August 16, 2011

ExxonMobil Production Company
Corp-MI-3011
PO Box 4358
Houston, TX 77210-4358

Attention: J.D. McElhaney

Subject: **Final Fresh Water Pit Spill Remediation Report**
COGCC Tracking Number: 2522346
PCU 297-2A
Release Date: October 20, 2010
Section 2, Township 2, Range 97 West
Piceance Creek Development Project; Rio Blanco County, Colorado
KRW Project No. 1010-07

Dear Mr. McElhaney:

As requested we have completed the environmental sampling and remediation activities at the subject site. The following report documents these activities.

Background

A surface spill occurred from the fresh water pit at the subject location on October 20, 2010. Refer to Figure 1 for the site location. Per ExxonMobil records approximately 12 barrels of condensate were released and 10 barrels were recovered. Based on the terrain of the site and observations of stained soils, the release appeared to be limited to two areas immediately adjacent to the fresh water pit and was contained on the well pad. Refer to Figure 2 for the approximate release areas. Initial remediation was conducted during the spill response and consisted of fluid and stained soil removal with a vacuum truck.

Environmental Assessment

Soil samples were collected on October 27, 2010 from within the impacted areas and from immediately outside the areas to evaluate the lateral extent of impacted soil. Composite samples from within the release area were collected to assess the level of impact relative to COGCC Table 910-1. Samples immediately outside of the release areas were collected to help establish the lateral extent of the release. Composite samples from within the impacted areas were analyzed for the full Table 910-1 constituents. The samples from outside the release area were analyzed for TPH (Gas Range Organics plus Diesel Range Organics), EC, SAR and pH.

In addition, background samples were collected on January 6 and 7, 2011 from non-impacted areas adjacent to the site. The background samples were analyzed for EC, SAR, pH and Arsenic. Background sampling indicates that maximum allowable levels of pH and arsenic can be increased above standard COGCC Table 910-1 allowable levels to 10.44 and 6.49 mg/kg for pH and Arsenic. *(COGCC allows the determination of background concentrations based on a 10 percent variability factor, where the maximum allowable level is computed by multiplying the highest detected background value by 1.1 (e.g., 6.2 x 1.1 = 6.8)).*

The vertical extent of impact was assessed by drilling two borings, one in each of the release areas, on January 6, 2011. The borings were advanced and sampled using continuous barrel sampler with a 6-inch diameter hollow stem auger mounted on a CME75 drill rig. Locations of borings were limited by extensive underground utilities and surface structures in the release area. Locations of borings and surface samples are shown on Figure 2. Logs of the borings are attached.

Initial Findings and Remediation

The initial sample results from sampling of surficial soils in the release area (composite and discrete lateral samples collected in October 2010) indicated elevated levels of TPH (5,990 ppm in the south area and 21,423 ppm in the north area), EC (4.38 mmhos/cm in the north area); SAR (16.9 in the north area), and Arsenic (7.3 to 9.3 mg/kg) above Table 910-1 clean-up criteria. Vertical assessment (completed January 2011) indicated that TPH was not elevated above COGCC Table 910-1 criteria below the surface impact. Refer to Table 1 for a summary of the laboratory findings and to Appendix A for a complete copy of the laboratory reports. Initial and vertical sampling results indicated that TPH was the primary constituent of concern within the release area and that impact did not extend below a depth of one foot. Background sampling indicated that pH levels were below background concentrations; however, the Arsenic and SAR levels in surficial soils within the release area were above background concentrations.

Removal of the TPH, Arsenic and SAR impacted surficial soils from the pad at the north and south impacted areas to depths of approximately 6 inches to one foot below ground surface was completed. Impacted soils were removed with a hydrovac truck due to the presence of multiple utilities including natural gas flow lines directly below the impacted area. Approximately 50 cubic yards of soil were removed utilizing hydrovac trucks over a three day period (5/12, 5/13 and 5/16/2011). Composite samples of the exposed soils were collected from the north and south areas following hydrovac soil removal activities (May 2011). Laboratory results indicated TPH levels had been reduced to 2,151 ppm in the north area and 1,089 ppm in the south area. Arsenic results were still elevated above allowable levels; 7.3 mg/Kg in the north area and 10.8 mg/Kg in the south area.

Additional remediation following soil removal activities was completed by mixing/blending approximately 50 cubic yards of clean imported material from a local sand and gravel pit (Connell Pit in Meeker, CO) with the impacted soils within the release areas on 6/15 and 6/16/2011. The bottom 4 to 6 inches of remnant soils within the remedial excavation areas were mix/blended with the clean soils at

ratios of approximately 1 to 1 in the south area and 4 to 1 in the north area. Mix/blending was completed manually, with shovels and pick-axes, to minimize risk around utilities. Composite confirmation samples were subsequently collected from the mixed/blended soils and analyzed for TPH and Arsenic (June/July 2011).

Post Remediation Sampling Results and Conclusions

The composite confirmation soil samples collected (June/July 2011) from within the two former impacted areas indicate that TPH levels following remedial activities are below Table 910-1 clean-up criteria. Specifically, TPH levels were reduced to 330 mg/Kg in the north area and 36.3 mg/Kg in the south area. Arsenic levels were reduced to 3.6 mg/Kg in the north and 2.8 mg/Kg in the south areas, both of which are below background concentration.

Based on post remediation findings, no additional remediation regarding the fresh water pit spill at the subject site is recommended.

Respectfully Submitted,

Craig Burger, P.E.
Project Engineer

Joe Hess, P.E.
PCU Project Manager

Attachments
Figure 1 – Site Location Map
Figure 2 – Sample Locations Map
Table 1 – Summary of Laboratory Findings
Laboratory Reports: Initial Sampling Labs 11-12-10; PCU 297-2A Background Lab Data 1-7-11; PCU 297-2A Core Lab Report 1-6-11; PCU 297-2A Confirmation Lab Data 5-17-11; PCU 297-2A Post Mix-Blend Lab Data 6-16-11.
Drill Logs – Boring No. 1 and Boring No. 2

CC: Jim Peterson – ExxonMobil
Nedra Kelly – ExxonMobil

APPENDIX A
LABORATORY REPORTS

Mountain States ACCUTEST LABORATORIES

06/22/11

Technical Report for

KRW Consulting, Inc.

PCU 297-2A

1010-07

Accutest Job Number: D24585

Sampling Date: 06/16/11

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue Suite 200
Lakewood, CO 80214
bberger@krwconsulting.com; gknell@krwconsulting.com;
dknudson@krwconsulting.com; jhess@krwconsulting.com;
ATTN: Joe Hess

Total number of pages in report: **46**

ACCREDITED IN ACCORDANCE WITH nelac

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.

John Hamilton
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.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

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Accutest Laboratories

Sample Summary

KRW Consulting, Inc.

Job No: D24585

PCU 297-2A
Project No: 1010-07

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D24585-1	06/16/11	15:40	CB	06/18/11	SO	Soil	NORTH AREA
D24585-2	06/16/11	15:50	CB	06/18/11	SO	Soil	SOUTH AREA

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	KRW Consulting, Inc.	**Job No**	D24585
Site:	PCU 297-2A	**Report Date**	6/22/2011 1:12:38 PM

On 06/18/2011, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D24585 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 8015B

Matrix SO **Batch ID:** GGA669

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D24557-1MS, D24557-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP3900

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D24585-1MS, D24585-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN10119

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

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.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	NORTH AREA		
Lab Sample ID:	D24585-1	**Date Sampled:**	06/16/11
Matrix:	SO - Soil	**Date Received:**	06/18/11
Method:	SW846 8015B	**Percent Solids:**	93.7
Project:	PCU 297-2A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA12338.D	1	06/19/11	BR	n/a	n/a	GGA669
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	87%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	NORTH AREA		
Lab Sample ID:	D24585-1	**Date Sampled:**	06/16/11
Matrix:	SO - Soil	**Date Received:**	06/18/11
Method:	SW846-8015B SW846 3546	**Percent Solids:**	93.7
Project:	PCU 297-2A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD07245.D	1	06/21/11	JB	06/19/11	OP3900	GFD315
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)	330	14	9.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	SOUTH AREA		
Lab Sample ID:	D24585-2	**Date Sampled:**	06/16/11
Matrix:	SO - Soil	**Date Received:**	06/18/11
Method:	SW846 8015B	**Percent Solids:**	91.4
Project:	PCU 297-2A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA12339.D	1	06/19/11	BR	n/a	n/a	GGA669
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)	ND	12	5.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	88%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	SOUTH AREA		
Lab Sample ID:	D24585-2	**Date Sampled:**	06/16/11
Matrix:	SO - Soil	**Date Received:**	06/18/11
Method:	SW846-8015B SW846 3546	**Percent Solids:**	91.4
Project:	PCU 297-2A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD07246.D	1	06/21/11	JB	06/19/11	OP3900	GFD315
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)	36.3	15	9.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		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

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

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 #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: D24585

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 W 14th Ave Ste 200
City: Lakewood State: CO Zip: 80214
Project Contact: Joe Hess E-mail:
Phone #: 970 675 4040 Fax #:
Sampler(s) Name(s): Craig Burger Phone #: 970 756 2943

Project Information

Project Name: PCU 297-2A
Street:
City:
Project#: 1010-07
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): TPH (GRO/DRO)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	TPH (GRO/DRO)	LAB USE ONLY
	North Area		6-16-11	15:40	CAB	SO	2					2					X	01
	South Area		6-16-11	15:50	CAB	SO	2					2					X	02

Turnaround Time (Business days)
- ☐ Std. 10 Business Days
- ☐ Std. 5 Business Days (By Contract only)
- ☐ 5 Day RUSH
- ☒ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ Commercial "B" +Narrative
- ☐ FULLT1 (Level 3+4)
- ☐ State Forms
- ☐ EDD Format
- ☒ PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions: Please email results to KRW

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:
1 [illegible]	6/17/2011 1600	1 [illegible]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # FedEx ☑ Intact ☐ Not Intact	Preserved where applicable ☐ NA	On Ice ☑ Cooler Temp. 4.0

4.1
4

D24585: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D24585 **Client:** KRW **Immediate Client Services Action Required:** No

Date / Time Received: 6/18/2011 11:45:00 AM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: PCU 297-2A **Airbill #'s:** FEDEX

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021
4036 Youngfield Street
F: (303) 425-6854
Wheat Ridge, CO
www/accutest.com

D24585: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA669-MB	GA12329.D	1	06/19/11	BR	n/a	n/a	GGA669

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

D24585-1, D24585-2

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	85%	60-140%

Blank Spike Summary

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA669-BS	GA12330.D	1	06/19/11	BR	n/a	n/a	GGA669

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

D24585-1, D24585-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	96.1	87	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	95%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D24557-1MS	GA12333.D	1	06/19/11	BR	n/a	n/a	GGA669
D24557-1MSD	GA12334.D	1	06/19/11	BR	n/a	n/a	GGA669
D24557-1	GA12332.D	1	06/19/11	BR	n/a	n/a	GGA669

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

D24585-1, D24585-2

CAS No.	Compound	D24557-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		126	122	97	121	96	1	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D24557-1	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	97%	85%	60-140%

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson
06/21/11 09:03

Quantitation Report (QT Reviewed)

```
Signal #1 : Z:\061811\GA12338.D\FID1A.CH                Vial: 39
Signal #2 : Z:\061811\GA12338.D\FID2B.CH
Acq On    : 19 Jun 2011   9:28 am                   Operator: BrianR
Sample    : D24585-1, 50X                           Inst    : BTEX2
Misc      : GC1969,GGA669,5.018,,100,5,1            Multiplr: 1.00
IntFile Signal #1: TVH1.E       IntFile Signal #2: FB2.E
Quant Time: Jun 19 19:11:36 2011  Quant Results File: TA620GA620.RES

Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title        : 8015B/8021B  TVH/BTEX
Last Update  : Sun Jun 19 19:10:47 2011
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj.     :
Signal #1 Phase : DB-624            Signal #2 Phase: DB-624
Signal #1 Info  : 0.53 mm           Signal #2 Info : 0.53 mm
```

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3084239	86.677	%	m
10) S	1,2,4-Trichlorobenzene (P)	14.34	5213695	75.510	%	
	Target Compounds					
1) H	TVH-Gasoline	7.17	2722600	<MDL	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	7.62	31243	0.149	ug/L	
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	10.45	84010	0.389	ug/L	
9) T	o-Xylene	10.95	47799	0.262	ug/L	
11) T	Naphthalene	14.54	1059976	8.038	ug/L	

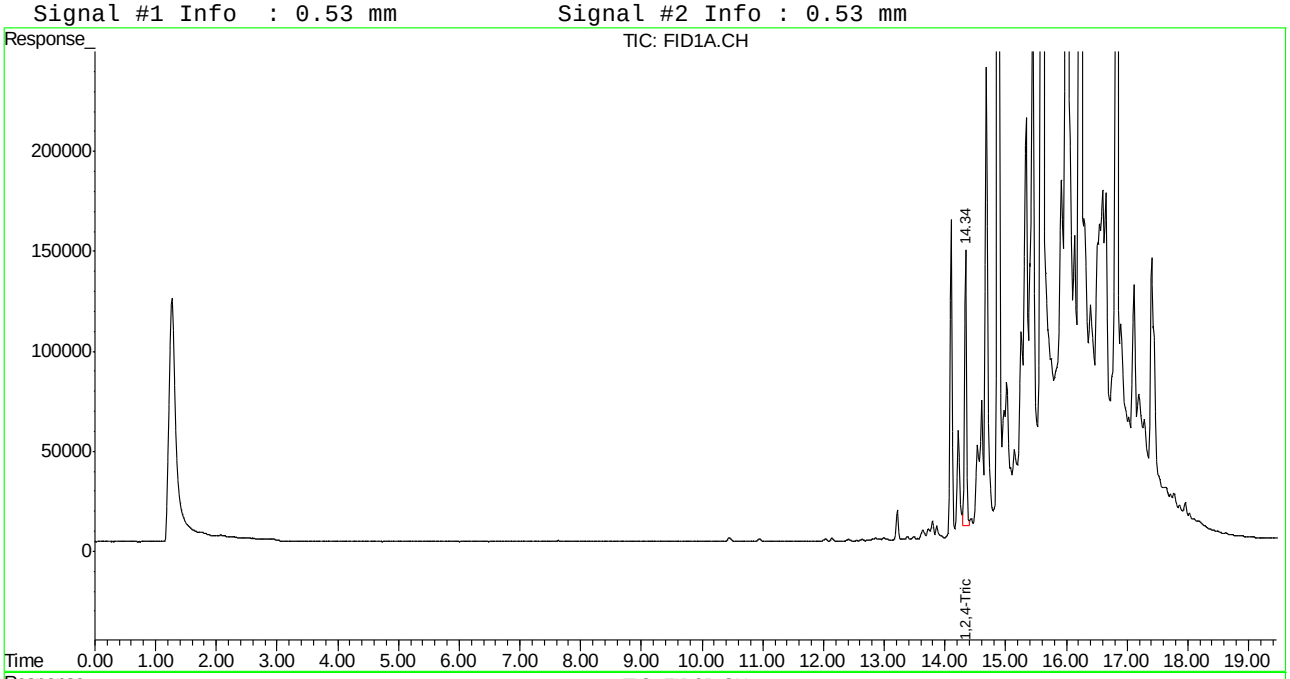
(f)=RT Delta > 1/2 Window (m)=manual int.

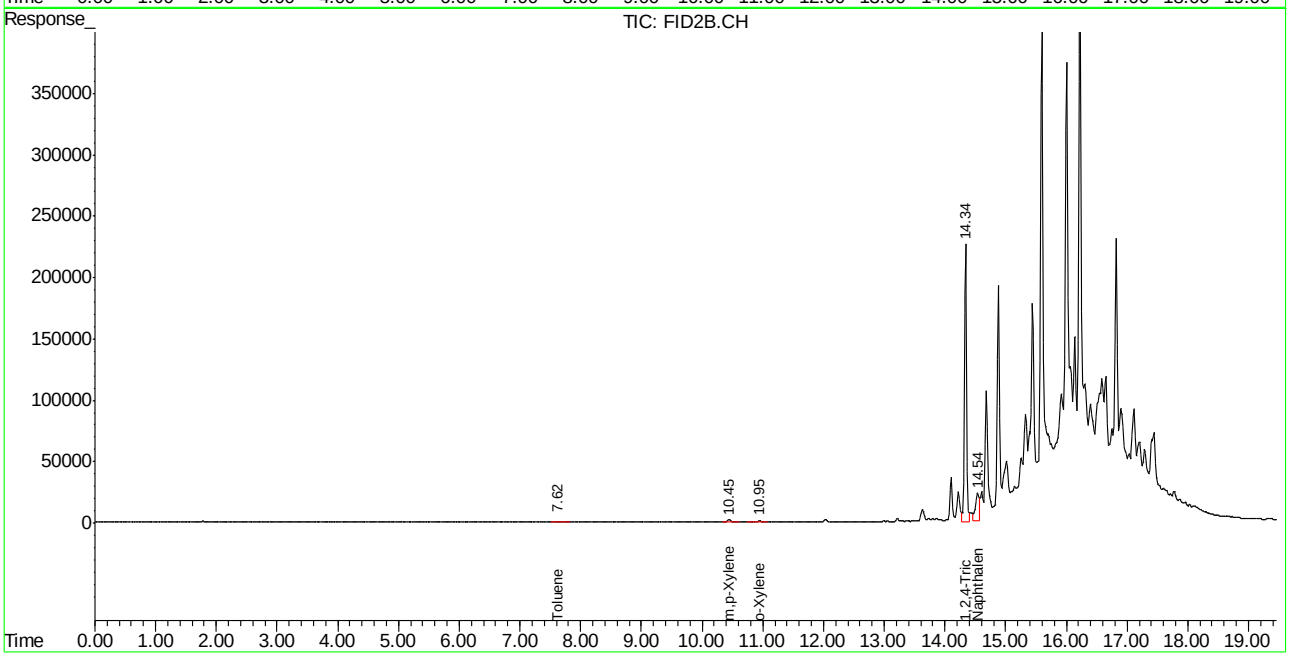
Quantitation Report (QT Reviewed)

Signal #1 : Z:\061811\GA12338.D\FID1A.CH Vial: 39
Signal #2 : Z:\061811\GA12338.D\FID2B.CH
Acq On : 19 Jun 2011 9:28 am Operator: BrianR
Sample : D24585-1, 50X Inst : BTEX2
Misc : GC1969,GGA669,5.018,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 17:33 2011 Quant Results File: TA620GA620.RES

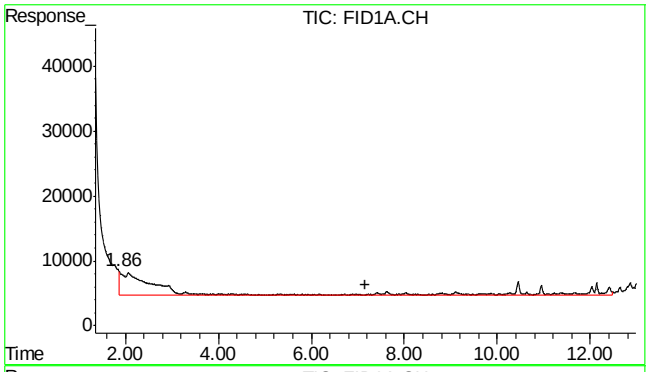
Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Sun Jun 19 19:10:47 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



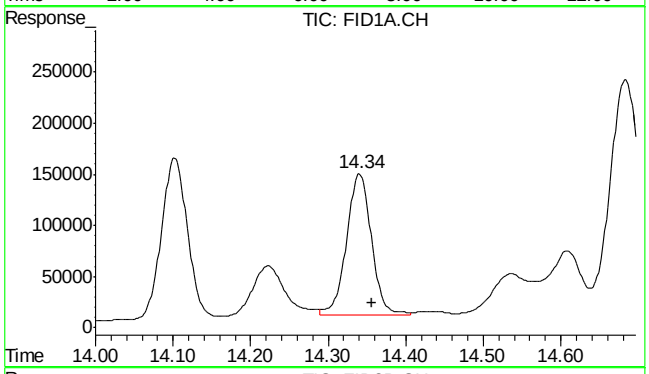


GA12338.D TA620GA620.M Sun Jun 19 19:40:12 2011 GC Page 2



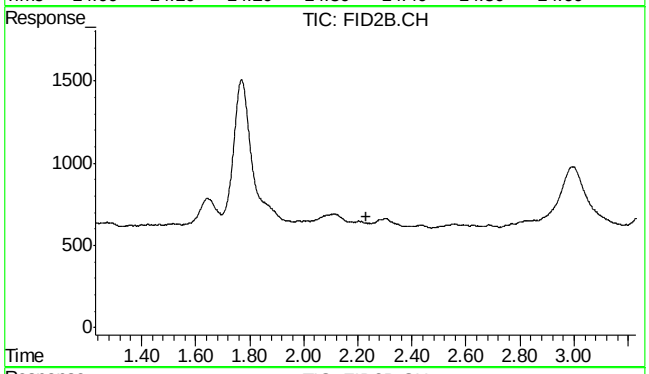
#1 TVH-Gasoline

R.T.: 7.170 min
Delta R.T.: 0.000 min
Response: 2722600
Conc: N.D.



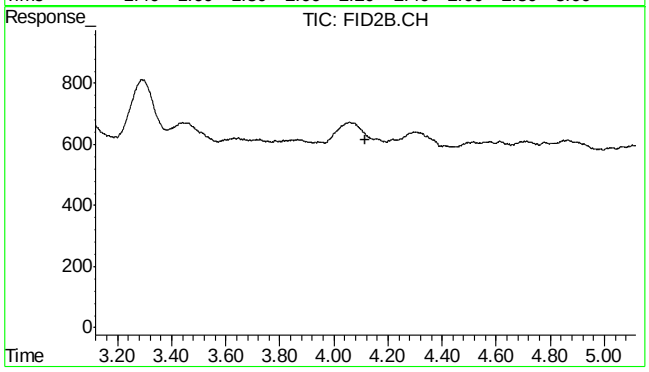
#2 1,2,4-Trichlorobenzene

R.T.: 14.340 min
Delta R.T.: -0.017 min
Response: 3084239
Conc: 86.68 % m



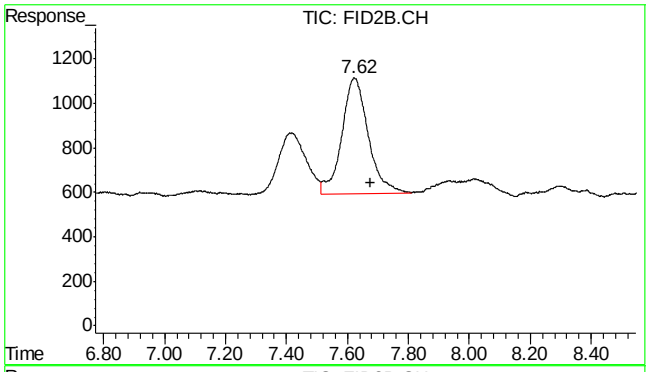
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.229 min
Response: 0
Conc: N.D.



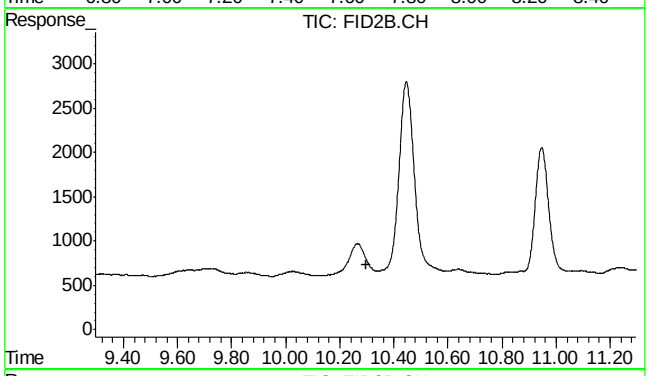
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.117 min
Response: 0
Conc: N.D.



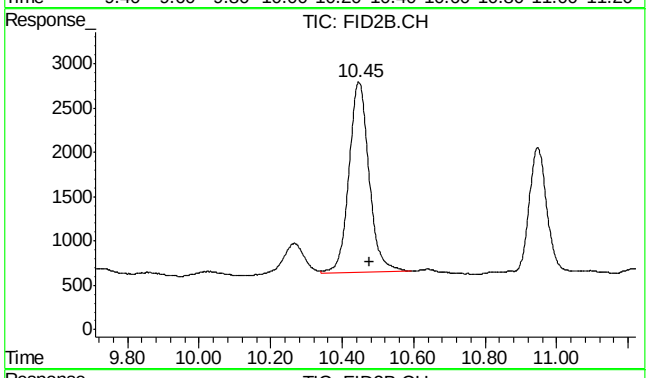
#6 Toluene

R.T.: 7.623 min
Delta R.T.: -0.055 min
Response: 31243
Conc: 0.15 ug/L



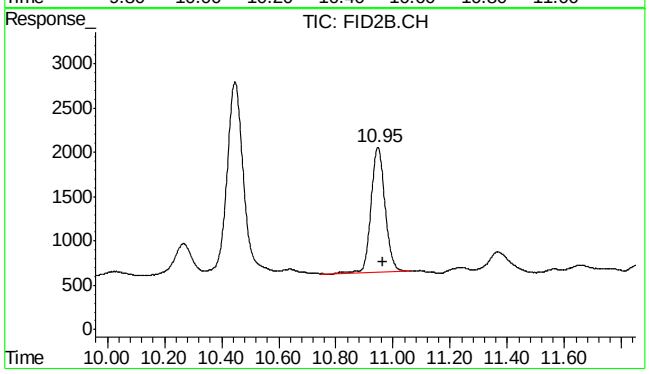
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.296 min
Response: 0
Conc: N.D.



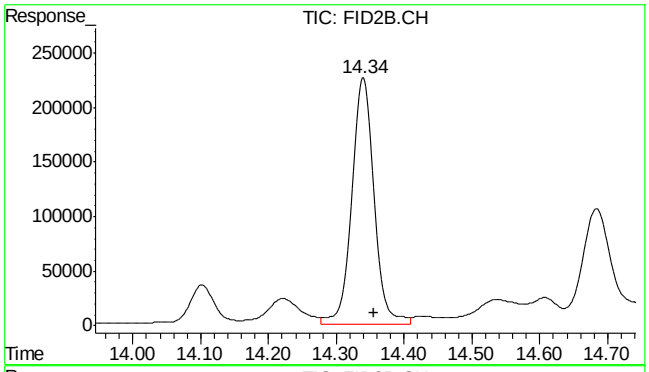
#8 m,p-Xylene

R.T.: 10.447 min
Delta R.T.: -0.029 min
Response: 84010
Conc: 0.39 ug/L



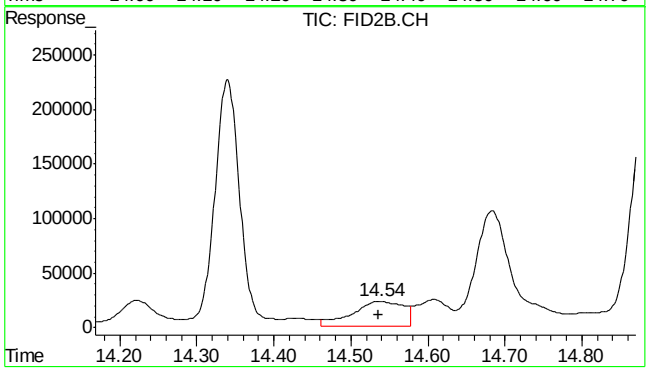
#9 o-Xylene

R.T.: 10.947 min
Delta R.T.: -0.019 min
Response: 47799
Conc: 0.26 ug/L



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.340 min
Delta R.T.: -0.016 min
Response: 5213695
Conc: 75.51 %



#11 Naphthalene

R.T.: 14.538 min
Delta R.T.: 0.002 min
Response: 1059976
Conc: 8.04 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Z:\061811\GA12339.D\FID1A.CH Vial: 40
Signal #2 : Z:\061811\GA12339.D\FID2B.CH
Acq On : 19 Jun 2011 10:05 am Operator: BrianR
Sample : D24585-2, 50X Inst : BTEX2
Misc : GC1969,GGA669,5.069,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 19:11:39 2011 Quant Results File: TA620GA620.RES

Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Sun Jun 19 19:10:47 2011
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3129263	87.942	%	
10) S	1,2,4-Trichlorobenzene (P)	14.34	5051605	71.954	%	
	Target Compounds					
1) H	TVH-Gasoline	7.17	2425216	<MDL	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	0.00	0	N.D.	ug/L	d
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	10.44	80732	0.374	ug/L	
9) T	o-Xylene	10.94	49220	0.270	ug/L	
11) T	Naphthalene	0.00	0	N.D.	ug/L	d

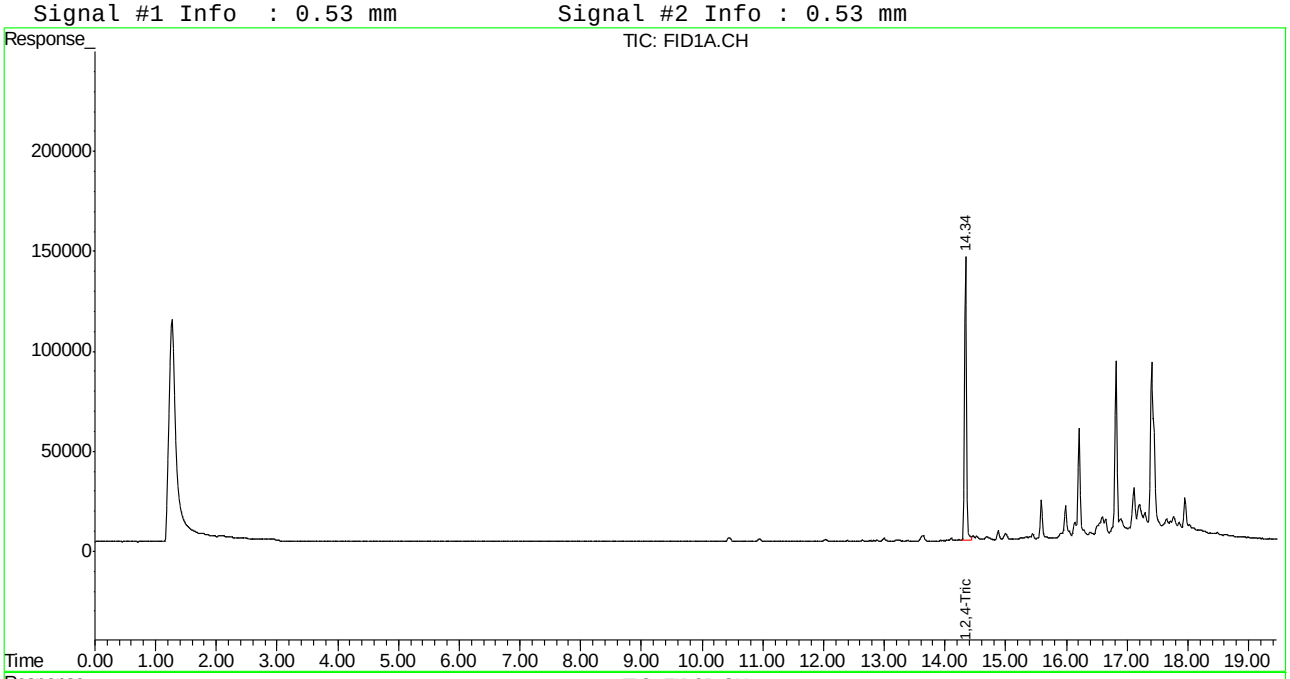
(f)=RT Delta > 1/2 Window (m)=manual int.
GA12339.D TA620GA620.M Sun Jun 19 19:40:15 2011 GC

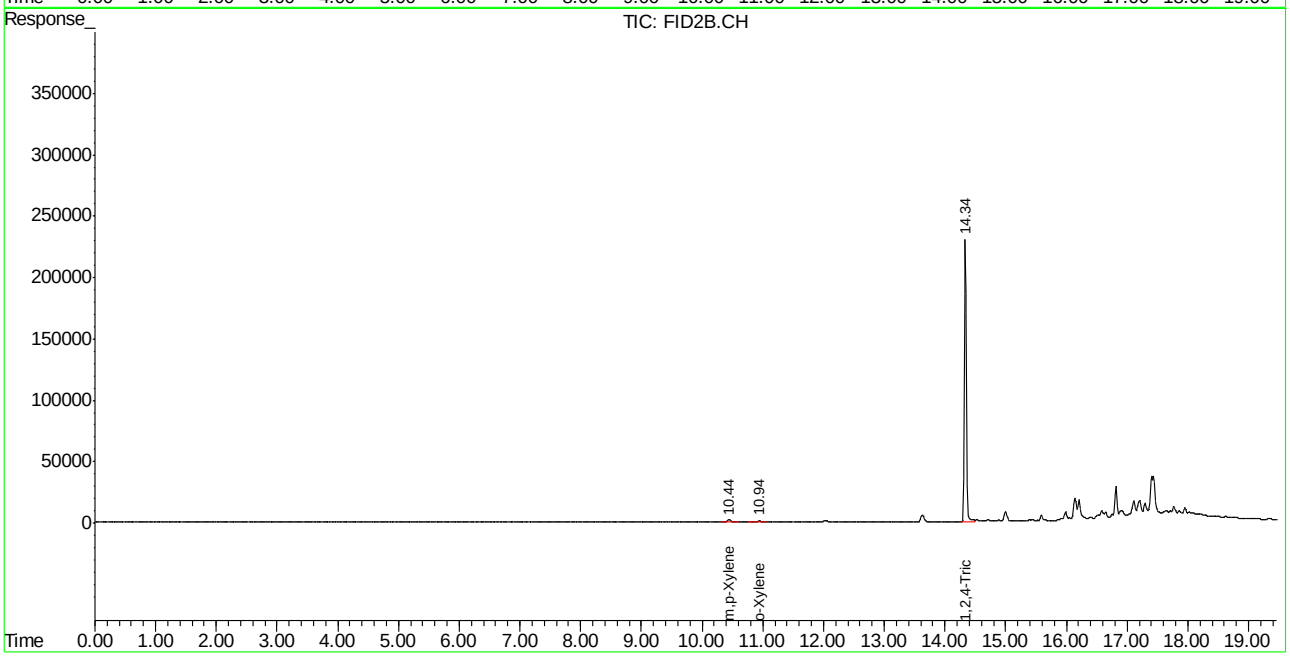
Quantitation Report (QT Reviewed)

Signal #1 : Z:\061811\GA12339.D\FID1A.CH Vial: 40
Signal #2 : Z:\061811\GA12339.D\FID2B.CH
Acq On : 19 Jun 2011 10:05 am Operator: BrianR
Sample : D24585-2, 50X Inst : BTEX2
Misc : GC1969,GGA669,5.069,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 17:33 2011 Quant Results File: TA620GA620.RES

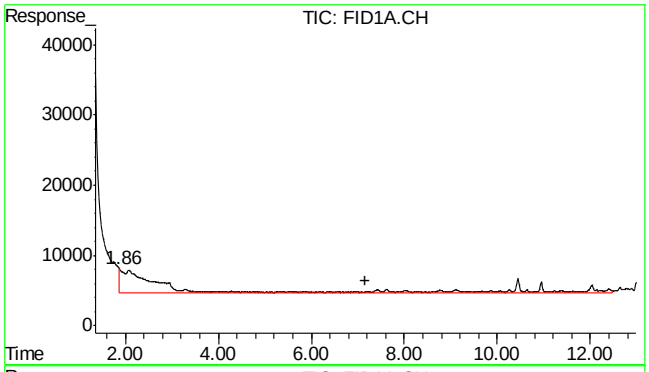
Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Sun Jun 19 19:10:47 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



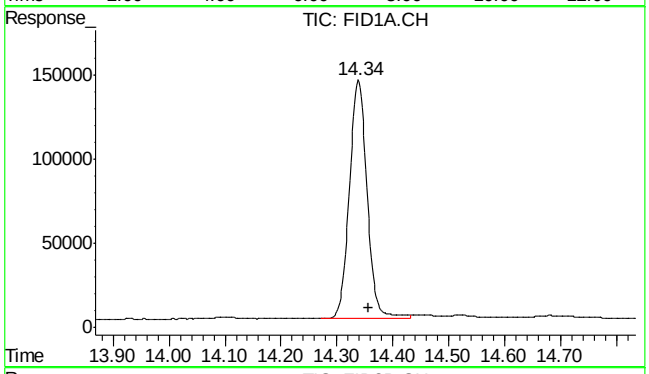


GA12339.D TA620GA620.M Sun Jun 19 19:40:15 2011 GC Page 2



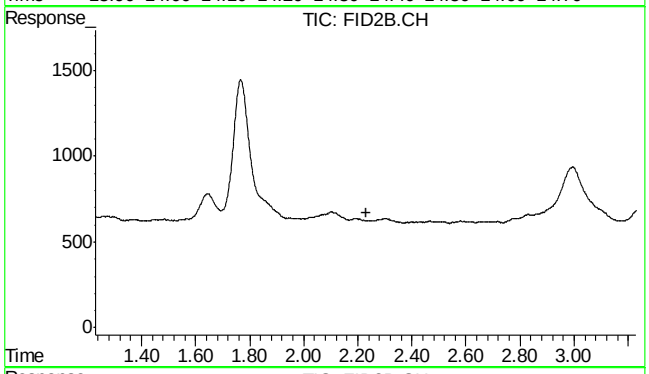
#1 TVH-Gasoline

R.T.: 7.170 min
Delta R.T.: 0.000 min
Response: 2425216
Conc: N.D.



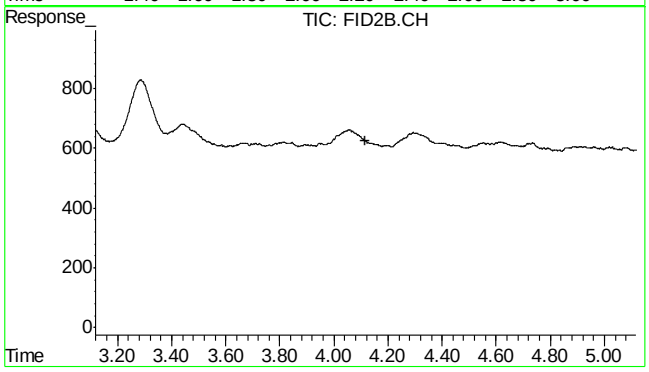
#2 1,2,4-Trichlorobenzene

R.T.: 14.339 min
Delta R.T.: -0.018 min
Response: 3129263
Conc: 87.94 %



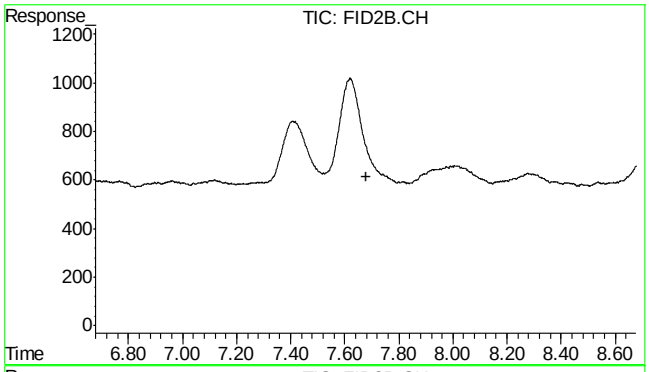
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.229 min
Response: 0
Conc: N.D.



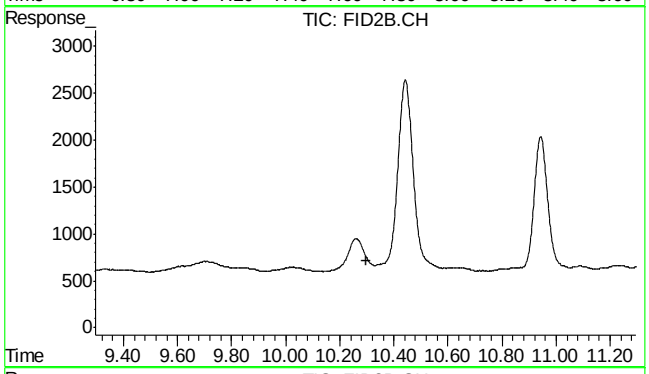
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.117 min
Response: 0
Conc: N.D.



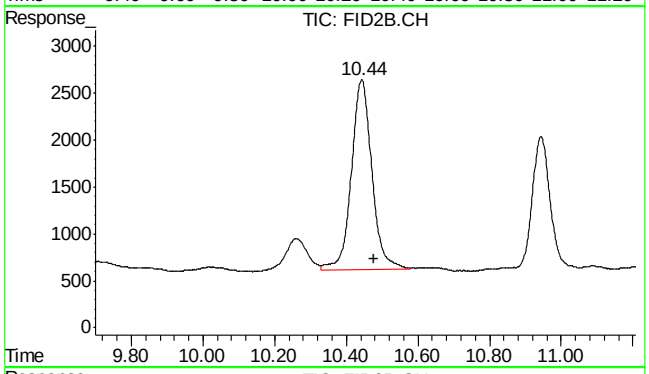
#6 Toluene

R.T.: 0.000 min
Exp R.T. : 7.678 min
Response: 0
Conc: N.D.



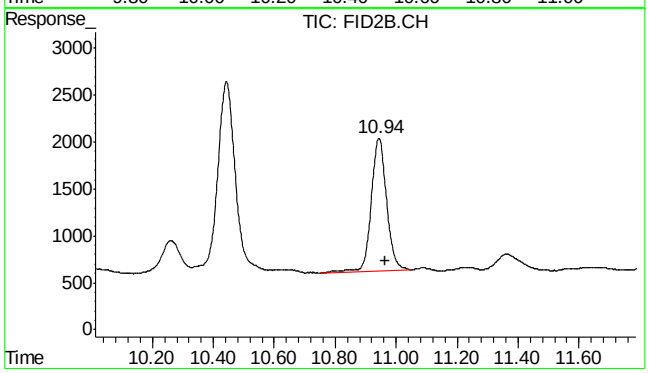
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.296 min
Response: 0
Conc: N.D.



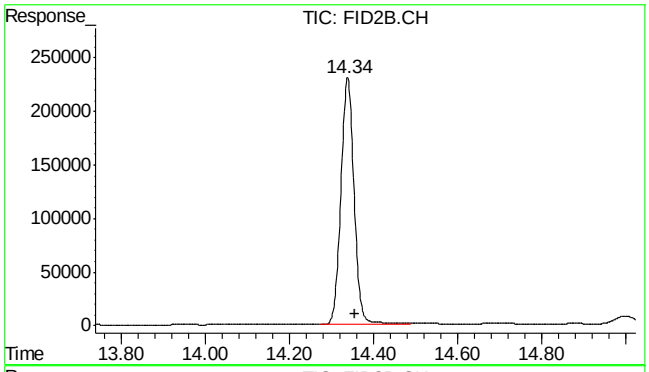
#8 m,p-Xylene

R.T.: 10.443 min
Delta R.T.: -0.033 min
Response: 80732
Conc: 0.37 ug/L



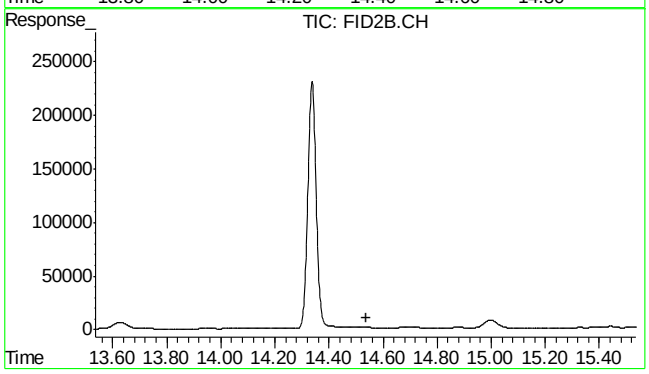
#9 o-Xylene

R.T.: 10.944 min
Delta R.T.: -0.022 min
Response: 49220
Conc: 0.27 ug/L



#10 1,2,4-Trichlorobenzene (P)

```
      R.T.:  14.338 min
Delta R.T.:  -0.018 min
  Response:   5051605
      Conc:  71.95 %
```



#11 Naphthalene

```
      R.T.:   0.000 min
Exp R.T.  :  14.536 min
  Response:         0
      Conc:   N.D.
```

6.1.2

6

Quantitation Report (QT Reviewed)

```
Signal #1 : Z:\061811\GA12329.D\FID1A.CH                Vial: 30
Signal #2 : Z:\061811\GA12329.D\FID2B.CH
Acq On    : 19 Jun 2011   3:58 am                   Operator: BrianR
Sample    : MB, S                                   Inst    : BTEX2
Misc      : GC1969,GGA669,5.000,,100,5,1            Multiplr: 1.00
IntFile Signal #1: TVH1.E       IntFile Signal #2: FB2.E
Quant Time: Jun 19 19:11:09 2011  Quant Results File: TA620GA620.RES

Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title        : 8015B/8021B  TVH/BTEX
Last Update  : Sun Jun 19 19:10:47 2011
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj.     :
Signal #1 Phase : DB-624            Signal #2 Phase: DB-624
Signal #1 Info  : 0.53 mm           Signal #2 Info : 0.53 mm
```

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
2) S	1,2,4-Trichlorobenzene	14.36	3007355	84.516	%
10) S	1,2,4-Trichlorobenzene (P)	14.36	4952020	69.768	%
	Target Compounds				
1) H	TVH-Gasoline	7.17	1748741	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.68	62130	0.296	ug/L
7) T	Ethylbenzene	10.29	52664	0.281	ug/L
8) T	m,p-Xylene	10.47	287480	1.332	ug/L
9) T	o-Xylene	10.97	192794	1.058	ug/L
11) T	Naphthalene	0.00	0	N.D.	ug/L d

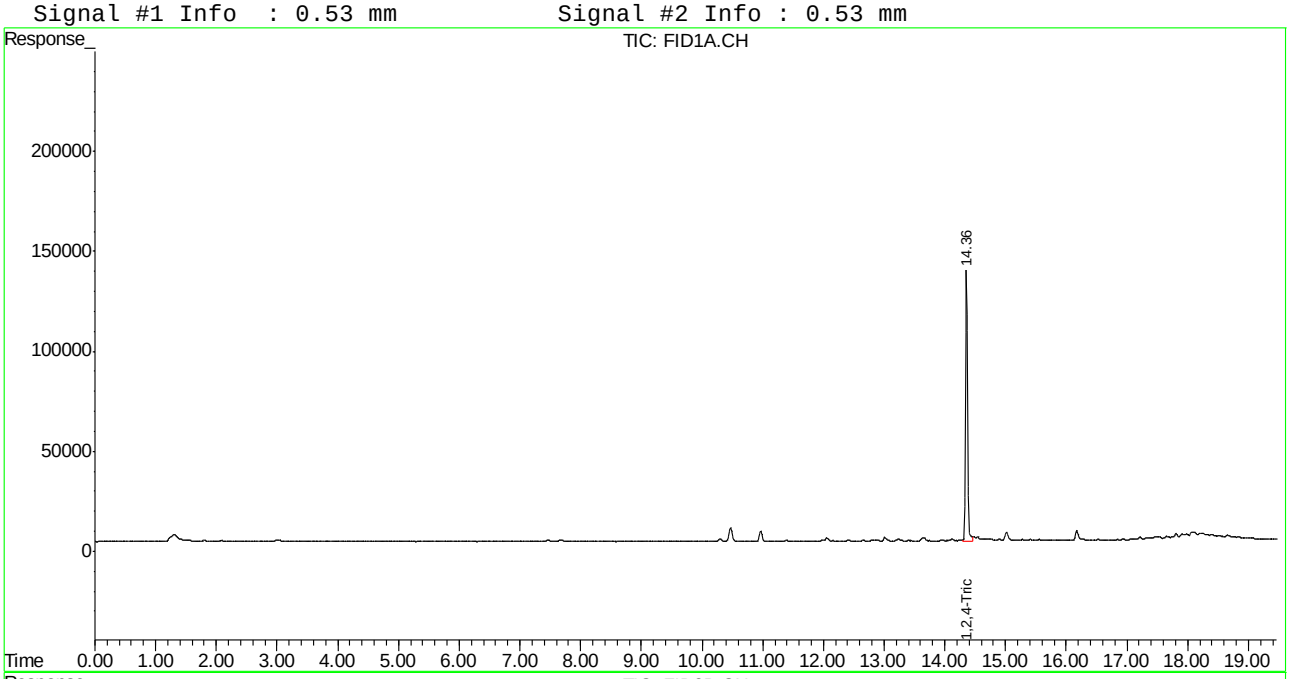
(f)=RT Delta > 1/2 Window (m)=manual int.

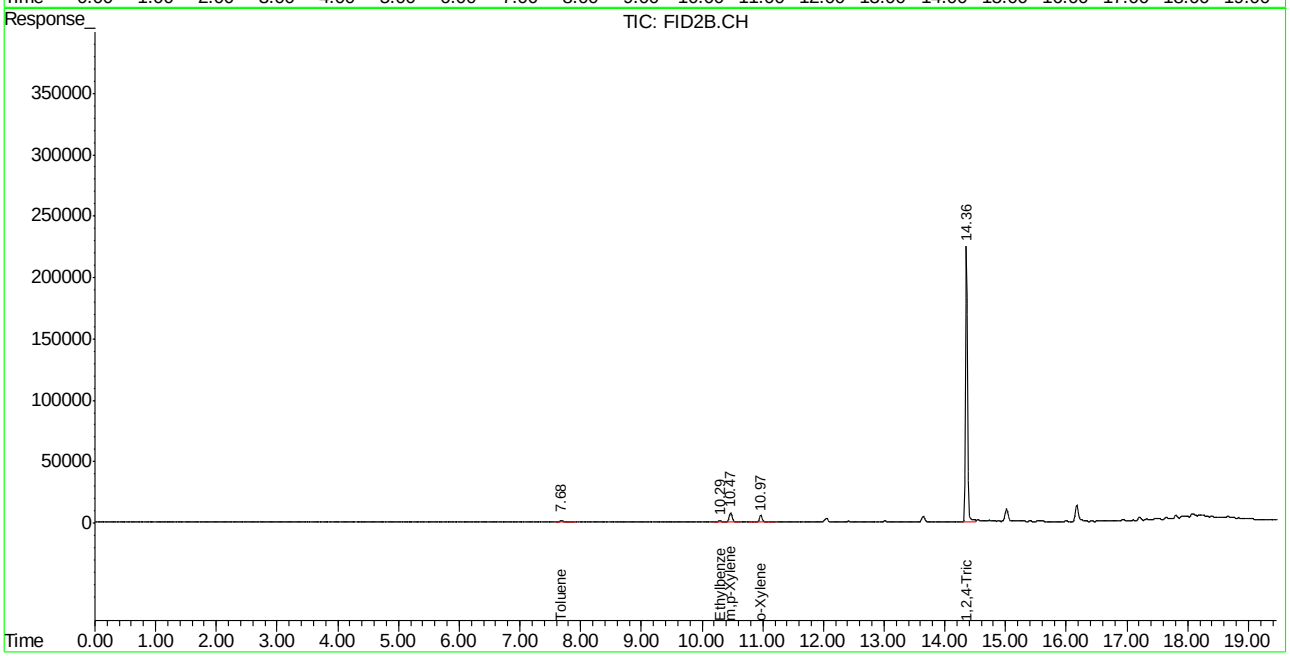
Quantitation Report (QT Reviewed)

Signal #1 : Z:\061811\GA12329.D\FID1A.CH Vial: 30
Signal #2 : Z:\061811\GA12329.D\FID2B.CH
Acq On : 19 Jun 2011 3:58 am Operator: BrianR
Sample : MB, S Inst : BTEX2
Misc : GC1969,GGA669,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 17:30 2011 Quant Results File: TA620GA620.RES

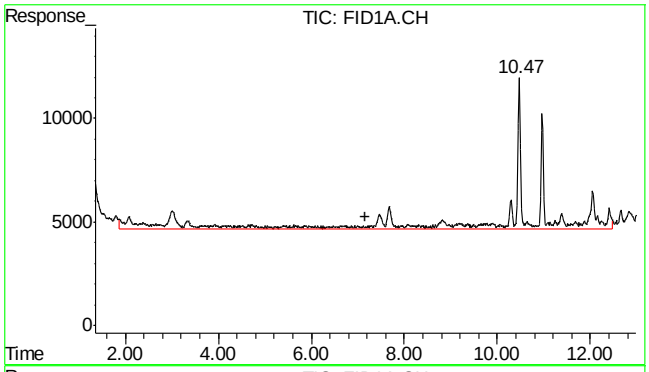
Quant Method : C:\MSDCHEM\1\METHODS\TA620GA620.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Sun Jun 19 19:10:47 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



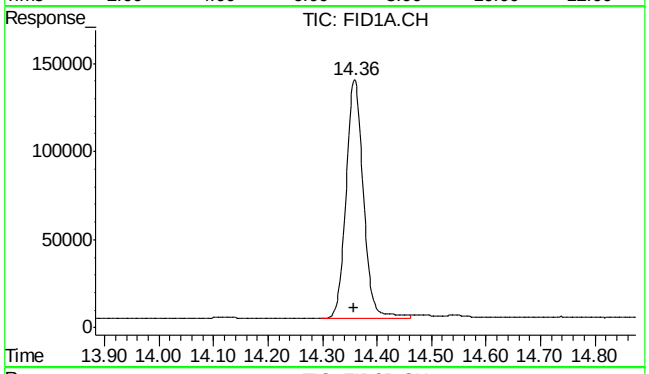


GA12329.D TA620GA620.M Sun Jun 19 19:39:45 2011 GC Page 2



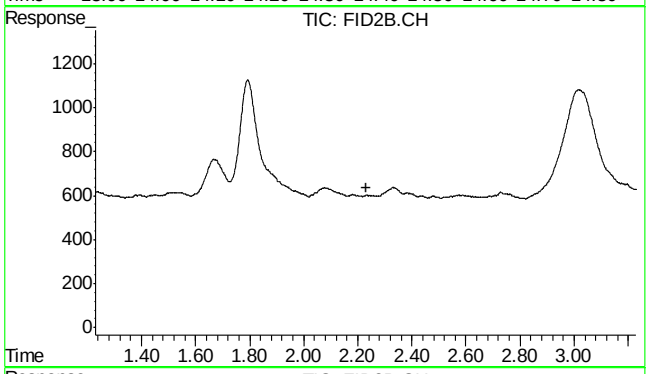
#1 TVH-Gasoline

R.T.: 7.170 min
Delta R.T.: 0.000 min
Response: 1748741
Conc: N.D.



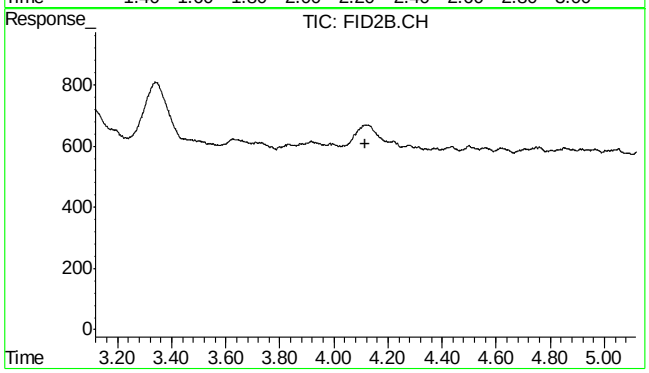
#2 1,2,4-Trichlorobenzene

R.T.: 14.359 min
Delta R.T.: 0.002 min
Response: 3007355
Conc: 84.52 %



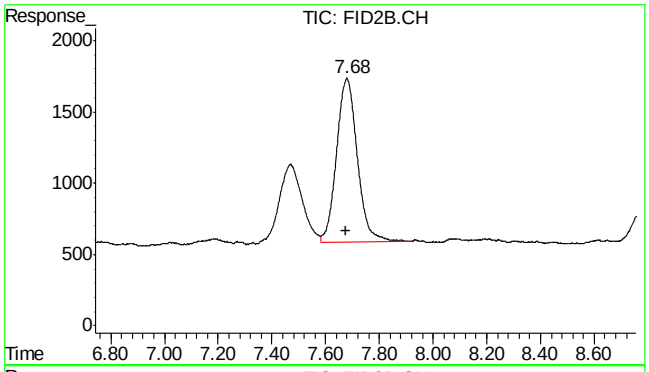
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.229 min
Response: 0
Conc: N.D.



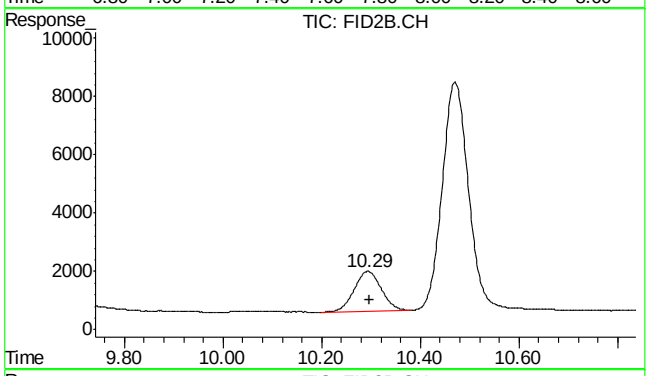
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.117 min
Response: 0
Conc: N.D.



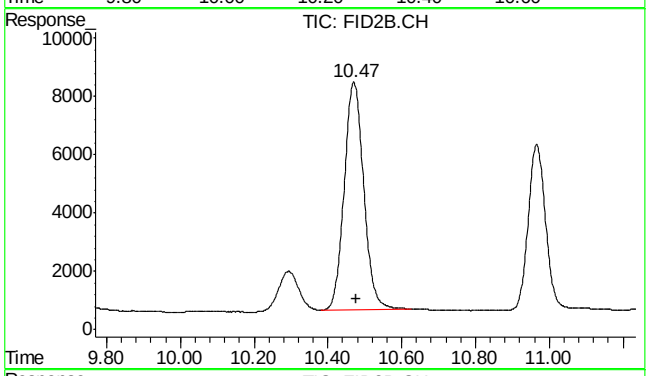
#6 Toluene

R.T.: 7.679 min
Delta R.T.: 0.001 min
Response: 62130
Conc: 0.30 ug/L



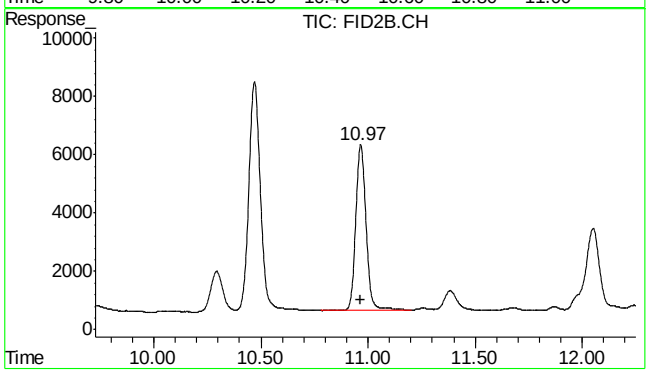
#7 Ethylbenzene

R.T.: 10.294 min
Delta R.T.: -0.002 min
Response: 52664
Conc: 0.28 ug/L



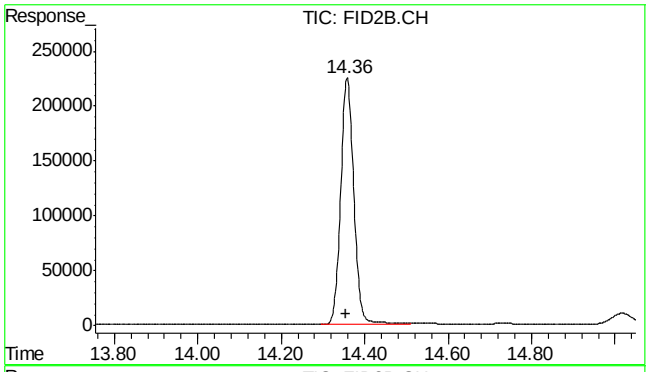
#8 m,p-Xylene

R.T.: 10.470 min
Delta R.T.: -0.006 min
Response: 287480
Conc: 1.33 ug/L



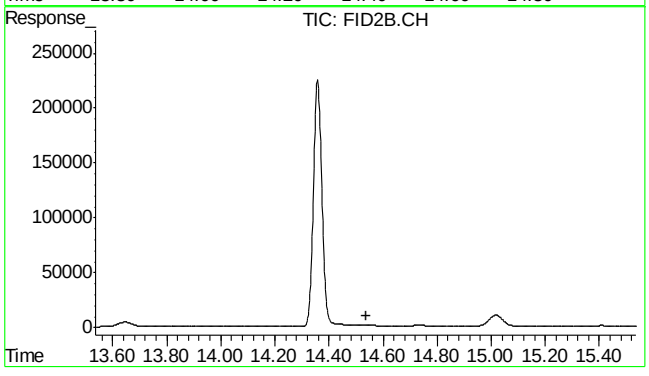
#9 o-Xylene

R.T.: 10.966 min
Delta R.T.: 0.000 min
Response: 192794
Conc: 1.06 ug/L



#10 1,2,4-Trichlorobenzene (P)

```
      R.T.:  14.358 min
Delta R.T.:   0.002 min
  Response:   4952020
      Conc:  69.77 %
```



#11 Naphthalene

```
      R.T.:   0.000 min
Exp R.T.  :  14.536 min
  Response:         0
      Conc:   N.D.
```

6.2.1

6

Mountain States ACCUTEST LABORATORIES

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

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3900-MB	FD07241.D	1	06/21/11	JB	06/19/11	OP3900	GFD315

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

D24585-1, D24585-2

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	99%	61-142%

Blank Spike Summary

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3900-BS	FD07242.D	1	06/21/11	JB	06/19/11	OP3900	GFD315

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

D24585-1, D24585-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	676	101	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	113%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D24585
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3900-MS	FD07243.D	1	06/21/11	JB	06/19/11	OP3900	GFD315
OP3900-MSD	FD07244.D	1	06/21/11	JB	06/19/11	OP3900	GFD315
D24585-1	FD07245.D	1	06/21/11	JB	06/19/11	OP3900	GFD315

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

D24585-1, D24585-2

CAS No.	Compound	D24585-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	330		711	1080	105	864	75	22	24-157/35

CAS No.	Surrogate Recoveries	MS	MSD	D24585-1	Limits
84-15-1	o-Terphenyl	89%	76%	78%	61-142%

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Manual Integrations
APPROVED
(compounds with "m" flag)
John Hamilton
06/22/11 10:39

Quantitation Report (QT Reviewed)

```
Data File : C:\MSDCHEM\2\DATA\FD062011\FD07245.D          Vial: 52
Acq On    : 6-21-2011 08:02:36 AM                     Operator: jacobb
Sample    : D24585-1                                  Inst    : FID5
Misc      : OP3900,GFD315,30.01,,,2,1                 Multiplr: 1.00
IntFile   : DF-GFC101.E
Quant Time: Jun 21 08:54:46 2011  Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title        : 8015B TEH
Last Update  : Thu May 12 13:23:22 2011
Response via : Initial Calibration
DataAcq Meth : RR_BASE4.M

Volume Inj.  : 1ul
Signal Phase : RTX-5
Signal Info  : 530um
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-Terphenyl	9.53	40744908	779.460 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.36	227190836	4636.566 mg/L

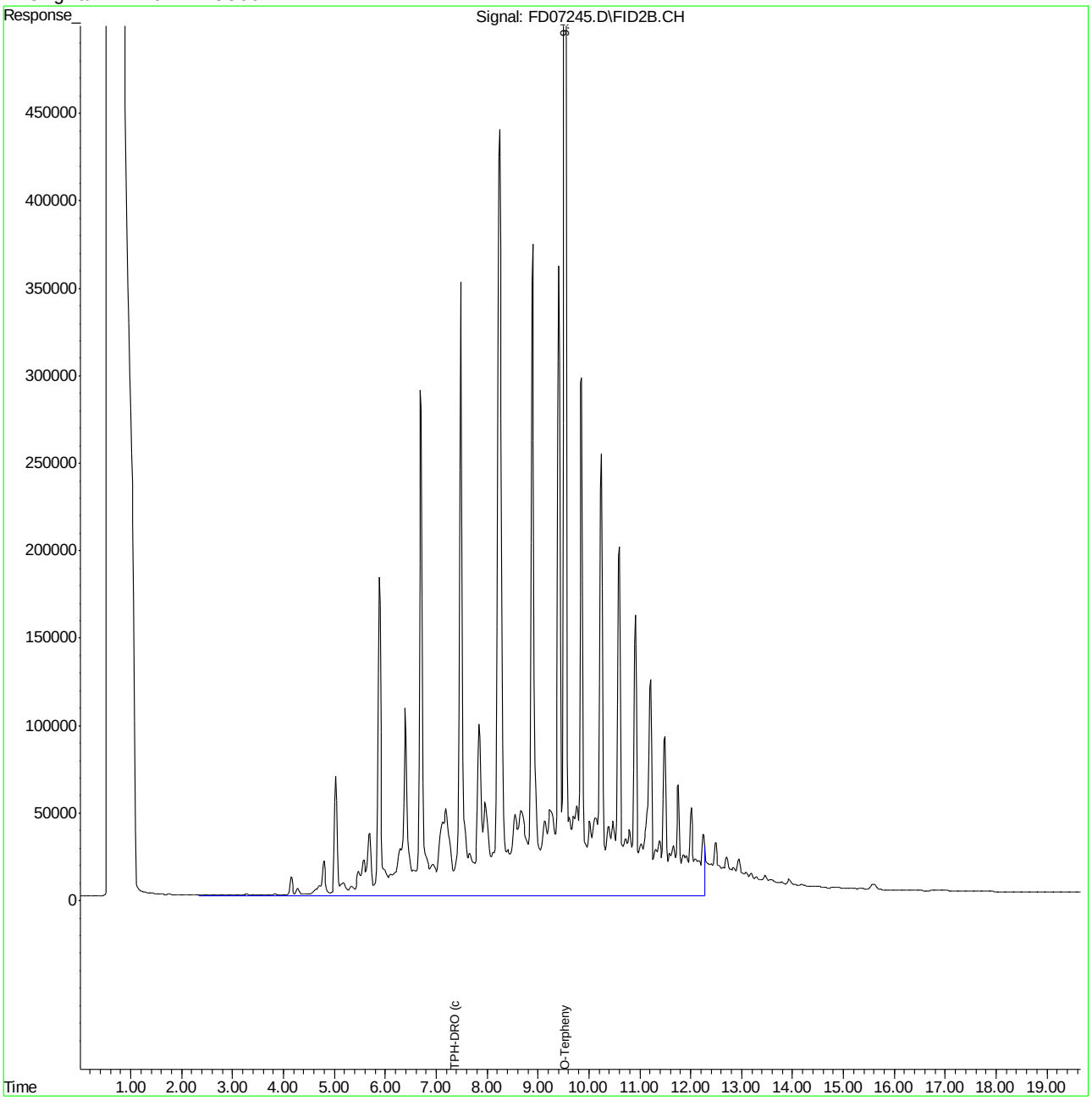
(f)=RT Delta > 1/2 Window (m)=manual int.

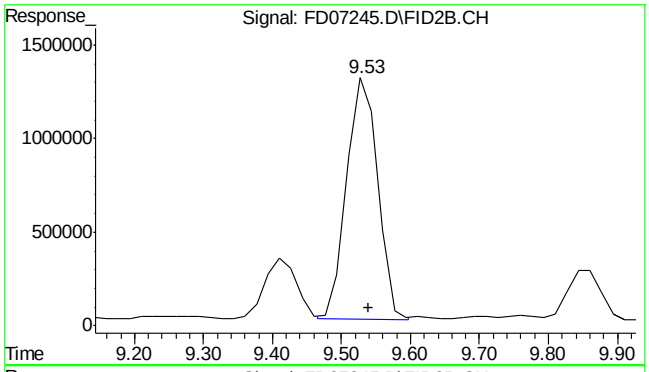
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\FD062011\FD07245.D Vial: 52
Acq On : 6-21-2011 08:02:36 AM Operator: jacobb
Sample : D24585-1 Inst : FID5
Misc : OP3900,GFD315,30.01,,,2,1 Multiplr: 1.00
IntFile : DF-GFC101.E
Quant Time: Jun 21 8:55 2011 Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 12 13:23:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : RR_BASE4.M

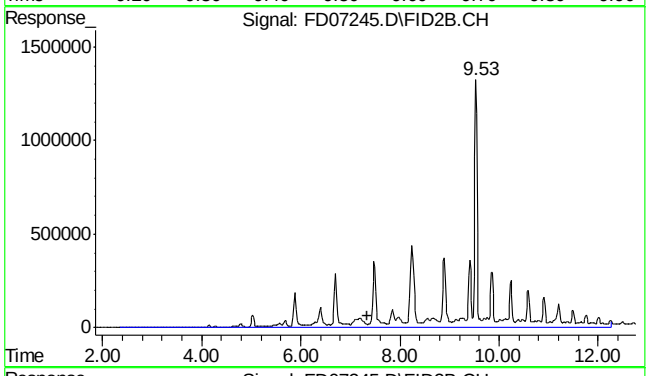
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





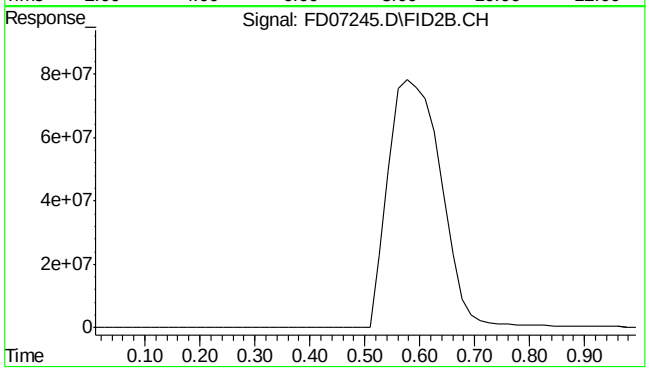
#1 O-Terphenyl

R.T.: 9.530 min
Delta R.T.: -0.010 min
Response: 40744908
Conc: 779.46 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.355 min
Delta R.T.: 0.000 min
Response: 227190836
Conc: 4636.57 mg/L m



#9 5a-Androstane

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.

Manual Integrations
APPROVED
(compounds with "m" flag)
John Hamilton
06/22/11 10:39

Quantitation Report (QT Reviewed)

```
Data File : C:\MSDCHEM\2\DATA\FD062011\FD07246.D          Vial: 53
Acq On    : 6-21-2011 08:28:07 AM                     Operator: jacobb
Sample    : D24585-2                                  Inst    : FID5
Misc      : OP3900,GFD315,30.04,,,2,1                 Multiplr: 1.00
IntFile   : DF-GFC101.E
Quant Time: Jun 21 08:55:04 2011  Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title        : 8015B TEH
Last Update  : Thu May 12 13:23:22 2011
Response via : Initial Calibration
DataAcq Meth : RR_BASE4.M

Volume Inj.  : 1ul
Signal Phase : RTX-5
Signal Info  : 530um
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-Terphenyl	9.53	42919784	821.066 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.36	27004125	497.847 mg/L

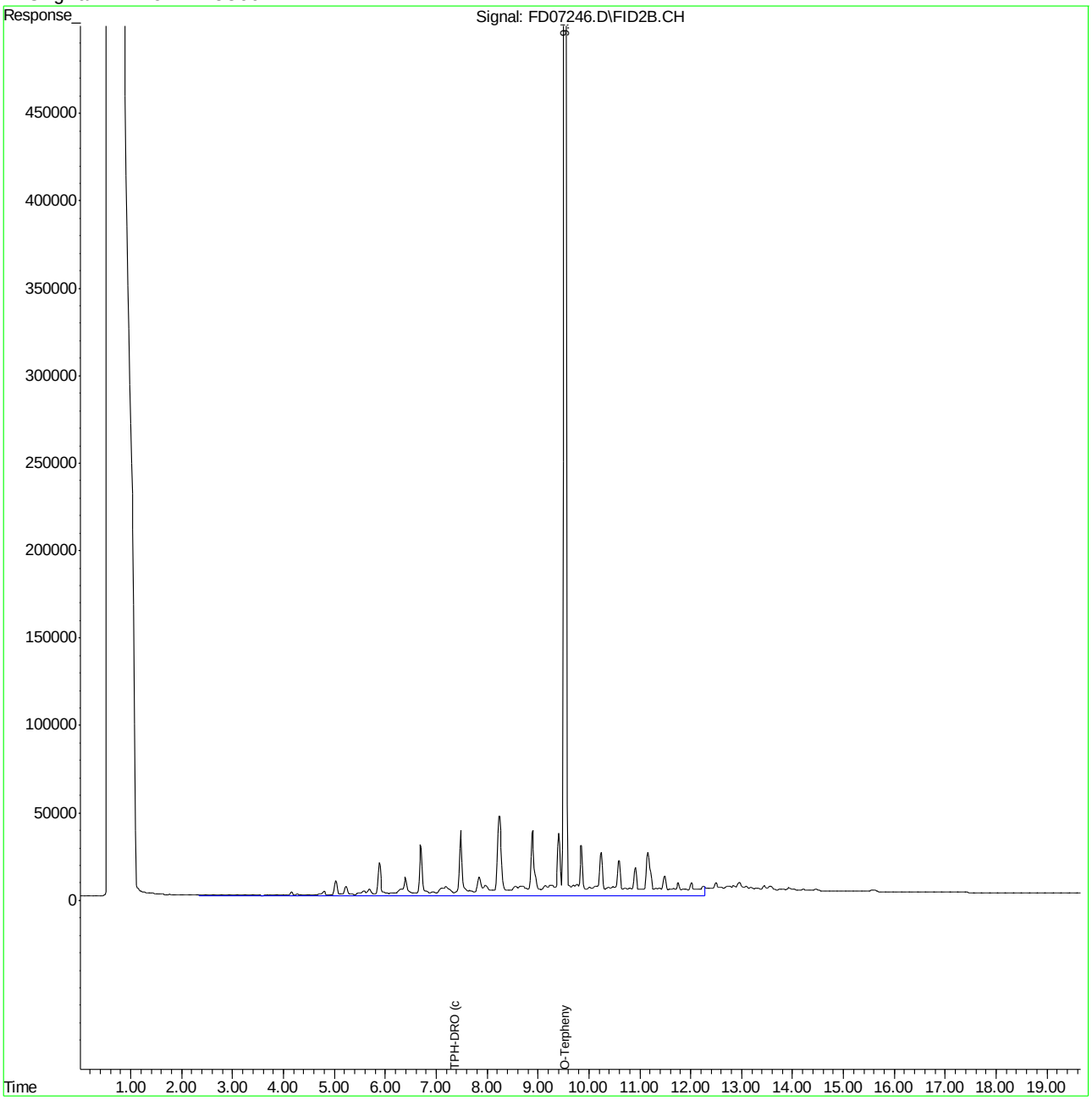
(f)=RT Delta > 1/2 Window (m)=manual int.

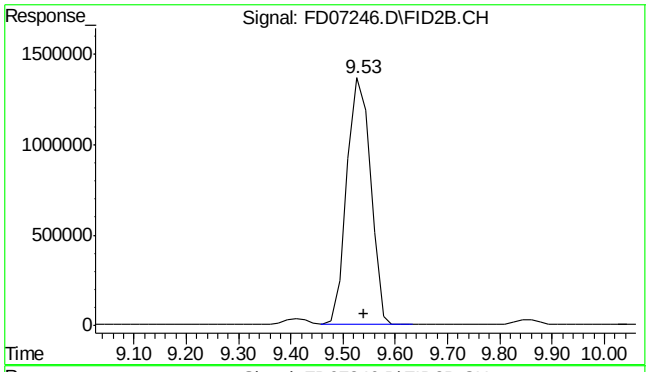
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\FD062011\FD07246.D Vial: 53
Acq On : 6-21-2011 08:28:07 AM Operator: jacobb
Sample : D24585-2 Inst : FID5
Misc : OP3900,GFD315,30.04,,,2,1 Multiplr: 1.00
IntFile : DF-GFC101.E
Quant Time: Jun 21 8:55 2011 Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 12 13:23:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : RR_BASE4.M

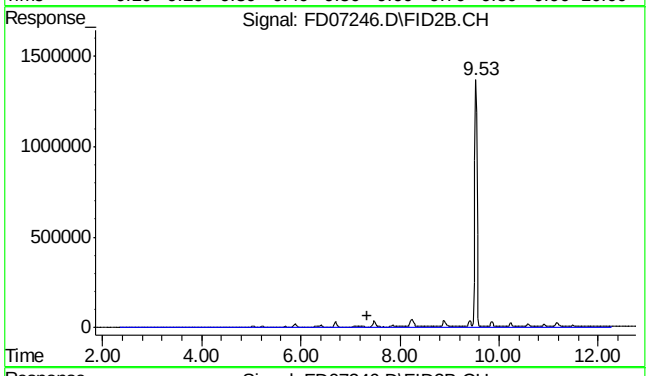
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





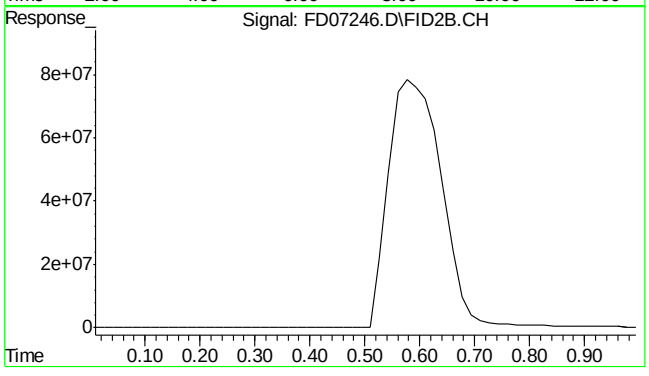
#1 O-Terphenyl

R.T.: 9.530 min
Delta R.T.: -0.010 min
Response: 42919784
Conc: 821.07 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.355 min
Delta R.T.: 0.000 min
Response: 27004125
Conc: 497.85 mg/L m



#9 5a-Androstane

R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.

Manual Integrations
APPROVED
(compounds with "m" flag)
John Hamilton
06/22/11 10:39

Quantitation Report (QT Reviewed)

```
Data File : C:\MSDCHEM\2\DATA\FD062011\FD07241.D          Vial: 48
Acq On    : 6-21-2011 06:19:58 AM                     Operator: jacobb
Sample    : OP3900-MB                                 Inst    : FID5
Misc      : OP3900,GFD315,30.00,,,2,1                 Multiplr: 1.00
IntFile   : DF-GFC101.E
Quant Time: Jun 21 08:21:43 2011  Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title        : 8015B TEH
Last Update  : Thu May 12 13:23:22 2011
Response via : Initial Calibration
DataAcq Meth : RR_BASE4.M

Volume Inj.  : 1ul
Signal Phase : RTX-5
Signal Info  : 530um
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-Terphenyl	9.53	51675411	988.563 mg/L m
Target Compounds			

8.2.1

8

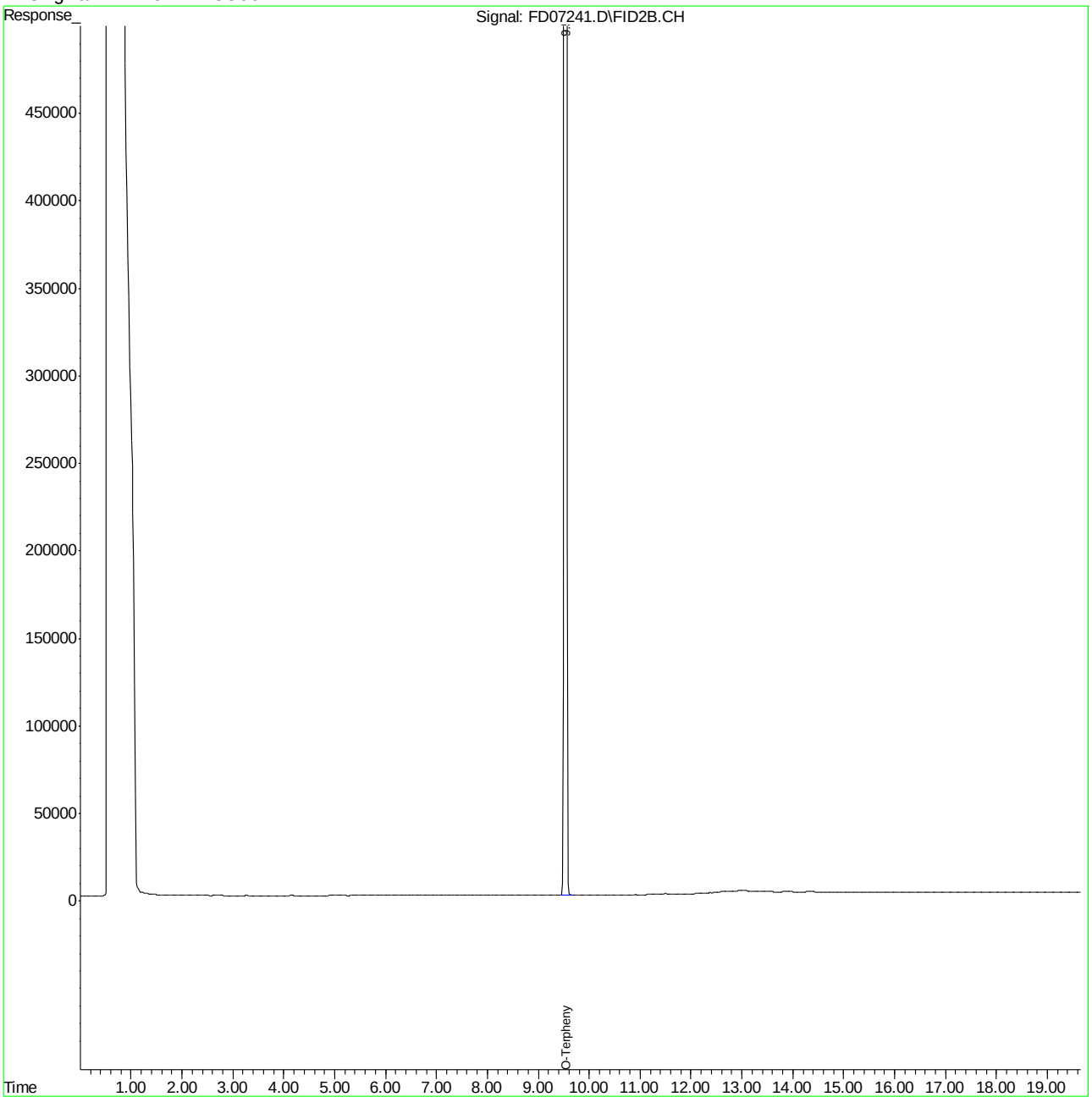
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

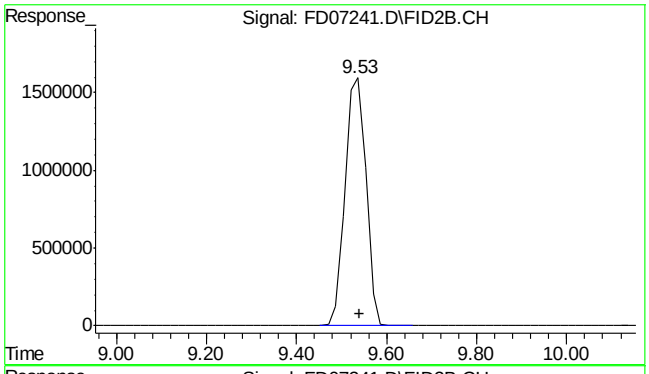
Data File : C:\MSDCHEM\2\DATA\FD062011\FD07241.D Vial: 48
Acq On : 6-21-2011 06:19:58 AM Operator: jacobb
Sample : OP3900-MB Inst : FID5
Misc : OP3900,GFD315,30.00,,,2,1 Multiplr: 1.00
IntFile : DF-GFC101.E
Quant Time: Jun 21 8:53 2011 Quant Results File: DR-GFD294.RES

Quant Method : C:\MSDCHEM\2\METHODS\DR-GFD294.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 12 13:23:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : RR_BASE4.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

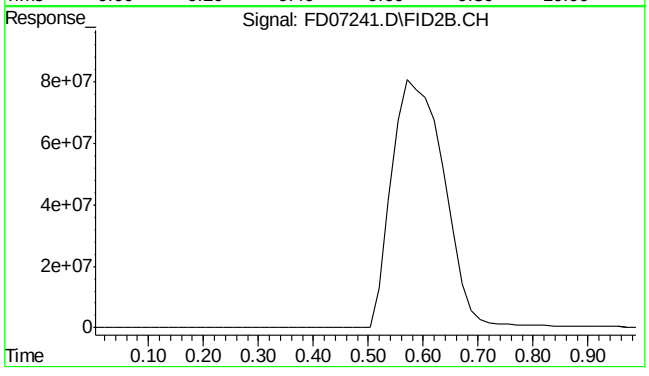


FD07241.D DR-GFD294.M Tue Jun 21 08:55:33 2011 GC Page 2



#1 O-Terphenyl

```
      R.T.:   9.531 min
Delta R.T.:  -0.009 min
  Response:  51675411
      Conc: 988.56 mg/L m
```



#9 5a-Androstane

```
      R.T.:   0.000 min
Exp R.T.  :   0.000 min
  Response:         0
      Conc:   N.D.
```

8.2.1

8

Mountain States ACCUTEST LABORATORIES

11/12/10

Technical Report for

KRW Consulting, Inc.

PCU 297-2A FW Spill

1010-07

Accutest Job Number: D18583

Sampling Date: 10/27/10

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue Suite 200
Lakewood, CO 80214
gknell@krwconsulting.com; dknudson@krwconsulting.com;
jhess@krwconsulting.com
ATTN: Dwayne Knudson

Total number of pages in report: **102**

ACCREDITED IN ACCORDANCE WITH nelac

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.

John Hamilton
Laboratory Director

Client Service contact: Shea Greiner 303-425-6021

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

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Test results relate only to samples analyzed.

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Accutest Laboratories

Sample Summary

KRW Consulting, Inc.

Job No: D18583

PCU 297-2A FW Spill
Project No: 1010-07

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D18583-1	10/27/10	11:15	BB	10/29/10	SO	Soil	NORTH CAMP
D18583-1A	10/27/10	11:15	BB	10/29/10	SO	Soil	NORTH CAMP
D18583-2	10/27/10	10:50	BB	10/29/10	SO	Soil	SOUTH CAMP
D18583-2A	10/27/10	10:50	BB	10/29/10	SO	Soil	SOUTH CAMP
D18583-3	10/27/10	11:30	BB	10/29/10	SO	Soil	SOUTH 1A
D18583-4	10/27/10	11:20	BB	10/29/10	SO	Soil	SOUTH 1B
D18583-5	10/27/10	11:20	BB	10/29/10	SO	Soil	NORTH 2A
D18583-6	10/27/10	11:15	BB	10/29/10	SO	Soil	NORTH 2B
D18583-7	10/27/10	11:35	BB	10/29/10	SO	Soil	NORTH 2C

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	KRW Consulting, Inc.	**Job No**	D18583
Site:	PCU 297-2A FW Spill	**Report Dat**	11/12/2010 12:05:49 P

On 10/29/2010, 7 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 D18583 was assigned to the project. The lab sample IDs, client sample IDs, and dates 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:** V5V636

- All samples were analyzed within the recommended method holding time.
- Sample(s) D18492-4MS, D18492-4MSD 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:** OP2738

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D18583-1MS, D18583-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of multiple analytes are outside control limits. Outside control limits due to matrix interference. Refer to Blank Spike.
- The RPDs for the MS and MSD recoveries of 1-Methylnaphthalene, 2-Methylnaphthalene, Benzo(b)fluoranthene, Naphthalene are outside control limits for sample OP2738-MSD. Probable cause due to sample homogeneity.

Volatiles by GC By Method SW846 8015B

Matrix SO **Batch ID:** GGA523

- All samples were analyzed within the recommended method holding time.
- Sample(s) D18611-1MS, D18611-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- D18583-1 and D18583-2 for 1,2,4 Trichlorobenzene: Outside control limits due to matrix interference.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP2721

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18597-10MS, D18597-10MSD were used as the QC samples indicated.
- D18583-1 for o-Terphenyl: Outside control limits due to dilution.

Metals By Method SW846 6010B

Matrix AQ	Batch ID: MP3332

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18583-3MS, D18583-3MSD were used as the QC samples for the metals analysis.

Matrix SO	Batch ID: MP3310

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18583-1MS, D18583-1MSD, D18583-1SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recoveries of Selenium and Zinc are outside control limits. Spike recovery indicates possible matrix interference.
- The matrix spike duplicate (MSD) recoveries of Selenium, Zinc, and Barium are outside control limits. Spike recovery indicates possible matrix interference.
- The matrix spike (MS) recovery of Barium is outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The RPD(s) for the MS and MSD recoveries of Barium are outside control limits for sample MP3310-S2. High RPD due to possible sample nonhomogeneity.
- RPD(s) for Serial Dilution for Cadmium, Copper, Selenium, Zinc are outside control limits for sample MP3310-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020

Matrix SO	Batch ID: MP3311

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18583-1MS, D18583-1MSD, D18583-1SDL were used as the QC samples for the metals analysis.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP3311-SD1. Probable cause due to sample homogeneity.

Metals By Method SW846 7471A

Matrix SO	Batch ID: MP3318

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18340-1MSD, D18340-1MS were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery of Mercury is outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO	Batch ID: M:GN33330

- The data for ASTM D1498-76M meets quality control requirements.
- Redox Potential Vs H2: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method DEPT.OF AG, BOOK N9

Matrix SO	Batch ID: GP3120

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method LADNR29B

Matrix	SO	**Batch ID:**	MP3332

- Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

Wet Chemistry By Method SM19 2540B M

Matrix	SO	**Batch ID:**	GN7009

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

Wet Chemistry By Method SW846 3060/7196A M

Matrix	SO	**Batch ID:**	R5274

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

Wet Chemistry By Method SW846 3060A/7196A

Matrix	SO	**Batch ID:**	M:GP12257

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

Wet Chemistry By Method SW846 9045C

Matrix	SO	**Batch ID:**	GN7004

- The following samples were run outside of holding time for method SW846 9045C: D18583-1 through D18583-7.

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**	D18583
Site:	KRWCCOL: PCU 297-2A FW Spill	**Report Date**	11/12/2010 10:56:27 AM

2 Sample(s) were collected on 10/27/2010 and were received at Accutest on 10/29/2010 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of D18583. 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 ASTM D1498-76M

Matrix SO **Batch ID:** GN33330

- Sample(s) D18583-1DUP were used as the QC samples for Redox Potential Vs H2.

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO **Batch ID:** GP12257

- 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) D18583-2DUP, D18583-2MS 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(D18583).

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8260B	**Percent Solids:**	85.1
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V11348.D	1	10/29/10	DC	n/a	n/a	V5V636
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	68	20	ug/kg	
108-88-3	Toluene	ND	140	68	ug/kg	
100-41-4	Ethylbenzene	ND	140	27	ug/kg	
	m,p-Xylene	386	270	47	ug/kg	
95-47-6	o-Xylene	106	140	47	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	94%		70-130%
17060-07-0	1,2-Dichloroethane-D4	101%		70-130%

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:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8270C BY SIM SW846 3540C	**Percent Solids:**	85.1
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G02271.D	10	11/08/10	TMB	11/04/10	OP2738	E3G68
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	160	150	ug/kg	
208-96-8	Acenaphthylene	ND	780	160	ug/kg	
120-12-7	Anthracene	ND	160	100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	160	150	ug/kg	
50-32-8	Benzo(a)pyrene	ND	160	99	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	160	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	160	98	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	160	99	ug/kg	
218-01-9	Chrysene	116	160	78	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	160	120	ug/kg	
206-44-0	Fluoranthene	ND	160	96	ug/kg	
86-73-7	Fluorene	4370	160	150	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	100	ug/kg	
90-12-0	1-Methylnaphthalene	3830	160	140	ug/kg	
91-57-6	2-Methylnaphthalene	8800	780	240	ug/kg	
91-20-3	Naphthalene	971	780	170	ug/kg	
85-01-8	Phenanthrene	4210	160	120	ug/kg	
129-00-0	Pyrene	ND	160	110	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	111%		10-193%
321-60-8	2-Fluorobiphenyl	111%		20-138%
1718-51-0	Terphenyl-d14	75%		17-174%

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:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	85.1
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9605.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	23.3	14	14	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	238% [a]		60-140%

(a) Outside control limits 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:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	85.1
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4878.D	10	11/10/10	JB	11/01/10	OP2721	GFD214
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	21400	160	100	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	139% [a]		63-130%

(a) Outside control limits due to dilution.

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:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.1
Project:	PCU 297-2A FW Spill		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	9.3	0.48	mg/kg	5	11/03/10	11/10/10	JM	SW846 6020 [3]	SW846 3050B [5]
Barium	1140	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Cadmium	< 1.2	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Chromium	15.2	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Copper	9.4	0.61	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Lead	< 6.1	6.1	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Mercury	< 0.10	0.10	mg/kg	1	11/04/10	11/04/10	JY	SW846 7471A [2]	SW846 7471A [6]
Nickel	9.8	3.6	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Selenium	< 6.1	6.1	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Silver	< 3.6	3.6	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Zinc	25.8	3.6	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA1097
(2) Instrument QC Batch: MA1098
(3) Instrument QC Batch: MA1113
(4) Prep QC Batch: MP3310
(5) Prep QC Batch: MP3311
(6) Prep QC Batch: MP3318

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH CAMP		
Lab Sample ID:	D18583-1	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.1
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	0.53	0.44	mg/kg	1	11/11/10 14:45	AMA	SW846 3060A/7196A
Chromium, Trivalent [b]	14.7	1.6	mg/kg	1	11/11/10 14:45	AMA	SW846 3060/7196A M
Redox Potential Vs H2 [a]	364		mv	1	11/04/10	AMA	ASTM D1498-76M
Solids, Percent	85.1		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	404	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	8.92		su	1	10/29/10 13:50	JD	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:	NORTH CAMP		
Lab Sample ID:	D18583-1A	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.1
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	12.1	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	7.24	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	68.6	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH CAMP		
Lab Sample ID:	D18583-1A	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.1
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	3.85		ratio	1	11/05/10 15:45	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8260B	**Percent Solids:**	85.8
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V11349.D	1	10/29/10	DC	n/a	n/a	V5V636
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	67	20	ug/kg	
108-88-3	Toluene	ND	130	67	ug/kg	
100-41-4	Ethylbenzene	ND	130	27	ug/kg	
	m,p-Xylene	278	270	47	ug/kg	
95-47-6	o-Xylene	71.7	130	47	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%
17060-07-0	1,2-Dichloroethane-D4	98%		70-130%

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:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8270C BY SIM SW846 3540C	**Percent Solids:**	85.8
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G02274.D	10	11/08/10	TMB	11/04/10	OP2738	E3G68
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	78	73	ug/kg	
208-96-8	Acenaphthylene	ND	390	80	ug/kg	
120-12-7	Anthracene	ND	78	50	ug/kg	
56-55-3	Benzo(a)anthracene	ND	78	76	ug/kg	
50-32-8	Benzo(a)pyrene	ND	78	49	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	78	56	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	78	48	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	78	49	ug/kg	
218-01-9	Chrysene	ND	78	39	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	78	57	ug/kg	
206-44-0	Fluoranthene	ND	78	48	ug/kg	
86-73-7	Fluorene	1720	78	76	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	78	51	ug/kg	
90-12-0	1-Methylnaphthalene	1910	78	69	ug/kg	
91-57-6	2-Methylnaphthalene	5710	390	120	ug/kg	
91-20-3	Naphthalene	532	390	86	ug/kg	
85-01-8	Phenanthrene	1220	78	62	ug/kg	
129-00-0	Pyrene	ND	78	52	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		10-193%
321-60-8	2-Fluorobiphenyl	81%		20-138%
1718-51-0	Terphenyl-d14	80%		17-174%

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:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	85.8
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9606.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	20.0	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	203% [a]		60-140%

(a) Outside control limits 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:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	85.8
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4834.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	5970	78	50	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		63-130%

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:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.8
Project:	PCU 297-2A FW Spill		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	7.3	0.49	mg/kg	5	11/03/10	11/10/10	JM	SW846 6020 [3]	SW846 3050B [5]
Barium	2020	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Cadmium	< 1.2	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Chromium	18.7	1.2	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Copper	11.8	0.61	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Lead	6.4	6.1	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Mercury	< 0.10	0.10	mg/kg	1	11/04/10	11/04/10	JY	SW846 7471A [2]	SW846 7471A [6]
Nickel	14.9	3.7	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Selenium	< 6.1	6.1	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Silver	< 3.7	3.7	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]
Zinc	29.4	3.7	mg/kg	1	11/03/10	11/04/10	JM	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA1097
(2) Instrument QC Batch: MA1098
(3) Instrument QC Batch: MA1113
(4) Prep QC Batch: MP3310
(5) Prep QC Batch: MP3311
(6) Prep QC Batch: MP3318

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH CAMP		
Lab Sample ID:	D18583-2	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.8
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	< 0.45	0.45	mg/kg	1	11/11/10 14:45	AMA	SW846 3060A/7196A
Chromium, Trivalent [b]	18.3	1.7	mg/kg	1	11/11/10 14:45	AMA	SW846 3060/7196A M
Redox Potential Vs H2 [a]	320		mv	1	11/04/10	AMA	ASTM D1498-76M
Solids, Percent	85.8		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	837	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.28		su	1	10/29/10 13:50	JD	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:	SOUTH CAMP		
Lab Sample ID:	D18583-2A	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.8
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	16.1	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	9.36	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	137	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH CAMP		
Lab Sample ID:	D18583-2A	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.8
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	6.72		ratio	1	11/05/10 16:03	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH 1A		
Lab Sample ID:	D18583-3	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	87.2
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9607.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	91%		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:	SOUTH 1A		
Lab Sample ID:	D18583-3	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	87.2
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4835.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
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)	211	76	50	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		63-130%

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:	SOUTH 1A		
Lab Sample ID:	D18583-3	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	87.2
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	17.6	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	8.10	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	149	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH 1A		
Lab Sample ID:	D18583-3	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	87.2
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	7.37		ratio	1	11/05/10 15:03	JM	LADNR29B
Solids, Percent	87.2		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	839	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.13		su	1	10/29/10 13:50	JD	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH 1B		
Lab Sample ID:	D18583-4	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	86.3
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9608.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	98%		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:	SOUTH 1B		
Lab Sample ID:	D18583-4	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	86.3
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4836.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	157	77	50	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		63-130%

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:	SOUTH 1B		
Lab Sample ID:	D18583-4	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	86.3
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	8.35	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	3.15	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	106	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SOUTH 1B		
Lab Sample ID:	D18583-4	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	86.3
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	7.93		ratio	1	11/05/10 15:21	JM	LADNR29B
Solids, Percent	86.3		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	504	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.47		su	1	10/29/10 13:50	JD	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2A		
Lab Sample ID:	D18583-5	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	87.4
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9609.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	102%		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:	NORTH 2A		
Lab Sample ID:	D18583-5	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	87.4
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4837.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
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)	117	76	50	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		63-130%

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:	NORTH 2A		
Lab Sample ID:	D18583-5	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	87.4
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	70.7	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	48.2	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	752	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2A		
Lab Sample ID:	D18583-5	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	87.4
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	16.9		ratio	1	11/05/10 15:27	JM	LADNR29B
Solids, Percent	87.4		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	4380	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.24		su	1	10/29/10 13:50	JD	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2B		
Lab Sample ID:	D18583-6	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	84.6
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9610.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	14	14	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	101%		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:	NORTH 2B		
Lab Sample ID:	D18583-6	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	84.6
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4838.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
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)	261	79	51	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	100%		63-130%

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:	NORTH 2B		
Lab Sample ID:	D18583-6	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	84.6
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	9.45	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	4.91	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	141	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2B		
Lab Sample ID:	D18583-6	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	84.6
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	9.27		ratio	1	11/05/10 15:33	JM	LADNR29B
Solids, Percent	84.6		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	738	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.63		su	1	10/29/10 13:50	JD	SW846 9045C

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2C		
Lab Sample ID:	D18583-7	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846 8015B	**Percent Solids:**	85.4
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9611.D	1	10/30/10	BR	n/a	n/a	GGA523
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	98%		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:	NORTH 2C		
Lab Sample ID:	D18583-7	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	85.4
Project:	PCU 297-2A FW Spill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4839.D	5	11/04/10	JB	11/01/10	OP2721	GFD211
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	144	78	51	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	116%		63-130%

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:	NORTH 2C		
Lab Sample ID:	D18583-7	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.4
Project:	PCU 297-2A FW Spill		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	11.6	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	5.95	1.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	138	2.0	mg/l	1	11/05/10	11/05/10	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1104
(2) Prep QC Batch: MP3332

RL = Reporting Limit

Report of Analysis

Client Sample ID:	NORTH 2C		
Lab Sample ID:	D18583-7	**Date Sampled:**	10/27/10
Matrix:	SO - Soil	**Date Received:**	10/29/10
		Percent Solids:	85.4
Project:	PCU 297-2A FW Spill		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	8.21		ratio	1	11/05/10 15:39	JM	LADNR29B
Solids, Percent	85.4		%	1	10/31/10	SWT	SM19 2540B M
Specific Conductivity	723	1.0	umhos/cm	1	11/04/10	JK	DEPT.OF AG, BOOK N9
pH	9.55		su	1	10/29/10 13:50	JD	SW846 9045C

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

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, Colorado 80033
TEL. 303-425-6021; 877-737-4521 FAX: 303-425-6854
www.accutest.com

D18583

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client / Reporting Information

Company Name: KRW Consulting Inc.
Street Address: 8000 W 14th Ave
City / State / Zip: Lakewood Co. 80214
Project Contact: Dwayne Knudson | E-mail:
Phone #: 303/239 9011 | Fax #: 303-239-0745
Sampler(s) Name(s): Brent Berger | Phone #:

Project Information

Project Name: PCU 297-2A FW Spill
Street:
City / State:
Project #: 1016-07
Client Purchase Order #:
Project Manager: Joe Hess

Billing Information (if different from Report to)

Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet): Table 910-1; TPH-GRO; TPH-DRO; pH; BE, SAR

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Table 910-1	TPH-GRO	TPH-DRO	pH	BE, SAR	LAB USE ONLY
1)	North Comp.		10/27/10	1115	BB	SO	6									✓					01
2)	South Comp.		10/27/10	1050	BB	SO	6									✓	✓	✓	✓ BB		02
3)	South 1A		10/27/10	1130	BB	SO	3										✓	✓	✓	✓	03
4.)	South 1B		10/27/10	1120	BB	SO	3										✓	✓	✓	✓	04
5.)	North 2A		10/27/10	1120	BB	SO	3										✓	✓	✓	✓	05
6.)	North 2B		10/27/10	1115	BB	SO	3										✓	✓	✓	✓	06
7.)	North 2C		10/27/10	1135	BB	SO	3										✓	✓	✓	✓	07

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] UST Analysis 3-5 Days
- [ ] 6 - 9 Day *RUSH*
- [ ] 3 - 5 Day *RUSH*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Level 1
- [ ] Level 2
- [ ] Level 3
- [ ] Level 4
- [x] PDF
- [ ] EDD Format
- [ ] Other

Level 1 = Results Only
Level 2 = Results + QC Summary + Case Narrative
Level 3 = Results + QC Summary + Partial Raw data
Level 4 = Full Deliverable

Comments / Special Instructions

Email Results to:
Jhess@KRWConsulting.Com
dKnudson@ " "
gKnell@ " "

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:
1 Brent Berger	10-28-10 12:00	1 Fedex	2 Fedex		2 [illegible] 10-29-10
Relinquished by Sampler: 3		3	4		4 830
Relinquished by: 5		5	Custody Seal # FX [✓] Intact [ ] Not intact	Preserved where applicable N/A	On Ice ✓ Cooler Temp. 3.0

D18583: Chain of Custody
Page 1 of 2

CHAIN OF CUSTODY

ACCUTEST

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D18583
Accutest Quote #:	
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information		
Name	Accutest Mountain States (AMS)		Name	Accutest - New England	
Address	4036 Youngfield St.		Address	495 Technology Center West, BLDG O	
City	Wheat Ridge,	State CO / Zip 80033	City	Marlborough	State MA / Zip 01752
Send Report to:	Tiffany Pham		Contact:	Sample Management	
Any questions contact:	Amanda Kissell				
Phone/Fax #:	(303) 425-6021; (303)425-6854		Phone:	(508) 481-6200	

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2So4	None	EH	XCR				Comments
D18583 -1	10/27/2010	11:15 AM		Soil	1						X	X				
-2	10/27/10	10:50 AM		Soil	1						X	X				
-																
-																
-																
-																
-																
-																
-																

Turnaround Information

[X] 10 Business Day Standard — Approved By:
[ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1		1	1
2		2	2
3		3	3

For Subcontract Laborartory Use Only

Seal #:
Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C _____ On Ice [ ]

4.1 4

D18583: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V636-MB1	5V11329A.D	1	10/29/10	DC	n/a	n/a	V5V636

The QC reported here applies to the following samples: **Method:** SW846 8260B

D18583-1, D18583-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	15	ug/kg	
100-41-4	Ethylbenzene	ND	100	20	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
	m,p-Xylene	ND	200	35	ug/kg	
95-47-6	o-Xylene	ND	100	35	ug/kg	

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	89%	70-130%
17060-07-0	1,2-Dichloroethane-D4	98%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V636-BS1	5V11330A.D	1	10/29/10	DC	n/a	n/a	V5V636

The QC reported here applies to the following samples: **Method:** SW846 8260B

D18583-1, D18583-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.5	95	68-130
100-41-4	Ethylbenzene	50	48.6	97	70-130
108-88-3	Toluene	50	47.5	95	70-130
	m,p-Xylene	50	44.0	88	53-130
95-47-6	o-Xylene	50	44.8	90	61-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	89%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D18492-4MS	5V11342.D	1	10/29/10	DC	n/a	n/a	V5V636
D18492-4MSD	5V11343.D	1	10/29/10	DC	n/a	n/a	V5V636
D18492-4	5V11341.D	1	10/29/10	DC	n/a	n/a	V5V636

The QC reported here applies to the following samples: **Method:** SW846 8260B

D18583-1, D18583-2

CAS No.	Compound	D18492-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		6250	6700	107	6910	111	3	55-140/30
100-41-4	Ethylbenzene	ND		6250	6850	110	7030	112	3	56-139/30
108-88-3	Toluene	ND		6250	6700	107	6790	109	1	57-144/30
	m,p-Xylene	ND		6250	6280	100	6340	101	1	47-130/30
95-47-6	o-Xylene	ND		6250	6340	101	6370	102	0	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D18492-4	Limits
2037-26-5	Toluene-D8	90%	88%	88%	70-130%
460-00-4	4-Bromofluorobenzene	109%	107%	92%	70-130%
17060-07-0	1,2-Dichloroethane-D4	100%	102%	97%	70-130%

Mountain States ACCUTEST LABORATORIES

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

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2738-MB	3G02254.D	1	11/05/10	TMB	11/04/10	OP2738	E3G67

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D18583-1, D18583-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	6.2	ug/kg	
208-96-8	Acenaphthylene	ND	33	6.9	ug/kg	
120-12-7	Anthracene	ND	6.7	4.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	6.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	4.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	4.8	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	4.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.2	ug/kg	
218-01-9	Chrysene	ND	6.7	3.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	4.9	ug/kg	
206-44-0	Fluoranthene	ND	6.7	4.1	ug/kg	
86-73-7	Fluorene	ND	6.7	6.5	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	4.4	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	5.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	10	ug/kg	
91-20-3	Naphthalene	ND	33	7.4	ug/kg	
85-01-8	Phenanthrene	ND	6.7	5.3	ug/kg	
129-00-0	Pyrene	ND	6.7	4.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	78%	10-193%
321-60-8	2-Fluorobiphenyl	64%	20-138%
1718-51-0	Terphenyl-d14	85%	17-174%

Blank Spike Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2738-BS	3G02255.D	1	11/05/10	TMB	11/04/10	OP2738	E3G67

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D18583-1, D18583-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	52.5	63	40-136
208-96-8	Acenaphthylene	83.3	53.5	64	42-139
120-12-7	Anthracene	83.3	54.0	65	40-141
56-55-3	Benzo(a)anthracene	83.3	57.1	69	38-143
50-32-8	Benzo(a)pyrene	83.3	58.1	70	39-145
205-99-2	Benzo(b)fluoranthene	83.3	57.6	69	38-151
191-24-2	Benzo(g,h,i)perylene	83.3	52.2	63	35-136
207-08-9	Benzo(k)fluoranthene	83.3	54.0	65	38-147
218-01-9	Chrysene	83.3	56.7	68	39-137
53-70-3	Dibenzo(a,h)anthracene	83.3	54.9	66	35-139
206-44-0	Fluoranthene	83.3	56.7	68	34-132
86-73-7	Fluorene	83.3	55.9	67	41-136
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	57.0	68	31-144
90-12-0	1-Methylnaphthalene	83.3	52.4	63	36-130
91-57-6	2-Methylnaphthalene	83.3	51.6	62	40-131
91-20-3	Naphthalene	83.3	58.5	70	36-130
85-01-8	Phenanthrene	83.3	51.3	62	40-135
129-00-0	Pyrene	83.3	59.9	72	29-157

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	81%	10-193%
321-60-8	2-Fluorobiphenyl	65%	20-138%
1718-51-0	Terphenyl-d14	85%	17-174%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2738-MS	3G02272.D	10	11/08/10	TMB	11/04/10	OP2738	E3G68
OP2738-MSD	3G02273.D	10	11/08/10	TMB	11/04/10	OP2738	E3G68
D18583-1	3G02271.D	10	11/08/10	TMB	11/04/10	OP2738	E3G68

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D18583-1, D18583-2

CAS No.	Compound	D18583-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		97.9	817	834* [a]	959	979* [a]	16 [a]	20-151/30
208-96-8	Acenaphthylene	ND		97.9	255	260* [a]	296	302* [a]	15 [a]	23-156/30
120-12-7	Anthracene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	25-149/30
56-55-3	Benzo(a)anthracene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	22-157/30
50-32-8	Benzo(a)pyrene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		97.9	ND	0* [a]	122	125 [a]	200* [a]	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	20-158/30
207-08-9	Benzo(k)fluoranthene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	17-161/30
218-01-9	Chrysene	116	J	97.9	194	80 [a]	221	107 [a]	13 [a]	16-159/30
53-70-3	Dibenzo(a,h)anthracene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	21-154/30
206-44-0	Fluoranthene	ND		97.9	ND	0* [a]	ND	0* [a]	nc	16-140/30
86-73-7	Fluorene	4370		97.9	5100	745* [a]	6610	2287* [a]	26 [a]	15-153/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		97.9	107	109 [a]	115	117 [a]	7 [a]	21-159/30
90-12-0	1-Methylnaphthalene	3830		97.9	5430	1634* [a]	7510	3758* [a]	32* [a]	10-148/30
91-57-6	2-Methylnaphthalene	8800		97.9	14900	6229* [a]	20700	12152* [a]	33* [a]	10-181/30
91-20-3	Naphthalene	971		97.9	1100	132 [a]	1540	581* [a]	33* [a]	10-176/30
85-01-8	Phenanthrene	4210		97.9	3880	-337* [a]	4900	705* [a]	23 [a]	22-152/30
129-00-0	Pyrene	ND		97.9	176	180 [a]	211	215* [a]	18 [a]	10-200/30

CAS No.	Surrogate Recoveries	MS	MSD	D18583-1	Limits
4165-60-0	Nitrobenzene-d5	82%	165%	111%	10-193%
321-60-8	2-Fluorobiphenyl	89%	109%	111%	20-138%
1718-51-0	Terphenyl-d14	77%	81%	75%	17-174%

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

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA523-MB	GA9594.D	1	10/30/10	BR	n/a	n/a	GGA523

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

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

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	91%	60-140%

Blank Spike Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA523-BS	GA9595.D	1	10/30/10	BR	n/a	n/a	GGA523

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	110	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	105%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D18611-1MS	GA9597.D	1	10/30/10	BR	n/a	n/a	GGA523
D18611-1MSD	GA9598.D	1	10/30/10	BR	n/a	n/a	GGA523
D18611-1	GA9596.D	1	10/30/10	BR	n/a	n/a	GGA523

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

CAS No.	Compound	D18611-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		120	123	103	121	101	2	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D18611-1	Limits
120-82-1	1,2,4-Trichlorobenzene	111%	102%	94%	60-140%

Mountain States ACCUTEST LABORATORIES

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

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2721-MB	FD4828.D	1	11/04/10	JB	11/01/10	OP2721	GFD211

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

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	122%	63-130%

Blank Spike Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2721-BS	FD4829.D	1	11/04/10	JB	11/01/10	OP2721	GFD211

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	862	129	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	119%	63-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D18583
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2721-MS	FD4830.D	1	11/04/10	JB	11/01/10	OP2721	GFD211
OP2721-MSD	FD4831.D	1	11/04/10	JB	11/01/10	OP2721	GFD211
D18597-10	FD4832.D	1	11/04/10	JB	11/01/10	OP2721	GFD211

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

D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7

CAS No.	Compound	D18597-10 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		801	858	107	926	116	8	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D18597-10	Limits
84-15-1	o-Terphenyl	99%	107%	107%	63-130%

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Mountain States ACCUTEST LABORATORIES

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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/03/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.7	2		
Antimony	3.0	.17	.5		
Arsenic	2.5	.28	.72		
Barium	1.0	.014	.05	0.11	<1.0
Beryllium	1.0	.14	.21		
Boron	5.0	.35	.91		
Cadmium	1.0	.022	.12	0.040	<1.0
Calcium	40	1.7	2.7		
Chromium	1.0	.027	.18	0.15	<1.0
Cobalt	0.50	.048	.058		
Copper	0.50	.16	.38	0.090	<0.50
Iron	7.0	.77	.91		
Lead	5.0	.13	.24	0.23	<5.0
Lithium	0.20	.076	.09		
Magnesium	20	.58	.93		
Manganese	0.50	.021	.028		
Molybdenum	1.0	.041	.16		
Nickel	3.0	.038	.075	-0.10	<3.0
Phosphorus	10	1.5	3.5		
Potassium	200	38	130		
Selenium	5.0	.28	.54	-0.91	<5.0
Silicon	5.0	1.2	.68		
Silver	3.0	.098	.068	0.0	<3.0
Sodium	40	23	6.3		
Strontium	5.0	.0091	.02		
Thallium	1.0	.31	.21		
Tin	5.0	1.4	.56		
Titanium	1.0	.0098	.041		
Uranium	5.0	.22	.53		
Vanadium	1.0	.027	.034		
Zinc	3.0	.076	.49	0.50	<3.0

Associated samples MP3310: D18583-1, D18583-2

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/03/10

Metal	D18583-1 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	1140	938	235	-86.0(a)	75-125
Beryllium					
Boron					
Cadmium	0.16	49.9	58.8	84.7	75-125
Calcium					
Chromium	15.2	67.4	58.8	88.8	75-125
Cobalt					
Copper	9.4	68.6	58.8	100.8	75-125
Iron					
Lead	5.2	106	118	85.8	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	9.8	59.3	58.8	84.2	75-125
Phosphorus					
Potassium					
Selenium	0.79	86.8	118	73.2N(b)	75-125
Silicon					
Silver	0.0	19.6	23.5	83.4	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	25.8	68.7	58.8	73.0N(b)	75-125

Associated samples MP3310: D18583-1, D18583-2

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
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.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/03/10

Metal	D18583-1 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	1140	694	235	-189.8(a	29.9 (b)	20
Beryllium						
Boron						
Cadmium	0.16	50.6	58.8	85.8	1.4	20
Calcium						
Chromium	15.2	65.0	58.8	84.8	3.6	20
Cobalt						
Copper	9.4	68.0	58.8	99.7	0.9	20
Iron						
Lead	5.2	108	118	87.5	1.9	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	9.8	58.7	58.8	83.2	1.0	20
Phosphorus						
Potassium						
Selenium	0.79	86.9	118	73.3N(c)	0.1	20
Silicon						
Silver	0.0	20.3	23.5	86.4	3.5	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	25.8	68.7	58.8	73.0N(c)	0.0	20

Associated samples MP3310: D18583-1, D18583-2

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
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) High RPD due to possible sample nonhomogeneity.
(c) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/03/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	178	200	89.0	80-120
Beryllium				
Boron				
Cadmium	47.2	50	94.4	80-120
Calcium				
Chromium	46.7	50	93.4	80-120
Cobalt				
Copper	51.3	50	102.6	80-120
Iron				
Lead	94.9	100	94.9	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	46.7	50	93.4	80-120
Phosphorus				
Potassium				
Selenium	80.8	100	80.8	80-120
Silicon				
Silver	19.2	20	96.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	40.9	50	81.8	80-120

Associated samples MP3310: D18583-1, D18583-2

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/03/10

Metal	D18583-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	9440	9740	3.1	0-10
Beryllium				
Boron				
Cadmium	1.30	0.00	100.0(a)	0-10
Calcium				
Chromium	125	136	8.7	0-10
Cobalt				
Copper	77.6	68.5	11.7 (a)	0-10
Iron				
Lead	42.9	43.0	0.2	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	81.2	88.5	9.0	0-10
Phosphorus				
Potassium				
Selenium	6.50	0.00	100.0(a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	213	250	17.4*(b)	0-10

Associated samples MP3310: D18583-1, D18583-2

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3310
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3311
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/03/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.11	<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		
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 MP3311: D18583-1, D18583-2

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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3311
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/03/10

Metal	D18583-1 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	9.3	117	118	91.7	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Tin					
Titanium	anr				
Uranium					
Vanadium					
Zinc					

Associated samples MP3311: D18583-1, D18583-2

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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3311
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/03/10

Metal	D18583-1 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	9.3	117	118	91.7	0.0	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Tin						
Titanium	anr					
Uranium						
Vanadium						
Zinc						

Associated samples MP3311: D18583-1, D18583-2

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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3311
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 11/03/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	95.3	100	95.3	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Tin				
Titanium	anr			
Uranium				
Vanadium				
Zinc				

Associated samples MP3311: D18583-1, D18583-2

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3311
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 11/03/10

Metal	D18583-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	77.1	89.2	15.7*(a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Tin				
Titanium	anr			
Uranium				
Vanadium				
Zinc				

Associated samples MP3311: D18583-1, D18583-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3318
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/04/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.0011	.013	-0.0039	<0.10

Associated samples MP3318: D18583-1, D18583-2

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

9.3.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3318
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/04/10

Metal	D18340-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	7.4	6.5	0.333	-270.0(a	85-115

Associated samples MP3318: D18583-1, D18583-2

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
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3318
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/04/10

Metal	D18340-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	7.4	7.9	0.345	145.0(a)	19.4	20

Associated samples MP3318: D18583-1, D18583-2

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
(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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3318
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/04/10

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.39	0.4	97.5	80-120

Associated samples MP3318: D18583-1, D18583-2

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

9.3.3

9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/05/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	22.5	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	0.0	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-1000	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP3332: D18583-3, D18583-4, D18583-5, D18583-6, D18583-7, D18583-1A, D18583-2A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/05/10

Metal	D18583-3 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	17600	150000	125000	105.9	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	8100	130000	125000	97.5	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	149000	292000	125000	114.4	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3332: D18583-3, D18583-4, D18583-5, D18583-6, D18583-7, D18583-1A, D18583-2A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

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

9.4.2

9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/05/10

Metal	D18583-3 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	17600	150000	125000	105.9	0.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	8100	132000	125000	99.1	1.5	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	149000	289000	125000	112.0	1.0	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3332: D18583-3, D18583-4, D18583-5, D18583-6, D18583-7, D18583-1A, D18583-2A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/05/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	131000	125000	104.8	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	121000	125000	96.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	127000	125000	101.6	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3332: D18583-3, D18583-4, D18583-5, D18583-6, D18583-7, D18583-1A, D18583-2A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

QC Batch ID: MP3332
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

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: D18583
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A FW Spill

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP3120/GN7075	1.0	<1.0	umhos/cm	10003	10200	102.1	90-110%
pH	GN7004			su	8.00	7.97	99.6	99.3-100.7%
pH	GN7004			su	8.00	7.97	99.6	99.3-100.7%

Associated Samples:
Batch GN7004: D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7
Batch GP3120: D18583-1, D18583-2, D18583-3, D18583-4, D18583-5, D18583-6, D18583-7
(*) Outside of QC limits

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D18583
Accutest Quote #:	
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information		
Name: Accutest Mountain States (AMS)			Name: Accutest - New England		
Address: 4036 Youngfield St.			Address: 495 Technology Center West, BLDG C		
City: Wheat Ridge,	State: CO	Zip: 80033	City: Marlborough	State: MA	Zip: 01752
Send Report to: Tiffany Pham			Contact: Sample Management		
Any questions contact: Amanda Kissell					
Phone/Fax #: (303) 425-6021; (303)425-6854			Phone: (508) 481-6200		

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2SO4	None	XCR	EH				Comments
D18583 -1	10/27/10	11:15 AM		Soil	1						X	X				
-2	10/27/10	10:50 AM		Soil	1						X	X				
-																
-																
-																
-																
-																
-																
-																

Turnaround Information

[X] 10 Business Day Standard — Approved By:
[ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A"
[ ] Commercial "B"
[X] Commercial "BN"
[ ] Reduced Tier 1
[ ] Full Tier 1
[ ] PDF
[ ] Compact Disk Deliverable
[ ] Electronic Delivery:
[ ] State Forms
[ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

gc

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 [signature]	10/29/10	1 FedEx	1
2 FedEx	10/30/10 11:00	2 [signature]	2
3		3	3

For Subcontract Laborartory Use Only

Seal #:
Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 1.8
On Ice [✓]

11.1 11

D18583: Chain of Custody
Page 1 of 2
Accutest Labs of New England, Inc.

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D18583 **Client:** AMS **Immediate Client Services Action Required:** No

Date / Time Received: 10/30/2010 11:00:00 A **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: N/A **Airbill #'s:** N/A

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
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www/accutest.com

D18583: Chain of Custody
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Mountain States ACCUTEST LABORATORIES

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: D18583
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: PCU 297-2A FW Spill

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP12257/GN33401	0.40	0.0	mg/kg	12	12.0	100.0	80-120%
Chromium, Hexavalent	GP12257/GN33401			mg/kg	676	741	109.6	80-120%

Associated Samples:
Batch GP12257: D18583-1, D18583-2
(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D18583
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: PCU 297-2A FW Spill

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GP12257/GN33401	mg/kg	12	11.4	5.1	

Associated Samples:
Batch GP12257: D18583-1, D18583-2
(*) Outside of QC limits

12.2
12

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D18583
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: PCU 297-2A FW Spill

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP12257/GN33401	D18583-2	mg/kg	0.37	0.40	7.8	0-20%
Redox Potential Vs H2	GN33330	D18583-1	mv	364	362	0.6	0-20%

Associated Samples:
Batch GN33330: D18583-1, D18583-2
Batch GP12257: D18583-1, D18583-2
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D18583
Account: ALMS - Accutest Mountain States
Project: KRWCCOL: PCU 297-2A FW Spill

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP12257/GN33401	D18583-2	mg/kg	0.37	13.9	12.1	84.6	75-125%
Chromium, Hexavalent	GP12257/GN33401	D18583-2	mg/kg	0.37	806	927	115.0	75-125%

Associated Samples:
Batch GP12257: D18583-1, D18583-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Mountain States										Nov 12, 2010 13:16 pm
Job Number:	D18583									
Account:	KRW Consulting, Inc.									
Project:	PCU 297-2A FW Spill									
Project Number:	1010-07									
									Legend:	Hit

Client Sample ID:		NORTH 2A	NORTH 2B	NORTH 2C	NORTH CAMP	NORTH CAMP	SOUTH 1A	SOUTH 1B	SOUTH CAMP	SOUTH CAMP
Lab Sample ID:		D18583-5	D18583-6	D18583-7	D18583-1	D18583-1A	D18583-3	D18583-4	D18583-2	D18583-2A
Date Sampled:		10/27/2010	10/27/2010	10/27/2010	10/27/2010	10/27/2010	10/27/2010	10/27/2010	10/27/2010	10/27/2010
Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)										
Benzene	ug/kg	-	-	-	ND (20)	-	-	-	ND (20)	-
Toluene	ug/kg	-	-	-	ND (68)	-	-	-	ND (67)	-
Ethylbenzene	ug/kg	-	-	-	ND (27)	-	-	-	ND (27)	-
m,p-Xylene	ug/kg	-	-	-	386	-	-	-	278	-
o-Xylene	ug/kg	-	-	-	106 J	-	-	-	71.7 J	-
GC/MS Semi-volatiles (SW846 8270C BY SIM)										
Acenaphthene	ug/kg	-	-	-	ND (150)	-	-	-	ND (73)	-
Acenaphthylene	ug/kg	-	-	-	ND (160)	-	-	-	ND (80)	-
Anthracene	ug/kg	-	-	-	ND (100)	-	-	-	ND (50)	-
Benzo(a)anthracene	ug/kg	-	-	-	ND (150)	-	-	-	ND (76)	-
Benzo(a)pyrene	ug/kg	-	-	-	ND (99)	-	-	-	ND (49)	-
Benzo(b)fluoranthene	ug/kg	-	-	-	ND (110)	-	-	-	ND (56)	-
Benzo(g,h,i)perylene	ug/kg	-	-	-	ND (98)	-	-	-	ND (48)	-
Benzo(k)fluoranthene	ug/kg	-	-	-	ND (99)	-	-	-	ND (49)	-
Chrysene	ug/kg	-	-	-	116 J	-	-	-	ND (39)	-
Dibenzo(a,h)anthracene	ug/kg	-	-	-	ND (120)	-	-	-	ND (57)	-
Fluoranthene	ug/kg	-	-	-	ND (96)	-	-	-	ND (48)	-
Fluorene	ug/kg	-	-	-	4370	-	-	-	1720	-
Indeno(1,2,3-cd)pyrene	ug/kg	-	-	-	ND (100)	-	-	-	ND (51)	-
1-Methylnaphthalene	ug/kg	-	-	-	3830	-	-	-	1910	-
2-Methylnaphthalene	ug/kg	-	-	-	8800	-	-	-	5710	-
Naphthalene	ug/kg	-	-	-	971	-	-	-	532	-
Phenanthrene	ug/kg	-	-	-	4210	-	-	-	1220	-
Pyrene	ug/kg	-	-	-	ND (110)	-	-	-	ND (52)	-
GC Volatiles (SW846 8015B)										
TPH-GRO (C6-C10)	mg/kg	ND (13)	ND (14)	ND (13)	23.3	-	ND (13)	ND (13)	20.0	-
GC Semi-volatiles (SW846-8015B)										
TPH-DRO (C10-C28)	mg/kg	117	261	144	21400	-	211	157	5970	-
Metals Analysis										
Arsenic	mg/kg	-	-	-	9.3	-	-	-	7.3	-
Barium	mg/kg	-	-	-	1140	-	-	-	2020	-

Cadmium	mg/kg	-	-	-	<1.2	-	-	-	<1.2	-
Calcium	mg/l	70.7	9.45	11.6	-	12.1	17.6	8.35	-	16.1
Chromium	mg/kg	-	-	-	15.2	-	-	-	18.7	-
Copper	mg/kg	-	-	-	9.4	-	-	-	11.8	-
Lead	mg/kg	-	-	-	<6.1	-	-	-	6.4	-
Magnesium	mg/l	48.2	4.91	5.95	-	7.24	8.10	3.15	-	9.36
Mercury	mg/kg	-	-	-	<0.10	-	-	-	<0.10	-
Nickel	mg/kg	-	-	-	9.8	-	-	-	14.9	-
Selenium	mg/kg	-	-	-	<6.1	-	-	-	<6.1	-
Silver	mg/kg	-	-	-	<3.6	-	-	-	<3.7	-
Sodium	mg/l	752	141	138	-	68.6	149	106	-	137
Zinc	mg/kg	-	-	-	25.8	-	-	-	29.4	-
General Chemistry										
Chromium, Hexavalent	mg/kg	-	-	-	0.53 [a]	-	-	-	<0.45 [a]	-
Chromium, Trivalent	mg/kg	-	-	-	14.7 [b]	-	-	-	18.3 [b]	-
Redox Potential Vs H2	mv	-	-	-	364 [a]	-	-	-	320 [a]	-
Sodium Adsorption Ratio	ratio	16.9 [c]	9.27 [c]	8.21 [c]	-	3.85 [c]	7.37 [c]	7.93 [c]	-	6.72 [c]
Solids, Percent	%	87.4	84.6	85.4	85.1	-	87.2	86.3	85.8	-
Specific Conductivity	umhos/cm	4380	738	723	404	-	839	504	837	-
pH	su	9.24	9.63	9.55	8.92	-	9.13	9.47	9.28	-

Footnotes:

[a] Analysis performed at Accutest Laboratories, Marlborough, MA.

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

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

Mountain States ACCUTEST LABORATORIES

01/19/11

Technical Report for

KRW Consulting, Inc.

PCU 297-12A

Accutest Job Number: D20313

Sampling Date: 01/06/11

Report to:

KRW Consulting, Inc.
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ATTN: Dwayne Knudson

Total number of pages in report: **59**

ACCREDITED IN ACCORDANCE WITH nelac

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.

John Hamilton
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

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

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Accutest Laboratories

Sample Summary

KRW Consulting, Inc.

PCU 297-12A

Job No: D20313

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D20313-1	01/06/11	11:00	GK	01/10/11	SO	Soil	297-2A 1/1-2
D20313-2	01/06/11	11:10	GK	01/10/11	SO	Soil	297-2A 1/2-4
D20313-3	01/06/11	11:20	GK	01/10/11	SO	Soil	297-2A 1/4-9
D20313-4	01/06/11	13:00	GK	01/10/11	SO	Soil	297-2A 1/19-24B
D20313-4A	01/06/11	13:00	GK	01/10/11	SO	Soil	297-2A 1/19-24B
D20313-5	01/06/11	14:10	GK	01/10/11	SO	Soil	297-2A 2/1-2
D20313-6	01/06/11	14:30	GK	01/10/11	SO	Soil	297-2A 2/2-4
D20313-7	01/06/11	14:45	GK	01/10/11	SO	Soil	297-2A 2/4-9
D20313-8	01/06/11	15:10	GK	01/10/11	SO	Soil	297-2A 2/9-14
D20313-9	01/06/11	15:30	GK	01/10/11	SO	Soil	297-2A 2/14-19B
D20313-9A	01/06/11	15:30	GK	01/10/11	SO	Soil	297-2A 2/14-19B
D20313-10	01/06/11	00:00	GK	01/11/11	SO	Soil	297-2A 1/12-14
D20313-11	01/06/11	12:00	GK	01/10/11	SO	Soil	297-2A 1/14-19

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	KRW Consulting, Inc.	**Job No**	D20313
Site:	PCU 297-12A	**Report Date**	1/19/2011 3:18:45 PM

Between 01/10/2011 and 01/11/2011, 11 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.7 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D20313 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 8015B

Matrix SO **Batch ID:** GGA552

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D20313-1MS, D20313-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP3018

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D20313-1MS, D20313-1MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP3818

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D20306-1AMS, D20306-1AMSD were used as the QC samples for the metals analysis.

Metals By Method SW846 6020

Matrix SO **Batch ID:** MP3825

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D20313-4MS, D20313-4MSD, D20313-4SDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method LADNR29B

Matrix SO **Batch ID:** MP3818

- D20313-9A and D20313-4A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN7846

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

Wet Chemistry By Method SW846 9045C

Matrix	SO	Batch ID:	GN7848

- The following samples were run outside of holding time for method SW846 9045C: D20313-4, D20313-9

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.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	297-2A 1/1-2		
Lab Sample ID:	D20313-1	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	85.0
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0190.D	1	01/11/11	BR	n/a	n/a	GGA552
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)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	112%		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:	297-2A 1/1-2		
Lab Sample ID:	D20313-1	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	85.0
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5479.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
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)	21.3	16	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	106%		63-130%

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:	297-2A 1/2-4		
Lab Sample ID:	D20313-2	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	89.7
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0193.D	1	01/11/11	BR	n/a	n/a	GGA552
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)	ND	12	12	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	107%		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:	297-2A 1/2-4		
Lab Sample ID:	D20313-2	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	89.7
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5480.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	15.4	15	9.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		63-130%

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:	297-2A 1/4-9		
Lab Sample ID:	D20313-3	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	91.0
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0194.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	12	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	110%		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:	297-2A 1/4-9		
Lab Sample ID:	D20313-3	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	91.0
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5481.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
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)	135	15	9.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		63-130%

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:	297-2A 1/19-24B		
Lab Sample ID:	D20313-4	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.7
Project:	PCU 297-12A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.4	0.44	mg/kg	5	01/14/11	01/14/11 GJ	SW846 6020 [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA1253
(2) Prep QC Batch: MP3825

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 1/19-24B		
Lab Sample ID:	D20313-4	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.7
Project:	PCU 297-12A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	86.7		%	1	01/11/11	SWT	SM19 2540B M
Specific Conductivity	705	1.0	umhos/cm	1	01/19/11	CJ	DEPT.OF AG, BOOK N9
pH	9.15		su	1	01/11/11 13:05	JD	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 1/19-24B		
Lab Sample ID:	D20313-4A	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.7
Project:	PCU 297-12A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	26.1	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	16.4	1.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	91.8	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1250
(2) Prep QC Batch: MP3818

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 1/19-24B		
Lab Sample ID:	D20313-4A	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.7
Project:	PCU 297-12A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	3.47		ratio	1	01/13/11 13:50	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 2/1-2		
Lab Sample ID:	D20313-5	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	86.9
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0195.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	101%		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:	297-2A 2/1-2		
Lab Sample ID:	D20313-5	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	86.9
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5482.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	77.1	15	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		63-130%

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:	297-2A 2/2-4		
Lab Sample ID:	D20313-6	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	86.8
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0196.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	106%		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:	297-2A 2/2-4		
Lab Sample ID:	D20313-6	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	86.8
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5432.D	1	01/13/11	JB	01/13/11	OP3018	GFE278
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)	ND	15	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		63-130%

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:	297-2A 2/4-9		
Lab Sample ID:	D20313-7	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	83.4
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0197.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	14	14	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	106%		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:	297-2A 2/4-9		
Lab Sample ID:	D20313-7	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	83.4
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5433.D	1	01/13/11	JB	01/13/11	OP3018	GFE278
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)	ND	16	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		63-130%

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:	297-2A 2/9-14		
Lab Sample ID:	D20313-8	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	86.6
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0198.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	104%		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:	297-2A 2/9-14		
Lab Sample ID:	D20313-8	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	86.6
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5434.D	1	01/13/11	JB	01/13/11	OP3018	GFE278
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)	ND	15	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		63-130%

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:	297-2A 2/14-19B		
Lab Sample ID:	D20313-9	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.0
Project:	PCU 297-12A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.7	0.47	mg/kg	5	01/14/11	01/14/11 GJ	SW846 6020 [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA1253
(2) Prep QC Batch: MP3825

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 2/14-19B		
Lab Sample ID:	D20313-9	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.0
Project:	PCU 297-12A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	86		%	1	01/11/11	SWT	SM19 2540B M
Specific Conductivity	637	1.0	umhos/cm	1	01/19/11	CJ	DEPT.OF AG, BOOK N9
pH	9.49		su	1	01/11/11 13:05	JD	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 2/14-19B		
Lab Sample ID:	D20313-9A	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.0
Project:	PCU 297-12A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	49.4	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	6.51	1.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	111	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1250
(2) Prep QC Batch: MP3818

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 2/14-19B		
Lab Sample ID:	D20313-9A	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	86.0
Project:	PCU 297-12A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	3.94		ratio	1	01/13/11 13:56	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	297-2A 1/12-14		
Lab Sample ID:	D20313-10	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/11/11
Method:	SW846 8015B	**Percent Solids:**	87.6
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0199.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	104%		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:	297-2A 1/12-14		
Lab Sample ID:	D20313-10	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/11/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	87.6
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5435.D	1	01/13/11	JB	01/13/11	OP3018	GFE278
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	15	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		63-130%

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:	297-2A 1/14-19		
Lab Sample ID:	D20313-11	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846 8015B	**Percent Solids:**	85.4
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA0200.D	1	01/11/11	BR	n/a	n/a	GGA552
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	112%		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:	297-2A 1/14-19		
Lab Sample ID:	D20313-11	**Date Sampled:**	01/06/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	85.4
Project:	PCU 297-12A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5436.D	1	01/13/11	JB	01/13/11	OP3018	GFE278
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	16	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		63-130%

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

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

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

D20313

PAGE 1 OF 2

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 W. 14th Ave. Ste. 200
City State Zip: Lakewood CO 80214
Project Contact E-mail: Dwayne Knudson dknudson@krwconsulting.com
Phone# Fax #: 970-675-4066 303-239-0745
Sampler(s) Name(s) Phone #: Greg Knoll & Dwayne Knudson

Project Information

Project Name: PCU 297-2A
Street:
City:
Project#: 1010-07
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bioulite	TPH - GRO	TPH - DRO	pH, EC, SAR, ARSENIC									LAB USE ONLY
	297-2A 1/1-2		1-6-11	1100	GK	SO	2										X	X										01
	1/2-4			1110			2										X	X										02
	1/4-9			1120			2										X	X										03
	1/19-24 B			1300			1												X									04
	2/1-2		1-6-11	1410			2										X	X										05
	2/2-4			1430			2										X	X										06
	2/4-9			1445			2										X	X										07
	2/9-14			1510			2										X	X										08
	2/14-19 B			1530			1												X									09

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [x] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Also email results to:
gknoll@krwconsulting.com
jhess@krwconsulting.com

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:
1 Dwayne Knudson	1-7-11 1600	1 [signature]	2 [signature]	1/11/11 800	2 Unnatu Rachak
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3 Unnatu Rachak	1.11.11 815	3 [signature] 1/11/11 0815	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5		5	[ ] Intact [ ] Not intact	N/A	[x] 2.7°C

D20313: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

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

D20313

PAGE 2 OF 2

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

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 W. 14th Ave., Ste. 200
City State Zip: Lakewood CO 80214
Project Contact E-mail: Dwayne Knudson dknudson@krwconsulting.com
Phone # Fax #: 970-675-4066 303-279-0245
Sampler(s) Name(s) Phone #: Greg Knell & Dwayne Knudson

Project Information

Project Name: PCU 297-24
Street:
City:
Project #: 1010-07
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	TPH-GRO	TPH-DRO	LAB USE ONLY
	297-2A 1/12-14		1-6-11	1200	GK	SO	2										X	X	10
	297-2A 1/14-19		1-6-11	1230	GK	SO	2										X	X	11

Data Deliverable Information

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [x] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Also email results to:
~~gkn~~ gknell@krwconsulting.com
jhess@krwconsulting.com

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:
1 [signature]	1-7-11 1600	1 [signature]	2 [signature]	1/11/11 800	2 Christie Rachak
Relinquished by Sampler: Christie Rachak	Date Time: 1-11-11 815	Received By: 3 [signature] 1/11/11 0815	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not Intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp.

4.1
4

D20313: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA552-MB	GA0188.D	1	01/11/11	BR	n/a	n/a	GGA552

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

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

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	112%	60-140%

Blank Spike Summary

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA552-BS	GA0189.D	1	01/11/11	BR	n/a	n/a	GGA552

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	102	93	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	124%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D20313-1MS	GA0191.D	1	01/11/11	BR	n/a	n/a	GGA552
D20313-1MSD	GA0192.D	1	01/11/11	BR	n/a	n/a	GGA552
D20313-1	GA0190.D	1	01/11/11	BR	n/a	n/a	GGA552

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

CAS No.	Compound	D20313-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		148	133	90	136	92	2	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20313-1	Limits
120-82-1	1,2,4-Trichlorobenzene	121%	121%	112%	60-140%

Mountain States ACCUTEST LABORATORIES

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

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3018-MB	FE5424.D	1	01/13/11	JB	01/13/11	OP3018	GFE278

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

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	106%	63-130%

Blank Spike Summary

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3018-BS	FE5476.D	1	01/15/11	JB	01/13/11	OP3018	GFE279

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	671	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	102%	63-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D20313
Account: KRWCCOL KRW Consulting, Inc.
Project: PCU 297-12A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3018-MS	FE5477.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
OP3018-MSD	FE5478.D	1	01/15/11	JB	01/13/11	OP3018	GFE279
D20313-1	FE5479.D	1	01/15/11	JB	01/13/11	OP3018	GFE279

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

D20313-1, D20313-2, D20313-3, D20313-5, D20313-6, D20313-7, D20313-8, D20313-10, D20313-11

CAS No.	Compound	D20313-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	21.3		782	843	105	727	90	15	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20313-1	Limits
84-15-1	o-Terphenyl	105%	93%	106%	63-130%

Mountain States ACCUTEST LABORATORIES

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: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	193	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	30.5	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-560	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP3818: D20313-4A, D20313-9A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	D20306-1A Original MS		Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	58300	193000	125000	107.8	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	7640	128000	125000	96.3	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	8090	130000	125000	97.5	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3818: D20313-4A, D20313-9A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

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

7.1.2

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	D20306-1A Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	58300	191000	125000	106.2	1.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	7640	130000	125000	97.9	1.6	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	8090	132000	125000	99.1	1.5	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3818: D20313-4A, D20313-9A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

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

7.1.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	124000	125000	99.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	123000	125000	98.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	123000	125000	98.4	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3818: D20313-4A, D20313-9A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3825
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/14/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.27	<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 MP3825: D20313-4, D20313-9

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: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3825
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/14/11

Metal	D20313-4 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	4.4	115	115	95.9	60-119
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 MP3825: D20313-4, D20313-9

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: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3825
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/14/11

Metal	D20313-4 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	4.4	107	112	91.6	7.2	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 MP3825: D20313-4, D20313-9

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: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3825
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/14/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	105	100	105.0	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 MP3825: D20313-4, D20313-9

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

QC Batch ID: MP3825
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 01/14/11

Metal	D20313-4 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	40.0	40.8	2.2	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 MP3825: D20313-4, D20313-9

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

Mountain States ACCUTEST LABORATORIES

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: D20313
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-12A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP3620/GN7935			umhos/cm	9985	10200	102.0	90-110%
pH	GN7848			su	8.00	7.98	99.8	99.3-100.7%
pH	GN7848			su	8.00	7.98	99.8	99.3-100.7%

Associated Samples:
Batch GN7848: D20313-4, D20313-9
Batch GP3620: D20313-4, D20313-9
(*) Outside of QC limits

Mountain States ACCUTEST LABORATORIES

01/19/11

Technical Report for

KRW Consulting, Inc.

PCU 297-2A

Background PO 1010-07

Accutest Job Number: D20306

Sampling Date: 01/07/11

Report to:

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Total number of pages in report: **36**

ACCREDITED IN ACCORDANCE WITH nelac

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.

John Hamilton
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

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

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Sample Summary

KRW Consulting, Inc.

Job No: D20306

PCU 297-2A
Project No: Background PO 1010-07

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D20306-1	01/07/11	11:00	MR	01/10/11	SO	Soil	PCU 297-2A BG1
D20306-1A	01/07/11	11:00	MR	01/10/11	SO	Soil	PCU 297-2A BG1
D20306-2	01/07/11	10:30	MR	01/10/11	SO	Soil	PCU 297-2A BG2
D20306-2A	01/07/11	10:30	MR	01/10/11	SO	Soil	PCU 297-2A BG2
D20306-3	01/07/11	11:30	MR	01/10/11	SO	Soil	PCU 297-2A BG3
D20306-3A	01/07/11	11:30	MR	01/10/11	SO	Soil	PCU 297-2A BG3

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	KRW Consulting, Inc.	**Job No**	D20306
Site:	PCU 297-2A	**Report Dat**	1/19/2011 1:50:17 PM

On 01/10/2011, three (3) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 3.0°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D20306 was assigned to the project. The lab sample IDs, client sample IDs, and dates 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.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP3818

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20306-1AMS and D20306-1AMSD were used as the QC samples for the metals analysis.

Metals By Method SW846 6020

Matrix SO **Batch ID:** MP3791

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20296-1MS, D20296-1MSD, and D20296-1SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD for Arsenic is outside control limits for sample MP3791-SD1. The percent difference is acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method LADNR29B

Matrix SO **Batch ID:** MP3818

- Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN7833

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

Wet Chemistry By Method SW846 9045C

Matrix SO **Batch ID:** GN7830

- The following samples were run outside of holding time for method SW846 9045C: D20306-1, D20306-2, and D20306-3.

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.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PCU 297-2A BG1		
Lab Sample ID:	D20306-1	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	76.2
Project:	PCU 297-2A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.5	0.53	mg/kg	5	01/11/11	01/12/11	GJ	SW846 6020 [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA1246
(2) Prep QC Batch: MP3791

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG1		
Lab Sample ID:	D20306-1	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	76.2
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	76.2		%	1	01/11/11	SWT	SM19 2540B M
Specific Conductivity	329	1.0	umhos/cm	1	01/19/11	CJ	DEPT.OF AG, BOOK N9
pH	8.56		su	1	01/10/11 15:50	JK	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG1		
Lab Sample ID:	D20306-1A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	76.2
Project:	PCU 297-2A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	58.3	2.0	mg/l	1	01/13/11	01/13/11 JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	7.64	1.0	mg/l	1	01/13/11	01/13/11 JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	8.09	2.0	mg/l	1	01/13/11	01/13/11 JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1250
(2) Prep QC Batch: MP3818

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG1		
Lab Sample ID:	D20306-1A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	76.2
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	0.264		ratio	1	01/13/11 13:05	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG2		
Lab Sample ID:	D20306-2	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	77.7
Project:	PCU 297-2A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	4.5	0.50	mg/kg	5	01/11/11	01/12/11	GJ	SW846 6020 [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA1246
(2) Prep QC Batch: MP3791

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG2		
Lab Sample ID:	D20306-2	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	77.7
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	77.7		%	1	01/11/11	SWT	SM19 2540B M
Specific Conductivity	584	1.0	umhos/cm	1	01/19/11	CJ	DEPT.OF AG, BOOK N9
pH	8.91		su	1	01/10/11 15:50	JK	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG2		
Lab Sample ID:	D20306-2A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	77.7
Project:	PCU 297-2A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	117	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	12.3	1.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	14.6	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1250
(2) Prep QC Batch: MP3818

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG2		
Lab Sample ID:	D20306-2A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	77.7
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	0.343		ratio	1	01/13/11 13:37	JM	LADNR29B

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG3		
Lab Sample ID:	D20306-3	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	74.5
Project:	PCU 297-2A		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	5.9	0.56	mg/kg	5	01/11/11	01/12/11	GJ	SW846 6020 [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA1246
(2) Prep QC Batch: MP3791

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG3		
Lab Sample ID:	D20306-3	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	74.5
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	74.5		%	1	01/11/11	SWT	SM19 2540B M
Specific Conductivity	477	1.0	umhos/cm	1	01/19/11	CJ	DEPT.OF AG, BOOK N9
pH	9.00		su	1	01/10/11 15:50	JK	SW846 9045C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG3		
Lab Sample ID:	D20306-3A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	74.5
Project:	PCU 297-2A		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	78.9	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	10.2	1.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]
Sodium	24.9	2.0	mg/l	1	01/13/11	01/13/11	JM	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA1250
(2) Prep QC Batch: MP3818

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU 297-2A BG3		
Lab Sample ID:	D20306-3A	**Date Sampled:**	01/07/11
Matrix:	SO - Soil	**Date Received:**	01/10/11
		Percent Solids:	74.5
Project:	PCU 297-2A		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	0.700		ratio	1	01/13/11 13:44	JM	LADNR29B

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

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

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

D20306

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 W. 14th Ave
City State Zip: LAKEWOOD Co 80214
Project Contact: Dwayne Knudson
E-mail:
Phone #: 303 239 9011 Fax #: 303 239 0745
Sampler(s) Name(s): Mike R.
Phone #:

Project Information

Project Name: PCW 297-2A BG
Street:
City:
Project#: 1010-07
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): PH, EC, SAR; Arsenic

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	PH, EC, SAR	Arsenic	LAB USE ONLY
	PCW 297-2A BG 1		1-7-11	1100	MR	SO	2										✓	✓	01
	PCW 297-2A BG 2		1-7-11	1030	MR	SO	2										✓	✓	02
	PCW 297-2A BG 3		1-7-11	1130	MR	SO	2										✓	✓	03
																			1p

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [x] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Email Results to:
dknudson@KRWConsulting.com
Jhess @ " "
gknell @ " "

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:
1 Mike R.	1-7-11 1500	1 [illegible]	2	1-8-11 1100	2 [illegible]
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal # 140	☑ Intact ☐ Not intact	Preserved where applicable ☐ N/A	On Ice ☑	Cooler Temp. 3.0
5		5					

4.1

4

D20306: Chain of Custody
Page 1 of 1

Mountain States ACCUTEST LABORATORIES

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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3791
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/11/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.31	<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 MP3791: D20306-1, D20306-2, D20306-3

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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3791
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/11/11

Metal	D20296-1 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1.2	513	540	93.9	60-119
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 MP3791: D20306-1, D20306-2, D20306-3

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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3791
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/11/11

Metal	D20296-1 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1.2	496	523	93.7	3.4	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 MP3791: D20306-1, D20306-2, D20306-3

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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3791
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/11/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	105	100	105.0	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 MP3791: D20306-1, D20306-2, D20306-3

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3791
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 01/11/11

Metal	D20296-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	11.4	9.99	11.4 (a)	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 MP3791: D20306-1, D20306-2, D20306-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	193	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	30.5	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-560	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP3818: D20306-1A, D20306-2A, D20306-3A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	D20306-1A Original MS		Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	58300	193000	125000	107.8	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	7640	128000	125000	96.3	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	8090	130000	125000	97.5	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3818: D20306-1A, D20306-2A, D20306-3A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	D20306-1A Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	58300	191000	125000	106.2	1.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	7640	130000	125000	97.9	1.6	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	8090	132000	125000	99.1	1.5	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3818: D20306-1A, D20306-2A, D20306-3A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 01/13/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	124000	125000	99.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	123000	125000	98.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	123000	125000	98.4	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3818: D20306-1A, D20306-2A, D20306-3A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

QC Batch ID: MP3818
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

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: D20306
Account: KRWCCOL - KRW Consulting, Inc.
Project: PCU 297-2A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP3620/GN7935			umhos/cm	9985	10200	102.0	90-110%
pH	GN7830			su	8.00	7.97	99.6	99.3-100.7%
pH	GN7830			su	8.00	7.97	99.6	99.3-100.7%

Associated Samples:
Batch GN7830: D20306-1, D20306-2, D20306-3
Batch GP3620: D20306-1, D20306-2, D20306-3
(*) Outside of QC limits