

Technical Report for

KRW Consulting, Inc.

1001-07

FRV 297-28C

Accutest Job Number: D10555

Sampling Date: 01/22/10

Report to:

KRW Consulting, Inc.

dknudson@krwconsulting.com

ATTN: Dwayne Knudson

Total number of pages in report: 27



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



Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

KRW Consulting, Inc.

Job No: D10555

1001-07

Project No: FRV 297-28C

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D10555-1	01/22/10	10:00 MR	01/25/10	SO	Soil	297-28-B1A
D10555-1A	01/22/10	10:00 MR	01/25/10	SO	Soil	297-28-B1A
D10555-2	01/22/10	10:50 MR	01/25/10	SO	Soil	297-28-B1B
D10555-2A	01/22/10	10:50 MR	01/25/10	SO	Soil	297-28-B1B
D10555-3	01/22/10	11:58 MR	01/25/10	SO	Soil	297-28-B2A
D10555-3A	01/22/10	11:58 MR	01/25/10	SO	Soil	297-28-B2A
D10555-4	01/22/10	13:00 MR	01/25/10	SO	Soil	297-28-B2B
D10555-4A	01/22/10	13:00 MR	01/25/10	SO	Soil	297-28-B2B
D10555-5	01/22/10	14:25 MR	01/25/10	SO	Soil	297-28-B3A
D10555-5A	01/22/10	14:25 MR	01/25/10	SO	Soil	297-28-B3A
D10555-6	01/22/10	15:15 MR	01/25/10	SO	Soil	297-28-B3B
D10555-6A	01/22/10	15:15 MR	01/25/10	SO	Soil	297-28-B3B

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: KRW Consulting, Inc.

Job No D10555

Site: 1001-07

Report Dat 2/7/2012 1:05:12 PM

On 01/25/2010, 6 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 D10555 was assigned to the project. The lab sample IDs, client sample IDs, 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.

Metals By Method SW846 6010B

Matrix AQ	Batch ID: MP1210
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- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6020

Matrix SO	Batch ID: MP1209
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- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D10555-7ADUP, D10555-7AMS, D10555-7AMSD, D10555-7ASDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method DEPT.OF AG, BOOK N9

Matrix SO	Batch ID: GP1409
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- 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: R1188
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- The data for LADNR29B meets quality control requirements.
- Sodium Adsorption Ratio: Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN2994
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- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 9045C

Matrix SO	Batch ID: GN3004
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- The following samples were run outside of holding time for method SW846 9045C: D10555-1 through D10555-6.

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 Results

Report of Analysis

Report of Analysis

Client Sample ID: 297-28-B1A	Date Sampled: 01/22/10
Lab Sample ID: D10555-1	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	51.6	2.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Magnesium	7.29	1.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Sodium	50.1	2.0	mg/l	1	02/04/10	02/08/10 JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B1A	Date Sampled: 01/22/10
Lab Sample ID: D10555-1	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	1.73		ratio	1	02/09/10 13:29	JM	LADNR29B
Specific Conductivity	481	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.07		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B1A	Date Sampled: 01/22/10
Lab Sample ID: D10555-1A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 80.7
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	1.9	0.35	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B1B Lab Sample ID: D10555-2 Matrix: SO - Soil Project: 1001-07	Date Sampled: 01/22/10 Date Received: 01/25/10 Percent Solids: n/a
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SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	11.0	2.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Magnesium	4.05	1.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Sodium	85.8	2.0	mg/l	1	02/04/10	02/08/10 JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B1B	Date Sampled: 01/22/10
Lab Sample ID: D10555-2	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	5.62		ratio	1	02/09/10 13:35	JM	LADNR29B
Specific Conductivity	478	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.53		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B1B	Date Sampled: 01/22/10
Lab Sample ID: D10555-2A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 85.4
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4	0.35	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2A	Date Sampled: 01/22/10
Lab Sample ID: D10555-3	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	60.7	2.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Magnesium	9.11	1.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Sodium	75.6	2.0	mg/l	1	02/04/10	02/08/10 JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2A	Date Sampled: 01/22/10
Lab Sample ID: D10555-3	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	2.39		ratio	1	02/09/10 13:41	JM	LADNR29B
Specific Conductivity	719	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.19		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2A	Date Sampled: 01/22/10
Lab Sample ID: D10555-3A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 85.2
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.1	0.34	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2B	Date Sampled: 01/22/10
Lab Sample ID: D10555-4	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	31.5	2.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Magnesium	24.1	1.0	mg/l	1	02/04/10	02/09/10 JM	SW846 6010B ²	SW846 3010A ³
Sodium	328	2.0	mg/l	1	02/04/10	02/08/10 JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2B	Date Sampled: 01/22/10
Lab Sample ID: D10555-4	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	10.7		ratio	1	02/09/10 13:47	JM	LADNR29B
Specific Conductivity	2060	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.64		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B2B	Date Sampled: 01/22/10
Lab Sample ID: D10555-4A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 89.1
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.7	0.34	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B3A	Date Sampled: 01/22/10
Lab Sample ID: D10555-5	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	21.6	2.0	mg/l	1	02/04/10 02/09/10	JM	SW846 6010B ²	SW846 3010A ³
Magnesium	3.02	1.0	mg/l	1	02/04/10 02/09/10	JM	SW846 6010B ²	SW846 3010A ³
Sodium	9.60	2.0	mg/l	1	02/04/10 02/08/10	JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

3.9
3

Client Sample ID: 297-28-B3A Lab Sample ID: D10555-5 Matrix: SO - Soil Project: 1001-07	Date Sampled: 01/22/10 Date Received: 01/25/10 Percent Solids: n/a
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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.512		ratio	1	02/09/10 13:53	JM	LADNR29B
Specific Conductivity	170	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.23		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B3A	Date Sampled: 01/22/10
Lab Sample ID: D10555-5A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 89.4
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.5	0.32	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B3B	Date Sampled: 01/22/10
Lab Sample ID: D10555-6	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	56.8	2.0	mg/l	1	02/04/10 02/08/10	JM	SW846 6010B ¹	SW846 3010A ³
Magnesium	39.5	1.0	mg/l	1	02/04/10 02/09/10	JM	SW846 6010B ²	SW846 3010A ³
Sodium	556	2.0	mg/l	1	02/04/10 02/08/10	JM	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA380
- (2) Instrument QC Batch: MA388
- (3) Prep QC Batch: MP1210

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B3B	Date Sampled: 01/22/10
Lab Sample ID: D10555-6	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: n/a
Project: 1001-07	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	13.9		ratio	1	02/09/10 13:59	JM	LADNR29B
Specific Conductivity	3420	1.00	umhos/cm	1	02/03/10	CJ	DEPT.OF AG, BOOK N9
pH	9.48		su	1	01/25/10 14:20	JD	SW846 9045C

(a) Calculated as: $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID: 297-28-B3B	Date Sampled: 01/22/10
Lab Sample ID: D10555-6A	Date Received: 01/25/10
Matrix: SO - Soil	Percent Solids: 87.0
Project: 1001-07	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.3	0.33	mg/kg	1	02/05/10	02/09/10 SES	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA386

(2) Prep QC Batch: MP1209

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Job Change Order: D10555_2/6/2012

Requested	2/6/2012	Received Date:	1/25/2010
Account Name:	KRW Consulting, Inc.	Due Date:	2/8/2010
Project	1001-07	Deliverable:	COMMBN
CSR:	RR	TAT (Days):	0

Sample #: D10555-7, 7A, 8, 8A, 9, 9A
Change: Please move samples to a B job and re-issue original report without these samples. Thank you.

Above Changes Per: Dwayne Knudson - Client **Date:** 2/6/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.