Ethylbenzene	50	54.9	110	70-130
108-88-3	Toluene	50	52.5	105	70-130
1330-20-7	Xylene (total)	150	168	112	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	102%	61-130%
460-00-4	4-Bromofluorobenzene	106%	53-131%
17060-07-0	1,2-Dichloroethane-D4	107%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D29403

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29198-4MS	3V14556.D	1	11/11/11	DC	n/a	n/a	V3V839
D29198-4MSD	3V14557.D	1	11/11/11	DC	n/a	n/a	V3V839
D29198-4	3V14555.D	1	11/11/11	DC	n/a	n/a	V3V839

The QC reported here applies to the following samples:

Method: SW846 8260B

D29403-1

CAS No.	Compound	D29198-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3100	3320	107	3490	113	5	70-134/30
100-41-4	Ethylbenzene	ND		3100	3230	104	3450	111	7	70-137/30
108-88-3	Toluene	ND		3100	3150	102	3350	108	6	70-130/30
1330-20-7	Xylene (total)	ND		9290	9950	107	10700	115	7	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D29198-4	Limits
2037-26-5	Toluene-D8	104%	103%	103%	61-130%
460-00-4	4-Bromofluorobenzene	110%	114%	103%	53-131%
17060-07-0	1,2-Dichloroethane-D4	100%	104%	107%	62-130%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4843-MB	3G06899.D	1	11/15/11	TMB	11/14/11	OP4843	E3G255

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D29403-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	5.3	ug/kg	
120-12-7	Anthracene	ND	6.7	6.0	ug/kg	
56-55-3	Benzo(a)anthracene	ND	17	8.7	ug/kg	
50-32-8	Benzo(a)pyrene	ND	17	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	17	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	17	7.3	ug/kg	
218-01-9	Chrysene	ND	17	7.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	17	12	ug/kg	
206-44-0	Fluoranthene	ND	6.7	6.7	ug/kg	
86-73-7	Fluorene	ND	6.7	5.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	18	ug/kg	
91-20-3	Naphthalene	ND	6.7	6.3	ug/kg	
129-00-0	Pyrene	ND	6.7	6.3	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	118% 10-145%
321-60-8	2-Fluorobiphenyl	84% 10-130%
1718-51-0	Terphenyl-d14	99% 22-130%

Blank Spike Summary

Page 1 of 1

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4843-BS	3G06900.D	1	11/15/11	TMB	11/14/11	OP4843	E3G255

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D29403-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	67.1	81	34-130
120-12-7	Anthracene	83.3	79.1	95	35-130
56-55-3	Benzo(a)anthracene	83.3	97.8	117	36-130
50-32-8	Benzo(a)pyrene	83.3	100	120	36-130
205-99-2	Benzo(b)fluoranthene	83.3	109	131* a	35-130
207-08-9	Benzo(k)fluoranthene	83.3	70.5	85	37-130
218-01-9	Chrysene	83.3	68.8	83	40-130
53-70-3	Dibenzo(a,h)anthracene	83.3	94.6	114	32-130
206-44-0	Fluoranthene	83.3	82.8	99	38-130
86-73-7	Fluorene	83.3	81.4	98	35-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	142	170* a	28-130
91-20-3	Naphthalene	83.3	70.1	84	35-130
129-00-0	Pyrene	83.3	74.5	89	37-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	120%	10-145%
321-60-8	2-Fluorobiphenyl	79%	10-130%
1718-51-0	Terphenyl-d14	97%	22-130%

(a) Compound ND in associated samples.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4843-MS ^a	3G06905.D	5	11/15/11	TMB	11/14/11	OP4843	E3G255
OP4843-MSD ^a	3G06906.D	5	11/15/11	TMB	11/14/11	OP4843	E3G255
D29397-1 ^a	3G06904.D	5	11/15/11	TMB	11/14/11	OP4843	E3G255
D29397-1 ^b	3G06929.D	10	11/16/11	TMB	11/14/11	OP4843	E3G256

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D29403-1

CAS No.	Compound	D29397-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		93.6	265	283* ^c	279	298* ^c	5	10-155/30
120-12-7	Anthracene	ND		93.6	74.3	79	71.8	77	3	10-155/30
56-55-3	Benzo(a)anthracene	ND		93.6	104	111	109	116	5	10-175/30
50-32-8	Benzo(a)pyrene	ND		93.6	121	129	123	131	2	10-164/30
205-99-2	Benzo(b)fluoranthene	ND		93.6	161	172* ^c	164	175* ^c	2	10-165/30
207-08-9	Benzo(k)fluoranthene	ND		93.6	84.5	90	76.8	82	10	10-178/30
218-01-9	Chrysene	70.3	J	93.6	162	98	183	120	12	10-147/30
53-70-3	Dibenzo(a,h)anthracene	ND		93.6	112	120	121	129	8	10-144/30
206-44-0	Fluoranthene	ND		93.6	75.1	80	72.7	78	3	10-207/30
86-73-7	Fluorene	271		93.6	390	127	417	156	7	10-163/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		93.6	224	239* ^c	230	245* ^c	3	10-180/30
91-20-3	Naphthalene	ND		93.6	87.8	94	91.3	97	4	10-198/30
129-00-0	Pyrene	46.3		93.6	116	74	114	72	2	10-189/30

CAS No.	Surrogate Recoveries	MS	MSD	D29397-1	D29397-1	Limits
4165-60-0	Nitrobenzene-d5	177%* ^e	198%* ^e	163%* ^d	93%	10-145%
321-60-8	2-Fluorobiphenyl	76%	76%	92%	97%	10-130%
1718-51-0	Terphenyl-d14	66%	73%	69%	76%	22-130%

(a) ISTD outside control limits due to possible matrix interference. Confirmed by reanalysis.

(b) Confirmation run.

(c) Outside control limits due to matrix interference. Refer to Blank Spike.

(d) Outside control limits due to matrix interference. Confirmed by MS/MSD.

(e) Outside control limits due to possible matrix interference.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D29403

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB787-MB	GB13840.D	1	11/11/11	SK	n/a	n/a	GGB787

The QC reported here applies to the following samples:

Method: SW846 8015B

D29403-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	93% 60-140%

Blank Spike Summary

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB787-BS	GB13841.D	1	11/11/11	SK	n/a	n/a	GGB787

The QC reported here applies to the following samples: Method: SW846 8015B

D29403-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	114	104	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	106%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29362-1MS	GB13843.D	1	11/11/11	SK	n/a	n/a	GGB787
D29362-1MSD	GB13844.D	1	11/11/11	SK	n/a	n/a	GGB787
D29362-1	GB13842.D	1	11/11/11	SK	n/a	n/a	GGB787

The QC reported here applies to the following samples: Method: SW846 8015B

D29403-1

CAS No.	Compound	D29362-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		135	125	93	134	99	7	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D29362-1	Limits
120-82-1	1,2,4-Trichlorobenzene	92%	93%	92%	60-140%

7.3.1
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GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D29403

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4840-MB	FI04460.D	1	11/14/11	CS	11/14/11	OP4840	GFI327

The QC reported here applies to the following samples:

Method: SW846-8015B

D29403-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	119% 61-142%

8.1.1

8

Blank Spike Summary

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4840-BS	FI04461.D	1	11/14/11	CS	11/14/11	OP4840	GFI327

The QC reported here applies to the following samples: Method: SW846-8015B

D29403-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	593	89	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	121%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29403
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-20A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4840-MS	FI04462.D	1	11/14/11	CS	11/14/11	OP4840	GFI327
OP4840-MSD	FI04463.D	1	11/14/11	CS	11/14/11	OP4840	GFI327
D29416-2	FI04464.D	1	11/14/11	CS	11/14/11	OP4840	GFI327

The QC reported here applies to the following samples: Method: SW846-8015B

D29403-1

CAS No.	Compound	D29416-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		688	539	78	473	69	13	24-157/35

CAS No.	Surrogate Recoveries	MS	MSD	D29416-2	Limits
84-15-1	o-Terphenyl	109%	99%	116%	61-142%

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: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/14/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.59	.59		
Antimony	3.0	.31	.31		
Arsenic	2.5	.59	.59		
Barium	1.0	.11	.11	1.2	* (a)
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	0.020	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.10	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	0.14	<1.0
Iron	7.0	.34	2		
Lead	5.0	.16	.21	-0.080	<5.0
Lithium	0.20	.028	.031		
Magnesium	20	.58	1.4		
Manganese	0.50	.0053	.012		
Molybdenum	1.0	.045	.054		
Nickel	3.0	.043	.099	0.10	<3.0
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	-0.47	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	0.010	<3.0
Sodium	40	11	11		
Strontium	5.0		.017		
Thallium	1.0	.29	.34		
Tin	5.0	.55	1.3		
Titanium	1.0	.011	.1		
Uranium	5.0	.15	.2		
Vanadium	1.0	.016	.025		
Zinc	3.0	.028	.06	0.57	<3.0

Associated samples MP6253: D29403-1

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested
(a) All sample results >10x method blank concentration.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/14/11

Metal	D29399-1 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum	anr				
Antimony					
Arsenic	anr				
Barium	1880	2190	266	116.7	75-125
Beryllium					
Boron					
Cadmium	2.0	61.5	66.4	89.6	75-125
Calcium					
Chromium	18.0	73.6	66.4	83.7	75-125
Cobalt					
Copper	29.6	95.1	66.4	98.6	75-125
Iron	anr				
Lead	19.8	134	133	86.0	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	18.6	72.2	66.4	80.7	75-125
Phosphorus					
Potassium	anr				
Selenium	8.8	131	133	92.0	75-125
Silicon					
Silver	0.026	25.5	26.6	95.9	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	56.5	114	66.4	86.6	75-125

Associated samples MP6253: D29403-1

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/14/11

Metal	D29399-1 Original MSD		Spikelot MPICPAL % Rec	MSD RPD	QC Limit
Aluminum	anr				
Antimony					
Arsenic	anr				
Barium	1880	2070	271	70.0 (a)	5.6 20
Beryllium					
Boron					
Cadmium	2.0	58.7	67.8	83.6	4.7 20
Calcium					
Chromium	18.0	69.6	67.8	76.1	5.6 20
Cobalt					
Copper	29.6	85.8	67.8	82.9	10.3 20
Iron	anr				
Lead	19.8	127	136	79.0	5.4 20
Lithium					
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	18.6	67.7	67.8	72.4N(b)	6.4 20
Phosphorus					
Potassium	anr				
Selenium	8.8	125	136	85.7	4.7 20
Silicon					
Silver	0.026	24.3	27.1	89.5	4.8 20
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	56.5	107	67.8	74.5N(b)	6.3 20

Associated samples MP6253: D29403-1

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
 Account: KRWCCOL - KRW Consulting, Inc.
 Project: XOM FRU 297-20A

QC Batch ID: MP6253
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 11/14/11

Metal	BSP Result	Spikelot MPICPAL	% Rec	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium	181	200	90.5	80-120
Beryllium				
Boron				
Cadmium	44.9	50	89.8	80-120
Calcium				
Chromium	45.8	50	91.6	80-120
Cobalt				
Copper	45.2	50	90.4	80-120
Iron	anr			
Lead	92.3	100	92.3	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	44.3	50	88.6	80-120
Phosphorus				
Potassium	anr			
Selenium	90.0	100	90.0	80-120
Silicon				
Silver	18.9	20	94.5	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	45.5	50	91.0	80-120

Associated samples MP6253: D29403-1

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29403
 Account: KRWCCOL - KRW Consulting, Inc.
 Project: XOM FRU 297-20A

QC Batch ID: MP6253
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/14/11

Metal	D29399-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium	14600	16100	10.4*(a)	0-10
Beryllium				
Boron				
Cadmium	15.4	15.0	2.0	0-10
Calcium				
Chromium	139	152	8.7	0-10
Cobalt				
Copper	222	227	1.0	0-10
Iron	anr			
Lead	153	156	1.6	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	145	164	13.1*(a)	0-10
Phosphorus				
Potassium	anr			
Selenium	61.7	117	70.1 (b)	0-10
Silicon				
Silver	0.600	2.00	900.0(b)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	445	529	20.6*(a)	0-10

Associated samples MP6253: D29403-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6253
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

9.1.4

9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6254
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/14/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.19	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP6254: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6254
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/14/11

Metal	D29399-1 Original MS		Spikelot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	14.8	160	133	109.3	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6254: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6254
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/14/11

Metal	D29399-1 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	14.8	143	136	94.5	11.2	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6254: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6254
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/14/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	102	100	102.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6254: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6254
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 11/14/11

Metal	D29399-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	115	121	5.6	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6254: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6259
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/14/11

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.0011	.013	0.0015	<0.10

Associated samples MP6259: D29403-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
 Account: KRWCCOL - KRW Consulting, Inc.
 Project: XOM FRU 297-20A

QC Batch ID: MP6259
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 11/14/11

Metal	D29400-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
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Mercury	0.037	0.68	0.614	104.8	85-115
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Associated samples MP6259: D29403-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
 Account: KRWCCOL - KRW Consulting, Inc.
 Project: XOM FRU 297-20A

QC Batch ID: MP6259
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 11/14/11

Metal	D29400-1 Original MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.037	0.64	0.567	106.3	6.1

Associated samples MP6259: D29403-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
 Account: KRWCCOL - KRW Consulting, Inc.
 Project: XOM FRU 297-20A

QC Batch ID: MP6259
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 11/14/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.36	0.4	90.0	80-120

Associated samples MP6259: D29403-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 11/15/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	-34	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	21.5	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	-88	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP6269: D29403-1A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 11/15/11

Metal	D29403-1A Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	6380	144000	125000	110.1	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	157	130000	125000	103.9	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	1290000	1390000	125000	80.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6269: D29403-1A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 11/15/11

Metal	D29403-1A Original MSD		Spikelot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	6380	145000	125000	110.9	0.7	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	157	130000	125000	103.9	0.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	1290000	1380000	125000	72.0 (a)	0.7	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6269: D29403-1A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 11/15/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	137000	125000	109.6	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	131000	125000	104.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	129000	125000	103.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6269: D29403-1A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

QC Batch ID: MP6269
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP5944/GN12506			umhos/cm	10008	9980	99.7	90-110%
pH	GN12482			su	8.00	8.00	100.0	99.3-100.7%

Associated Samples:
Batch GN12482: D29403-1
Batch GP5944: D29403-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29403
Account: KRWCCOL - KRW Consulting, Inc.
Project: XOM FRU 297-20A

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
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Associated Samples:
Batch GN12483: D29403-1
(*) Outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D29403

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 11/12/2011

Delivery Method:

Client Service Action Required at Login: No

Project:

No. Coolers: 1

Airbill #'s:

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

General Chemistry

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29403
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-20A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP13807/GN36907	0.40	0.32	mg/kg	40	42.7	106.8	80-120%
Chromium, Hexavalent	GP13807/GN36907			mg/kg	895	1040	116.2	80-120%

Associated Samples:
Batch GP13807: D29403-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29403
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-20A

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP13807/GN36907	D29398-1	mg/kg	0.45	0.45	0.0	0-20%

Associated Samples:
Batch GP13807: D29403-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D29403
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: XOM FRU 297-20A

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP13807/GN36907	D29398-1	mg/kg	0.45	46.2	50.5	108.3	75-125%
Chromium, Hexavalent	GP13807/GN36907	D29398-1	mg/kg	0.45	1420	1510	106.7	75-125%

Associated Samples:
Batch GP13807: D29403-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits