AP - 018

REPORTS

12/07/1999

PHASE II ENVIRONMENTAL ASSESSMENT
JULY, 1999 GROUNDWATER SAMPLING

South Langley Jal Unit
Lea County, New Mexico

CORNERSTONE ENVIRONMENTAL RESOURCES, INC.
2997 LBJ Freeway * Suite 103 * Dallas, Texas * 75234-7606 * (972) 243-7643

PHASE II ENVIRONMENTAL ASSESSMENT
JULY, 1999 GROUNDWATER SAMPLING
South Langley Jal Unit
Lea County, New Mexico

PREPARED FOR:

Bristol Resources Corporation

Mr. Dan Abney

6655 South Lewis

Tulsa, Oklahoma 74136

PREPARED BY:

Cornerstone Environmental Resources, Inc.

2997 LBJ Freeway

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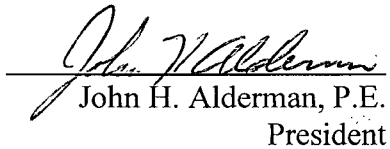
Dallas, Texas 75234-7606



John H. Alderman, P.E.
President

PHASE II ENVIRONMENTAL ASSESSMENT
JUNE 1999 GROUNDWATER SAMPLING

South Langley Jal Unit
Lea County, New Mexico

Summary of Contents

CORNERSTONE ENVIRONMENTAL RESOURCES, INC.
2997 LBJ Freeway * Suite 103 * Dallas, Texas * 75234-7606 * (972) 243-7643

1.0 EXECUTIVE SUMMARY

Cornerstone Environmental Resources, Inc. (CERI) conducted an Environmental Assessment (EA) of the South Langley Jal Unit (SLJU) located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol Resources Corporation (Bristol). The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted the EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the New Mexico Oil Conservation Division's (NMOCD) Hobbs office. Additional information was then requested by the NMOCD. They requested that Bristol:

1. demonstrate that any remaining water contaminant will not impact groundwater or environment.
2. perform Vertical and Horizontal delineation by sampling for benzene, toluene, ethylbenzene and xylene (BTEX), total petroleum hydrocarbons (TPH), and chlorides (Cl).

Additional testing was performed in July, 1999. Six soil borings were advanced to depths of 20 to 25 feet to further delineate the Cl concentrations in the area and to test for TPH and BTEX. The soil borings found high Cl concentrations present in the study area at depths of 20 to 25 feet. The purpose of this portion of the study is to recover groundwater samples and evaluate the quality of the ground water in the project area. A monitoring well was installed south of the study area in July, 1999 to provide information to make the evaluation. A ground water sample from the well was recovered and analyzed. The location of the Monitoring Well was approximately 75 feet south of the soil boring designated as Well #1.

Samples were also taken from two water wells south of the study area. The wells were located approximately 800 feet south of the study area. One water wells was located at Mr. Clay Osborne's residence and was described by Mr. Osborne as the "good well". The other well was in the same area at an abandoned house and was described as the "poor well".

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The Cl concentration in the water recovered from the Monitoring Well and the good well were about the same. The Cl measurement in the Monitoring Well was 348 milligrams/liter (mg/l) and in the good well it was 342 mg/l. The Cl measured in the poor well was 687 mg/l. The sulfate (SO4) concentration in the poor well was also higher than the Monitoring Well and the good well. The SO4 concentration measured in the poor well was 1,440 mg/l while in the Monitoring Well and the good well the concentrations were 154 mg/l and 304 mg/l.

Published values of water quality in southern Lea County were also reviewed to assist in evaluating the water quality in the project area (Nicholson & Clebsch, 1961). The report discusses how groundwater in the county was being impacted by brine disposal pits. Chemical analysis is provided on 61 water wells in southern Lea County. The dates of the sampling ranged from 1929 to 1958. Eighteen of the wells had a Cl concentration greater than 250 mg/l. Twelve of these wells were in the Quarternary alluvium with depths ranging from 33 to 108 feet and showed Cl concentrations ranging from 320 mg/l to 1,240 mg/l. One well within the same township as the subject site (T25S R37E) showed a Cl concentration of 610 mg/l but the depth of that well was not recorded.

Based on the analysis of the soil and water samples gathered as part of this study and on the literature reviewed it is our opinion that the area impacted by brine waters is greater than what would have been impacted by the injection line spill reported in January, 1999. Further delineation or remedial actions should be based on a risk assessment which would include water quality and expected use of the water. The Monitoring Well should be tested annually while the risk is being evaluated.

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2.0 INTRODUCTION AND PURPOSE

CERI conducted an EA of the SLJU located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol. The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the NMOCD Hobbs office. Ms. Donna Williams, an environmental engineer with NMOCD, requested additional information be obtained. She requested that Bristol:

1. demonstrate that any remaining water contaminant will not impact groundwater or environment.
2. perform Vertical and Horizontal delineation by sampling for BTEX, TPH, and Cls.

Additional testing was performed in July, 1999. Six soil borings were advanced to depths of 20 to 25 feet to further delineate the chloride concentrations in the area and to test for TPH and BTEX. The soil borings found high Cl concentrations present in the study area at depths of 20 to 25 feet.

The purpose of this portion of the study is to recover groundwater samples and evaluate the quality of the ground water in the project area. A monitoring well was installed south of the study area in July, 1999 to provide information to make the evaluation. A ground water sample from the well was recovered and analyzed. The location of the Monitoring Well was approximately 75 feet south of the soil boring designated as Well #1.

Samples were also taken from two water wells south of the study area. The wells were located approximately 800 feet south of the study area. One water wells was located at Mr. Clay Osborne's residence and was described by Mr., Osborne as the "good well". The other well was in the same area at an abandoned house and was described as the "poor well".

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3.0 LITERATURE REVIEW

A review of historical water quality measurements in southern Lea county New Mexico was made to assist in evaluating Cl measurements in the South Langly Jal Unit. The New Mexico State Bureau of Mines & Mineral Resources published a document in 1961 entitled Geology and Ground-water Conditions in Southern Lea County, New Mexico . This document provides chemical analyses done by the U.S. Geological Survey of 61 water wells found in southern Lea County. The sampling for this document took place during the period from 1929 to 1958.

The wells range in depth from 29 to 1,150 feet and represent aquifers of three distinct geologic sources: Quaternary, Tertiary, and Triassic lithologies. In total, eighteen wells had a Cl concentration greater than 250 mg/l. Twelve of these wells were in the Quarternary alluvium with depths ranging from 33 to 108 feet and showed Cl concentrations ranging from 320 mg/l to 1,240 mg/l. One well within the same township as the subject site (T25S R37E) showed a Cl concentration of 610 mg/l but the depth of that well was not recorded.

A special note is made within the text about the Cl concentrations found within the Quaternary alluvium waters. These values showed a bimodal distribution. Specifically, there were 24 samples representing waters from the Quarternary alluvium and the Ogallala formation and, as stated earlier, twelve had Cl concentrations greater than 250 mg/l. The other half of results clustered in the range below 200 mg/l.

The report also discusses an earlier review of the data which concluded that brine contamination of shallow ground water was occurring. Prior to 1955, it was reported that brine disposal pits did not have water proof linings and that many of those pits did not have adequate surface areas to allow for natural evaporation of the brine discharged. There were some areas which were underlain by caliche and were therefore impermeable. It was reported that in those situations, the caliche was deliberately broken up to promote seepage from the pits which received excess brine. These observations were made in southern Lea County.

4.0 WELL INSTALLATION

The Monitoring Well bore was advanced using a 7 7/8 inch hollow-stem auger. Photo 1

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shows the drilling of the Monitoring Well. Core samples were taken at 5 foot and 10 foot. Samples were taken at 10 foot intervals thereafter until total depth (TD). A sample could not be obtained at TD with equipment on site because the material was a wet unconsolidated sand. A split spoon sampler was used to collect the cores and the material would not stay in the sampler.

Four inch PVC pipe with ten feet of slotted liner on the bottom was run to TD. Silica sand was placed in the annulus between the pipe and the formation. The sand was placed from TD to 46 feet. The sand was four feet above the top of the slotted liner. The sand was then capped with 1 bag of bentonite. The completed well is shown in Photo 2.

The location of the Monitoring Well installation is shown on Figure 2

5.0 SAMPLING

5.1 Water Sampling

An electric pump was used to develop the Monitoring Well prior to sampling. Approximately 100 gallons were removed from the well during development. Water removed from the well was put into 55 gallon drums prior to disposal. The water returns toward the end of the development period appeared to be clear of formation fines. The well was sampled the following morning utilizing a bailer.

Two water wells at a residence south of the project area were sampled using bailers. A dedicated bailer was used to sample each of the water wells and the Monitoring Well. A water sample was also taken from the South Langley Jal Unit injection station.

Water samples were collected in clean one-liter glass containers or 250 milliliter (ml) plastic containers. The sample containers were labeled with a unique code for each sample. The samples were stored with ice and delivered to Core Laboratory's Midland, Texas office for shipment to Core's Houston Texas laboratory.

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5.2 Soil Sampling

Soil samples were taken were taken at 5 foot and 10 foot. Samples were taken at 10 interval thereafter until TD. The soil samples were placed in glass containers and placed in coolers with ice for shipment to Core Laboratory's Midland office and from there to their facility in Houston, Texas. A description of the cores is provided in Table 1.

6.0 SAMPLE ANALYSES AND DISCUSSION

6.1 Laboratory Analysis

The waters were analyzed for chloride (Cl), bromide (Br), sulfate (SO4), magnesium (Mg), potassium (K), and sodium (Na). The metals (Mg, K and Na) were analyzed by ICP using method SW-846 6010B. The anions (Cl, Br, and SO4) were analyzed using IC (EPA 300 for waters and EPA 300 mod for soils. The results are shown in Tables 2 and 3. The laboratory report is in Appendix A.

6.2 Water

The Cls in the Monitoring Well were 348 mg.l which is approximately the same value as was found in the "good" water well at Mr. Clay Osborne's house. The Cls found in the well classified as the good well was 342 mg/l. The Cls in the well classified as the "poor" well near the abandoned house was 687 mg/l.

The sulfate detected in the Monitoring Well and the good well were both lower than the sulfate detected in the poor well. The sulfate measured in the Monitoring Well was 154 mg/l and the value in the good well was 304 mg/l. The value of sulfate measured in the poor well was 1,440 mg/l.

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6.3 Soil

Table 3 shows the results of the cores from the Monitoring Well. The highest Cl analysis was from the intervals 20.5 to 21.5 feet and 30 to 32 feet. The Cl levels measured in these intervals were 99 and 102 mg/kg. The sulfates measured in these two intervals were 160 and 159 mg/kg.

The soil borings made in June, 1999 found high Cl concentrations are present in this area at depths of 20 to 25 feet. The Cl measurements in the June borings ranged from 651 mg/kg in Well #1 to 1,720 mg/kg in well #6. Well #1 is the closest boring to the Monitoring Well.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis of the soil and water samples gathered as part of this study and on the literature reviewed it is our opinion that the area impacted by brine waters is greater than what would have been impacted by the injection line spill reported in January, 1999. Further delineation or remedial actions should be based on a risk assessment which would include water quality and expected use of the water. The Monitoring Well should be tested annually while the risk is being evaluated.

8.0 REFERENCES

Nicholson, A. Jr.. & Alfred Clebsch, Jr.. 1961, Geology & Groundwater Conditions in Southern Lea County, New Mexico, New Mexico Bureau of Mines & Mineral Resources, New Mexico Institute of Mining & Technology Campus Station, Socorro, New Mexico.

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FIGURES

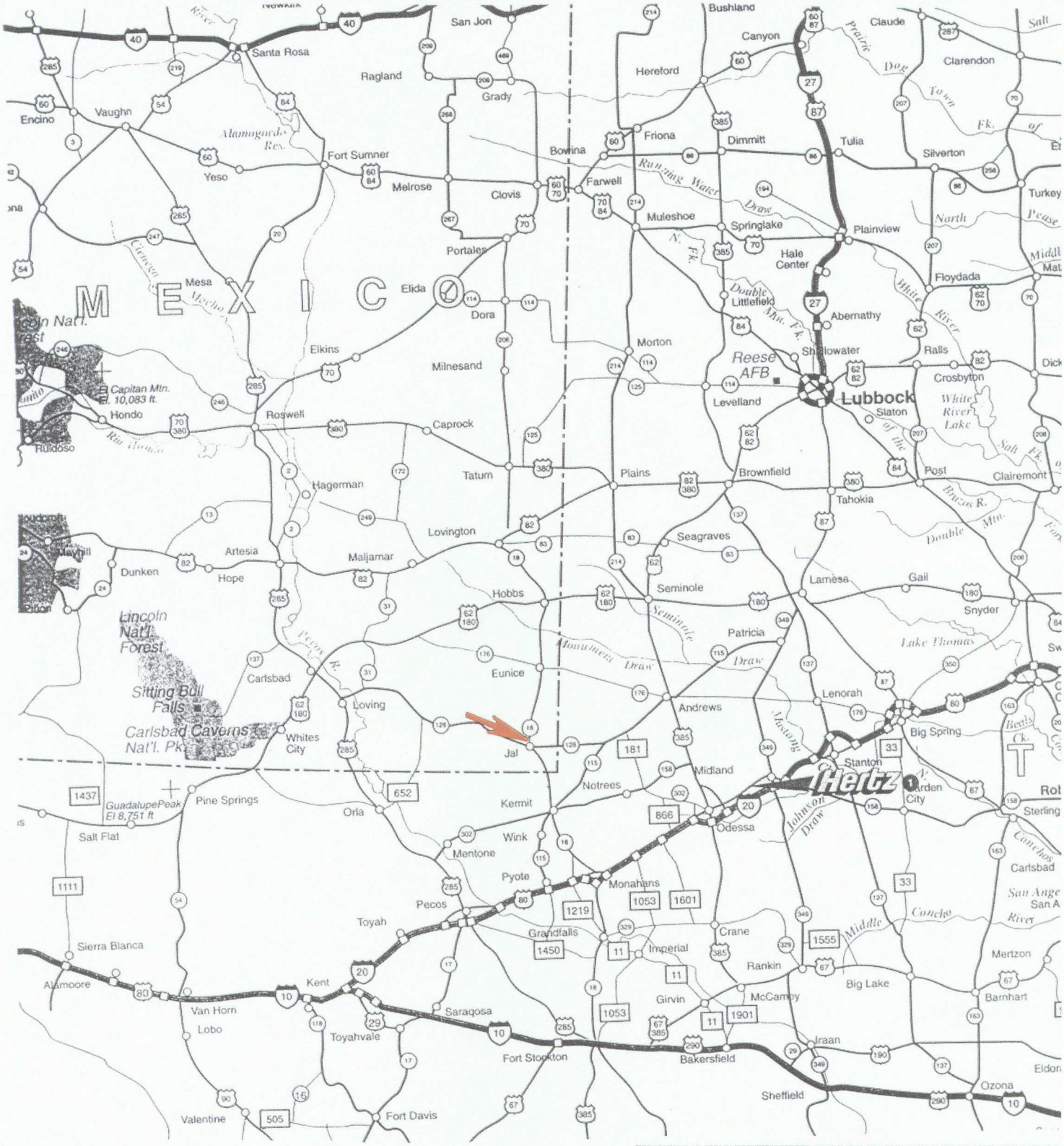

FIGURE 1
LOCATION MAP

Bristol Resources Corporation
South Langley Jal Unit
Lea County, New Mexico

Scale: NONE Date: 02/99

FIGURE 2
TOPOGRAPHIC MAP

Bristol Respurces Corporation
South Langley Jal Unit
Lea County, New Mexico
Jal NW Quadrangle
Date: 08/99

TABLES

TABLE 1
Monitoring Well Core Description
South Langley Jal Unit
Lea County, New Mexico

Description	Sample # & Depth
Core #1 (5'-7") 5'0"-6'9" - Reddish tan fine sand 6'9"-7'0" - Whitish, gray caliche, powdery	072099-1 (5'-6')
Core #2 (10'-12') 10'0"-11'5" - Reddish tan fine sand 10'5"-12'0" - Reddish tan hard caliche, consolidated	072099-2 (10'-11'5")
Core #3 (20'-22') 20'0"-21'0" - Lt. Tan v.f.g sand, consolidated, hard, cemented 21'0"-22'0" - Tan, fine grained sand, hard, consolidated	072099-3 (20'-21')
Core #4 (30'-32') 30'0"-31'4' - Yellow brown, fine grained sand, consolidated 31'4"-32'0' - Same as above & mixed with white to gray caliche	072099-4 (30'-31'4")
Core #5 (40'-42') 40'0"-41'1" - Tan, f.g. sand, unconsolidated with small caliche nodules, slightly damp 41'1"-41'7" - Lt. Brown to tan f.g. sand, unconsolidated, slightly damp 41'7"-42'0" - Lt. Brown & reddish tan f.g. sand, unconsolidated, slightly damp	072099-5 (40'-41'1")
Core #6 (50'-52') 50'0"-52'0" - Reddish brown, f.g. sand, unconsolidated, very wet	072099-6 (50'-52')

TABLE 2
Water Analysis
South Langley Jal Unit
Lea County, New Mexico

Chemical Analysis, Mg/l

Sample Site	Cl	SO4	Br	Na	K	Mg
Monitoring Well	348	154	2.24	125	6	41
Water Well at Clay Osborn's house (good well)	342	304	2.52	122	6	61
Water Well at abandoned house (poor well)	687	1,440	5.6	405	13	135
Produced Water	27,000	4,590	172	15,700	404	3,170

Samples taken 07/21/99

TABLE 3
Soil Analysis From Monitoring Well
South Langley Jal Unit
Lea County, New Mexico

Chemical Analysis, Mg/kg

Sample #	Depth Ft.	Cl	SO4	Br	Na	K	Mg
72099-1	5-6	14	63	ND	ND	1,300	3,320
72099-2	10-11.4	41	69	ND	ND	1,480	2,460
72099-3	20-21	99	160	ND	274	554	932
72099-4	30-31.3	102	159	1	282	616	969
72099-5	40-41.1	25	89	5	235	474	3,810

PHOTOGRAPHS

PHOTO 1: Drilling Monitoring Well in NW1/4 Section 18 T25S, R37E Lea County, New Mexico.

PHOTO 2: Monitoring Well Completion.

PHOTO 3: Bailing water sample from Monitoring Well.

APPENDIX "A"

CORELAB

GULF STATES ANALYTICAL

08/05/99

Mr. John Alderman
Cornerstone Environmental
2997 LBJ Frwy., Ste. 103
Dallas, TX 75234

Reference:
Project: S.Langley JAL Unit
Project No.: 99003
Date Received: 07/22/99
GSA Group: 51963 Group Report Date: 08/05/99

Dear Mr. Alderman:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

072099-1 :270931	072099-2 :270932
072099-3 :270933	072099-4 :270934
072099-5 :270935	072099-6 :270936
072099-7 A,B :270937	072099-8 A,B :270938
072099-9 A,B :270939	072099-10 A,B :270940

All holding times were met for the tests performed on these samples.

Our A2LA accreditation requires that, should this report be reproduced, it must be reproduced in total.

Enclosed please find the Quality Control Summary. All quality control results for the QC batch that are applicable to this sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Core Lab - Gulf States Analytical to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely yours,

Ed Fry
Project Manager

Enclosure

CORELAB

GULF STATES ANALYTICAL

ANALYSIS SUMMARY REPORT

Cornerstone Environmental
2997 LBJ Frwy., Ste. 103
Dallas, TX 75234-7606

GSA Group: 51963
Date Reported: 08/05/1999
Date Received: 07/22/1999

Attn: Mr. John Alderman
Project: S.Langley JAL Unit

Purchase Order: 99003
Project No.: 99003

Test	Analysis	Results as Received	Units	Limit of Quantitation
Sample:270931 - 07/20/1999 - 072099-1				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	3,320	mg/kg	200
	Potassium	1,300	mg/kg	200
	Sodium	ND	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	14	mg/kg	1
	Bromide	ND	mg/kg	1
	Sulfate	63	mg/kg	1
Sample:270932 - 07/20/1999 - 072099-2				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	2,460	mg/kg	200
	Potassium	1,480	mg/kg	200
	Sodium	ND	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	41	mg/kg	1
	Bromide	ND	mg/kg	1
	Sulfate	69	mg/kg	1
Sample:270933 - 07/20/1999 - 072099-3				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	932	mg/kg	200
	Potassium	554	mg/kg	200
	Sodium	274	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	99	mg/kg	1
	Bromide	ND	mg/kg	1
	Sulfate	160	mg/kg	1
Sample:270934 - 07/20/1999 - 072099-4				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	969	mg/kg	200
	Potassium	616	mg/kg	200
	Sodium	282	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	102	mg/kg	1

ANALYSIS SUMMARY REPORT

Cornerstone Environmental GSA Group: 51963

Test	Analysis	Results as Received	Units	Limit of Quantitation
Sample:270934 - 07/20/1999 - 072099-4				
0301A	Anions by IC, Solid			
	Bromide	1	mg/kg	1
	Sulfate	159	mg/kg	1
Sample:270935 - 07/20/1999 - 072099-5				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	3,810	mg/kg	200
	Potassium	474	mg/kg	200
	Sodium	235	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	25	mg/kg	1
	Bromide	5	mg/kg	1
	Sulfate	89	mg/kg	1
Sample:270936 - 07/20/1999 - 072099-6				
ICSTB	Metals by ICP, Solids, Trace			
	Magnesium	558	mg/kg	200
	Potassium	328	mg/kg	200
	Sodium	ND	mg/kg	200
0301A	Anions by IC, Solid			
	Chloride	78	mg/kg	1
	Bromide	ND	mg/kg	1
	Sulfate	25	mg/kg	1
Sample:270937 - 07/20/1999 - 072099-7 A,B				
ICWTB	Metals by ICP, Trace			
	Magnesium	61	mg/l	2
	Potassium	6	mg/l	2
	Sodium	122	mg/l	20
0300A	Anions by Ion Chromatography			
	Chloride	342	mg/l	5
	Bromide	2.52	mg/l	0.15
	Sulfate	304	mg/l	20
Sample:270938 - 07/20/1999 - 072099-8 A,B				
ICWTB	Metals by ICP, Trace			
	Magnesium	135	mg/l	2
	Potassium	13	mg/l	2
	Sodium	405	mg/l	100

CORELAB

GULF STATES ANALYTICAL

ANALYSIS SUMMARY REPORT

Cornerstone Environmental GSA Group: 51963

Test	Analysis	Results as Received	Units	Limit of Quantitation
Sample:270938 - 07/20/1999 - 072099-8 A,B				
0300A	Anions by Ion Chromatography			
	Chloride	687	mg/l	5
	Bromide	5.6	mg/l	1.5
	Sulfate	1,440	mg/l	20
Sample:270939 - 07/21/1999 - 072099-9 A,B				
ICWTB	Metals by ICP, Trace			
	Magnesium	41	mg/l	2
	Potassium	6	mg/l	2
	Sodium	125	mg/l	20
0300A	Anions by Ion Chromatography			
	Chloride	348	mg/l	5
	Bromide	2.24	mg/l	0.15
	Sulfate	154	mg/l	2
Sample:270940 - 07/21/1999 - 072099-10 A,B				
ICWTB	Metals by ICP, Trace			
	Magnesium	3,170	mg/l	200
	Potassium	404	mg/l	200
	Sodium	15,700	mg/l	2,000
0300A	Anions by Ion Chromatography			
	Chloride	27,000	mg/l	500
	Bromide	172	mg/l	15
	Sulfate	4,590	mg/l	200

Produced H_2O sample

Test Method Summary:
0300A- EPA 300 0301A- EPA 300 MOD ICSTB- SW-846 6010B
ICWTB- SW-846 6010B

ND - Compound was analyzed but not detected.

Respectfully Submitted,
Reviewed and Approved by:

Ed Fry
Project Manager

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:50
Group: 51963

Analysis Batch Number: 0300A-08/04/99-1250-1
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H04A
Number of Samples : 1
Batch Data-Date/Time : 08/04/99 / 18:48:25

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51963-270940	Chloride	100000.0000	27007.6000	130482.0000	103.5	80.0	120.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51963-270940	Chloride	27007.6000	27319.4000	1.1	20.0	10000.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Chloride	10.5141	10.0000	105.1	90.0	110.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Chloride	10.0000	10.5116	105.1	90.0	110.0
0-80499-2	Chloride	10.0000	10.3526	103.5	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
0-80499	Chloride	ND	0.0500
0-80499	Chloride	0.0113	0.0500

Groups & Samples

51963-270931 51963-270940

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:50
Group: 51963

Analysis Batch Number: 0300A-08/02/99-1250-1
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H02
Number of Samples : 15
Batch Data-Date/Time : 08/03/99 / 11:39:12

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51768-269937	Fluoride	10.0000	0.2927	10.2730	99.8	80.0	120.0
	Chloride	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
	Bromide	10.0000	5.5364	16.0795	105.4	80.0	120.0
	Sulfate	10.0000	50.9294	56.0150	50.9(I1)	80.0	120.0
51963-270937-2	Fluoride	10.0000	1.8372	12.0288	101.9	80.0	120.0
	Chloride	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
	Bromide	10.0000	2.5241	12.7949	102.7	80.0	120.0
	Sulfate	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
51963-270937-3	Fluoride	100.0000	2.1997	100.7960	98.6	80.0	120.0
	Chloride	100.0000	343.0530	391.1020	48.0(I1)	80.0	120.0
	Bromide	100.0000	2.4837	102.6570	100.2	80.0	120.0
	Sulfate	100.0000	324.8210	403.4060	78.6(I1)	80.0	120.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51768-269937	Fluoride	0.2927	0.2988	2.1	20.0	1.00
	Chloride	0.0000	0.0000	0.0	20.0	1.00
	Bromide	5.5364	5.4907	0.8	20.0	1.00
	Sulfate	50.9294	50.8992	0.1	20.0	1.00
51963-270937-2	Fluoride	1.8372	1.8378	0.0	20.0	1.00
	Chloride	0.0000	0.0000	0.0	20.0	1.00
	Bromide	2.5241	2.5863	2.4	20.0	1.00
	Sulfate	0.0000	0.0000	0.0	20.0	1.00
51963-270937-3	Fluoride	2.1997	2.1296	3.2	20.0	10.00
	Chloride	343.0530	338.7280	1.3	20.0	10.00
	Bromide	2.4837	2.8835	14.9	20.0	10.00
	Sulfate	324.8210	319.3580	1.7	20.0	10.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80299	Fluoride	10.0455	10.0000	100.5	90.0	110.0
	Chloride	10.0859	10.0000	100.9	90.0	110.0
	Bromide	9.9876	10.0000	99.9	90.0	110.0
	Sulfate	10.2623	10.0000	102.6	90.0	110.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80299	Fluoride	10.0000	10.2616	102.6	90.0	110.0
	Chloride	10.0000	10.1082	101.1	90.0	110.0
	Bromide	10.0000	10.3504	103.5	90.0	110.0
	Sulfate	10.0000	10.3483	103.5	90.0	110.0
0-80299-2	Fluoride	10.0000	10.0830	100.8	90.0	110.0
	Chloride	10.0000	10.3522	103.5	90.0	110.0
	Bromide	10.0000	10.1009	101.0	90.0	110.0
	Sulfate	10.0000	10.3385	103.4	90.0	110.0
0-80299-3	Fluoride	10.0000	10.1245	101.2	90.0	110.0
	Chloride	10.0000	10.1185	101.2	90.0	110.0
	Bromide	10.0000	10.0891	100.9	90.0	110.0
	Sulfate	10.0000	10.3381	103.4	90.0	110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: 0300A-08/02/99-1250-1
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H02
Number of Samples : 15
Batch Data-Date/Time : 08/03/99 / 11:39:12

CCB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
0-80299	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Bromide	ND	0.1500
	Sulfate	ND	0.2000
0-80299	Fluoride	ND	0.0500
	Chloride	0.0025	0.0500
	Bromide	ND	0.1500
	Sulfate	ND	0.2000
0-80299	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Bromide	ND	0.1500
	Sulfate	ND	0.2000

---------- Result Footnotes ----------
(I1) - Matrix spike outlier due to compound over calibration range.

Groups & Samples

51768-269937 51768-269938 51768-269939 51768-269940 51963-270937 51963-270938 51963-270939 51963-270940
51970-270970

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:51
Group: 51963

Analysis Batch Number: 0300A-08/03/99-1250-3
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H03C
Number of Samples : 31
Batch Data-Date/Time : 08/04/99 / 11:10:37

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
52266-272374	Chloride	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
	Sulfate	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
52266-272374-2	Chloride	100.0000	413.5090	0.0000	-413.5(I1)	80.0	120.0
	Sulfate	100.0000	384.4150	553.9000	169.5(I1)	80.0	120.0
51973-271001-3	Chloride	10.0000	0.0000	11.2357	112.4	80.0	120.0
	Sulfate	10.0000	2.0471	12.4224	103.8	80.0	120.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
52266-272374	Chloride	0.0000	0.0000	0.0	20.0	1.00
	Sulfate	0.0000	0.0000	0.0	20.0	1.00
52266-272374-2	Chloride	413.5090	415.7470	0.5	20.0	10.00
	Sulfate	384.4150	378.9080	1.4	20.0	10.00
51973-271001-3	Chloride	0.0000	0.0000	0.0	20.0	1.00
	Sulfate	2.0471	1.9745	3.6	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80399	Chloride	10.3368	10.0000	103.4	90.0	110.0
	Sulfate	10.5398	10.0000	105.4	90.0	110.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80399	Chloride	10.0000	10.1882	101.9	90.0	110.0
	Sulfate	10.0000	10.2443	102.4	90.0	110.0
0-80399-2	Chloride	10.0000	10.1900	101.9	90.0	110.0
	Sulfate	10.0000	10.4276	104.3	90.0	110.0
0-80399-3	Chloride	10.0000	10.1686	101.7	90.0	110.0
	Sulfate	10.0000	10.3624	103.6	90.0	110.0
0-80399-4	Chloride	10.0000	10.1712	101.7	90.0	110.0
	Sulfate	10.0000	10.4741	104.7	90.0	110.0
0-80399-5	Chloride	10.0000	10.3181	103.2	90.0	110.0
	Sulfate	10.0000	10.5534	105.5	90.0	110.0
0-80399-6	Chloride	10.0000	10.2666	102.7	90.0	110.0
	Sulfate	10.0000	10.4355	104.4	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
0-80399	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80399	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80399	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80399	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80399	Chloride	0.0495	0.0500
	Sulfate	ND	0.2000
0-80399	Chloride	0.0142	0.0500
	Sulfate	ND	0.2000

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: 0300A-08/03/99-1250-3
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H03C
Number of Samples : 31
Batch Data-Date/Time : 08/04/99 / 11:10:37

---------- Result Footnotes ----------
(I1) - Matrix spike outlier due to compound over calibration range.

Groups & Samples

51842-270377	51842-270378	51842-270379	51842-270380	51842-270381	51842-270382	51847-270392	51847-270393
51847-270394	51963-270937	51963-270939	51963-270940	51973-271001	51973-271002	51973-271003	51973-271004
52266-272374	52267-272381	52267-272382					

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:51
Group: 51963

Analysis Batch Number: 0300A-08/04/99-1250-2
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H04B
Number of Samples : 38
Batch Data-Date/Time : 08/05/99 / 12:18:52

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51963-270940	Fluoride	100000.0000	623.2110	103424.0000	102.8	80.0	120.0
	Chloride	100000.0000	27007.6000	130482.0000	103.5	80.0	120.0
	Sulfate	100000.0000	4834.8900	112475.0000	107.6	80.0	120.0
52066-271456-2	Fluoride	10.0000	3.7894	12.8859	91.0	80.0	120.0
	Chloride	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
	Sulfate	10.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
52066-271456-3	Fluoride	100.0000	8.1464	98.5679	90.4	80.0	120.0
	Chloride	100.0000	0.0000	0.0000	0.0(I1)	80.0	120.0
	Sulfate	100.0000	541.1960	589.1790	48.0(I1)	80.0	120.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51963-270940	Fluoride	0.0000	0.0000	0.0	20.0	10000.00
	Chloride	27007.6000	27319.4000	1.1	20.0	10000.00
	Sulfate	4834.8900	4714.5950	2.5	20.0	10000.00
52066-271456-2	Fluoride	3.7894	3.7815	0.2	20.0	1.00
	Chloride	0.0000	0.0000	0.0	20.0	1.00
	Sulfate	0.0000	0.0000	0.0	20.0	1.00
52066-271456-3	Fluoride	8.1464	8.0940	0.6	20.0	10.00
	Chloride	0.0000	0.0000	0.0	20.0	10.00
	Sulfate	541.1960	540.7700	0.1	20.0	10.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Fluoride	10.6682	10.0000	106.7	90.0	110.0
	Chloride	10.5141	10.0000	105.1	90.0	110.0
	Sulfate	10.7159	10.0000	107.2	90.0	110.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Fluoride	10.0000	10.4909	104.9	90.0	110.0
	Chloride	10.0000	10.5116	105.1	90.0	110.0
	Sulfate	10.0000	10.5647	105.6	90.0	110.0
0-80499-2	Fluoride	10.0000	10.3302	103.3	90.0	110.0
	Chloride	10.0000	10.3526	103.5	90.0	110.0
	Sulfate	10.0000	10.2220	102.2	90.0	110.0
0-80499-3	Fluoride	10.0000	10.3870	103.9	90.0	110.0
	Chloride	10.0000	10.2638	102.6	90.0	110.0
	Sulfate	10.0000	10.6007	106.0	90.0	110.0
0-80499-4	Fluoride	10.0000	10.3438	103.4	90.0	110.0
	Chloride	10.0000	10.3435	103.4	90.0	110.0
	Sulfate	10.0000	10.4743	104.7	90.0	110.0
0-80499-5	Fluoride	10.0000	10.3107	103.1	90.0	110.0
	Chloride	10.0000	10.3531	103.5	90.0	110.0
	Sulfate	10.0000	10.4245	104.2	90.0	110.0
0-80499-6	Fluoride	10.0000	10.5245	105.2	90.0	110.0
	Chloride	10.0000	10.5773	105.8	90.0	110.0
	Sulfate	10.0000	10.7277	107.3	90.0	110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: 0300A-08/04/99-1250-2
Test Identification : 0300A-Anions by Ion Chromatography Units: mg/l Sequence: 9H04B
Number of Samples : 38
Batch Data-Date/Time : 08/05/99 / 12:18:52

CCB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
0-80499	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80499	Fluoride	ND	0.0500
	Chloride	0.0113	0.0500
	Sulfate	ND	0.2000
0-80499	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80499	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Sulfate	ND	0.2000
0-80499	Fluoride	ND	0.0500
	Chloride	0.0101	0.0500
	Sulfate	ND	0.2000
0-80499	Fluoride	ND	0.0500
	Chloride	0.0397	0.0500
	Sulfate	ND	0.2000

---------- Result Footnotes ----------
(I1) - Matrix spike outlier due to compound over calibration range.

Groups & Samples

51861-270491 51861-270492 51861-270493 51861-270494 51878-270557 51882-270579 51900-270661 51900-270662
51900-270663 51900-270664 51900-270665 51901-270667 51930-270804 51963-270940 52039-271340 52039-271341
52039-271342 52066-271456 52209-272129 52211-272133 52303-272497

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:52
Group: 51963

Analysis Batch Number: 0301A-08/04/99-1250-1
Test Identification : 0301A-Anions by IC, Solid Units: mg/kg Sequence: 9H04A
Number of Samples : 6
Batch Data-Date/Time : 08/04/99 / 18:49:02

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51963-270931-2	Chloride	100.0000	14.0431	114.9930	100.9	80.0	120.0
	Bromide	100.0000	0.3684	101.7790	101.4	80.0	120.0
	Sulfate	100.0000	62.9169	164.7730	101.9	80.0	120.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51963-270931-2	Chloride	14.0431	12.3065	13.2	20.0	1.00
	Bromide	0.3684	0.0000	200.0(11)	20.0	1.00
	Sulfate	62.9169	62.9314	0.0	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Chloride	105.1410	100.0000	105.1	90.0	110.0
	Bromide	107.2890	100.0000	107.3	90.0	110.0
	Sulfate	107.1590	100.0000	107.2	90.0	110.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
0-80499	Chloride	100.0000	105.1160	105.1	90.0	110.0
	Bromide	100.0000	104.7240	104.7	90.0	110.0
	Sulfate	100.0000	105.6470	105.6	90.0	110.0
0-80499-2	Chloride	100.0000	103.5260	103.5	90.0	110.0
	Bromide	100.0000	103.4560	103.5	90.0	110.0
	Sulfate	100.0000	102.2200	102.2	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
0-80499	Chloride	ND	1.0000
	Bromide	ND	1.0000
	Sulfate	ND	1.0000
0-80499	Chloride	0.0113	1.0000
	Bromide	ND	1.0000
	Sulfate	ND	1.0000

---------- Result Footnotes ----------
(11) - Both Duplicate results are less than the LOQ.

Groups & Samples

51963-270931 51963-270932 51963-270933 51963-270934 51963-270935 51963-270936 51963-270940

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:52
Group: 51963

Analysis Batch Number: ICSTB-08/02/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080299
Number of Samples : 16
Batch Data-Date/Time : 08/02/99 / 13:05:15

BLANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
BS1-073199	Arsenic	ND	1.0000
	Barium	ND	0.5000
	Cadmium	ND	0.5000
	Chromium	ND	1.0000
	Cobalt	ND	1.0000
	Copper	ND	1.0000
	Lead	ND	1.0000
	Nickel	ND	2.0000
	Selenium	0.1370	1.5000
	Silver	ND	0.5000
	Thallium	ND	1.0000
	Tin	2.2240	5.0000
	Vanadium	ND	0.5000
	Zinc	ND	2.0000

SPIKE SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51779-269977	Arsenic	50.0000	2.5890	49.1340	93.1	75.0	125.0
	Barium	200.0000	181.0850	347.9840	83.4	75.0	125.0
	Cadmium	5.0000	2.5110	7.1390	92.6	75.0	125.0
	Chromium	20.0000	12.4450	30.2530	89.0	75.0	125.0
	Cobalt	50.0000	1.1270	50.2360	98.2	75.0	125.0
	Copper	25.0000	20.6740	44.8260	96.6	75.0	125.0
	Lead	50.0000	29.4510	73.4620	88.0	75.0	125.0
	Nickel	50.0000	8.5090	55.6470	94.3	75.0	125.0
	Selenium	50.0000	0.1100	41.9940	83.8	75.0	125.0
	Silver	10.0000	0.6390	10.0910	94.5	75.0	125.0
	Thallium	50.0000	0.0000	45.3730	90.7	75.0	125.0
	Tin	100.0000	2.0230	94.6440	92.6	75.0	125.0
	Vanadium	50.0000	11.3740	60.0360	97.3	75.0	125.0
	Zinc	50.0000	83.3450	123.6610	80.6	75.0	125.0
51963-270936-2	Arsenic	50.0000	0.2680	45.2190	89.9	75.0	125.0
	Barium	200.0000	3.8400	184.0500	90.1	75.0	125.0
	Cadmium	5.0000	0.0000	4.3220	86.4	75.0	125.0
	Chromium	20.0000	1.3350	19.7220	91.9	75.0	125.0
	Cobalt	50.0000	0.0520	46.1160	92.1	75.0	125.0
	Copper	25.0000	0.0000	23.7880	95.2	75.0	125.0
	Lead	50.0000	0.6650	45.5560	89.8	75.0	125.0
	Nickel	50.0000	0.3720	43.8810	87.0	75.0	125.0
	Selenium	50.0000	0.0000	41.3420	82.7	75.0	125.0
	Silver	10.0000	0.0000	8.5370	85.4	75.0	125.0
	Thallium	50.0000	0.0000	43.9390	87.9	75.0	125.0
	Tin	100.0000	1.1570	90.4020	89.2	75.0	125.0
	Vanadium	50.0000	3.9780	49.9420	91.9	75.0	125.0
	Zinc	50.0000	1.3060	45.4180	88.2	75.0	125.0

MSD SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
51779-269977	Arsenic	50.0000	2.5890	47.7280	90.3	75.0	125.0	3.1	20.0
	Barium	200.0000	181.0850	347.3330	83.1	75.0	125.0	0.4	20.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:53
Group: 51963

Analysis Batch Number: ICSTB-08/02/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080299
Number of Samples : 16
Batch Data-Date/Time : 08/02/99 / 13:05:15

LCSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
51779-269977	Cadmium	5.0000	2.5110	6.6060	81.9	75.0	125.0	12.3	20.0
	Chromium	20.0000	12.4450	29.2450	84.0	75.0	125.0	5.8	20.0
	Cobalt	50.0000	1.1270	48.9790	95.7	75.0	125.0	2.6	20.0
	Copper	25.0000	20.6740	41.5480	83.5	75.0	125.0	14.5	20.0
	Lead	50.0000	29.4510	71.5300	84.2	75.0	125.0	4.4	20.0
	Nickel	50.0000	8.5090	52.3170	87.6	75.0	125.0	7.4	20.0
	Selenium	50.0000	0.1100	41.4740	82.7	75.0	125.0	1.3	20.0
	Silver	10.0000	0.6390	8.9690	83.3	75.0	125.0	12.6	20.0
	Thallium	50.0000	0.0000	44.9430	89.9	75.0	125.0	0.9	20.0
	Tin	100.0000	2.0230	93.5390	91.5	75.0	125.0	1.2	20.0
	Vanadium	50.0000	11.3740	56.4940	90.2	75.0	125.0	7.6	20.0
	Zinc	50.0000	83.3450	99.0020	31.3(B)	75.0	125.0	88.1(B)	20.0
51963-270936-2	Arsenic	50.0000	0.2680	47.5400	94.5	75.0	125.0	5.0	20.0
	Barium	200.0000	3.8400	193.9960	95.1	75.0	125.0	5.4	20.0
	Cadmium	5.0000	0.0000	4.5980	92.0	75.0	125.0	6.3	20.0
	Chromium	20.0000	1.3350	21.0990	98.8	75.0	125.0	7.2	20.0
	Cobalt	50.0000	0.0520	48.0640	96.0	75.0	125.0	4.1	20.0
	Copper	25.0000	0.0000	25.5040	102.0	75.0	125.0	6.9	20.0
	Lead	50.0000	0.6650	48.0540	94.8	75.0	125.0	5.4	20.0
	Nickel	50.0000	0.3720	46.3290	91.9	75.0	125.0	5.5	20.0
	Selenium	50.0000	0.0000	43.1880	86.4	75.0	125.0	4.4	20.0
	Silver	10.0000	0.0000	9.0110	90.1	75.0	125.0	5.4	20.0
	Thallium	50.0000	0.0000	46.2460	92.5	75.0	125.0	5.1	20.0
	Tin	100.0000	1.1570	95.2070	94.1	75.0	125.0	5.3	20.0
	Vanadium	50.0000	3.9780	53.4480	98.9	75.0	125.0	7.3	20.0
	Zinc	50.0000	1.3060	48.2160	93.8	75.0	125.0	6.2	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51779-269977	Arsenic	2.5890	1.8990	30.7(3a)	20.0	1.00
	Barium	181.0850	131.8000	31.5(B)	20.0	1.00
	Cadmium	2.5110	2.2090	12.8	20.0	1.00
	Chromium	12.4450	9.2520	29.4(B)	20.0	1.00
	Cobalt	1.1270	1.1500	2.0	20.0	1.00
	Copper	20.6740	17.1690	18.5	20.0	1.00
	Lead	29.4510	25.3120	15.1	20.0	1.00
	Nickel	8.5090	7.8130	8.5	20.0	1.00
	Selenium	0.1100	0.0000	200.0(11)	20.0	1.00
	Silver	0.6390	0.6680	4.4	20.0	1.00
	Thallium	0.0000	0.0000	0.0	20.0	1.00
	Tin	2.0230	2.4240	18.0	20.0	1.00
	Vanadium	11.3740	8.7910	25.6(B)	20.0	1.00
	Zinc	83.3450	76.6110	8.4	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSS1-073199	Arsenic	68.7040	74.5000	92.2	74.4	125.7
	Barium	91.0920	81.3000	112.0	76.9	122.9
	Cadmium	57.0980	61.1000	93.5	76.9	123.1

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICSTB-08/02/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080299
Number of Samples : 16
Batch Data-Date/Time : 08/02/99 / 13:05:15

CONTROL SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSS1-073199	Chromium	94.2580	91.1000	103.5	79.9	119.7
	Cobalt	124.3760	127.0000	97.9	79.5	120.3
	Copper	183.1300	172.0000	106.5	80.3	119.7
	Lead	156.2620	164.0000	95.3	76.2	132.4
	Nickel	72.6320	66.9000	108.6	78.3	121.7
	Selenium	62.9940	71.8000	87.7	74.1	125.8
	Silver	77.2620	73.1000	105.7	74.5	125.6
	Thallium	82.1240	60.0000	136.9	57.3	142.9
	Tin	87.6500	90.1000	97.3	65.1	135.1
	Vanadium	134.4700	122.0000	110.2	68.3	131.4
	Zinc	86.1700	90.2000	95.5	77.3	123.1

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
1	Arsenic	0.5000	0.5075	101.5	90.0	110.0
	Barium	0.5000	0.5155	103.1	90.0	110.0
	Cadmium	0.5000	0.5175	103.5	90.0	110.0
	Chromium	0.5000	0.5120	102.4	90.0	110.0
	Cobalt	0.5000	0.5145	102.9	90.0	110.0
	Copper	0.5000	0.5048	101.0	90.0	110.0
	Lead	0.5000	0.5143	102.9	90.0	110.0
	Nickel	0.5000	0.5133	102.7	90.0	110.0
	Selenium	0.5000	0.5136	102.7	90.0	110.0
	Silver	0.2500	0.2544	101.8	90.0	110.0
	Thallium	0.5000	0.5085	101.7	90.0	110.0
	Tin	0.5000	0.4888	97.8	90.0	110.0
	Vanadium	0.5000	0.5082	101.6	90.0	110.0
	Zinc	0.5000	0.5142	102.8	90.0	110.0
2	Arsenic	0.5000	0.5056	101.1	90.0	110.0
	Barium	0.5000	0.5139	102.8	90.0	110.0
	Cadmium	0.5000	0.5139	102.8	90.0	110.0
	Chromium	0.5000	0.5084	101.7	90.0	110.0
	Cobalt	0.5000	0.5104	102.1	90.0	110.0
	Copper	0.5000	0.5055	101.1	90.0	110.0
	Lead	0.5000	0.5129	102.6	90.0	110.0
	Nickel	0.5000	0.5106	102.1	90.0	110.0
	Selenium	0.5000	0.5146	102.9	90.0	110.0
	Silver	0.2500	0.2555	102.2	90.0	110.0
	Thallium	0.5000	0.5101	102.0	90.0	110.0
	Tin	0.5000	0.4886	97.7	90.0	110.0
	Vanadium	0.5000	0.5074	101.5	90.0	110.0
	Zinc	0.5000	0.5101	102.0	90.0	110.0
3	Arsenic	0.5000	0.5039	100.8	90.0	110.0
	Barium	0.5000	0.5100	102.0	90.0	110.0
	Cadmium	0.5000	0.5095	101.9	90.0	110.0
	Chromium	0.5000	0.5045	100.9	90.0	110.0
	Cobalt	0.5000	0.5068	101.4	90.0	110.0
	Copper	0.5000	0.5023	100.5	90.0	110.0
	Lead	0.5000	0.5070	101.4	90.0	110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICSTB-08/02/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080299
Number of Samples : 16
Batch Data-Date/Time : 08/02/99 / 13:05:15

					QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
3	Nickel	0.5000	0.5056	101.1	90.0	110.0
	Selenium	0.5000	0.5041	100.8	90.0	110.0
	Silver	0.2500	0.2524	101.0	90.0	110.0
	Thallium	0.5000	0.5068	101.4	90.0	110.0
	Tin	0.5000	0.4866	97.3	90.0	110.0
	Vanadium	0.5000	0.5041	100.8	90.0	110.0
	Zinc	0.5000	0.5052	101.0	90.0	110.0
4	Arsenic	0.5000	0.5053	101.1	90.0	110.0
	Barium	0.5000	0.5148	103.0	90.0	110.0
	Cadmium	0.5000	0.5145	102.9	90.0	110.0
	Chromium	0.5000	0.5102	102.0	90.0	110.0
	Cobalt	0.5000	0.5087	101.7	90.0	110.0
	Copper	0.5000	0.5058	101.2	90.0	110.0
	Lead	0.5000	0.5075	101.5	90.0	110.0
	Nickel	0.5000	0.5083	101.7	90.0	110.0
	Selenium	0.5000	0.5078	101.6	90.0	110.0
	Silver	0.2500	0.2538	101.5	90.0	110.0
	Thallium	0.5000	0.5050	101.0	90.0	110.0
	Tin	0.5000	0.4883	97.7	90.0	110.0
	Vanadium	0.5000	0.5081	101.6	90.0	110.0
	Zinc	0.5000	0.5094	101.9	90.0	110.0
5	Arsenic	0.5000	0.5005	100.1	90.0	110.0
	Barium	0.5000	0.5086	101.7	90.0	110.0
	Cadmium	0.5000	0.5080	101.6	90.0	110.0
	Chromium	0.5000	0.5028	100.6	90.0	110.0
	Cobalt	0.5000	0.5025	100.5	90.0	110.0
	Copper	0.5000	0.4974	99.5	90.0	110.0
	Lead	0.5000	0.4997	99.9	90.0	110.0
	Nickel	0.5000	0.5013	100.3	90.0	110.0
	Selenium	0.5000	0.5042	100.8	90.0	110.0
	Silver	0.2500	0.2500	100.0	90.0	110.0
	Thallium	0.5000	0.5007	100.1	90.0	110.0
	Tin	0.5000	0.4838	96.8	90.0	110.0
	Vanadium	0.5000	0.5008	100.2	90.0	110.0
	Zinc	0.5000	0.5022	100.4	90.0	110.0

STANDARD#	ANALYTE	DATE EXP	BATCH DATE	DAYS/EXP
1	Arsenic	03/31/00	08/02/99	242
	Barium	03/31/00	08/02/99	242
	Cadmium	03/31/00	08/02/99	242
	Chromium	03/31/00	08/02/99	242
	Cobalt	03/31/00	08/02/99	242
	Copper	03/31/00	08/02/99	242
	Lead	03/31/00	08/02/99	242
	Nickel	03/31/00	08/02/99	242
	Selenium	03/31/00	08/02/99	242
	Silver	03/31/00	08/02/99	242
	Thallium	03/31/00	08/02/99	242
	Tin	01/01/00	08/02/99	152

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:54
Group: 51963

Analysis Batch Number: ICSTB-08/02/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080299
Number of Samples : 16
Batch Data-Date/Time : 08/02/99 / 13:05:15

STANDARD#	ANALYTE	DATE EXP	BATCH DATE	DAYS/EXP
1	Vanadium	03/31/00	08/02/99	242
	Zinc	03/31/00	08/02/99	242

---------- Result Footnotes ----------
(B) - Difficult to homogenize due to the nature of the sample
(3a) - Duplicate is valid because the result is less than 5 times the LOQ
(11) - Both Duplicate results are less than the LOQ.

Groups & Samples

51779-269977 51779-269978 51779-269979 51794-270053 51794-270055 51794-270056 51794-270057 51936-270936
51963-270931 51963-270932 51963-270933 51963-270934 51963-270935 51963-270936 51969-270968 51969-270969

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:54
Group: 51963

Analysis Batch Number: ICSTB-08/03/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080399
Number of Samples : 6
Batch Data-Date/Time : 08/03/99 / 18:15:05

BLANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
PBS1-073199	Magnesium	1.2840	200.0000
	Potassium	36.3960	200.0000
	Sodium	67.1980	200.0000

SPIKE SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51963-270936	Magnesium	200.0000	558.3590	706.8690	74.3(A)	75.0	125.0
	Potassium	200.0000	327.7580	487.2000	79.7	75.0	125.0
	Sodium	200.0000	127.9490	337.4090	104.7	75.0	125.0

MSD SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
51963-270936	Magnesium	200.0000	558.3590	845.1530	143.4(A)	75.0	125.0	63.5(A)	20.0
	Potassium	200.0000	327.7580	569.6190	120.9	75.0	125.0	41.1(A)	20.0
	Sodium	200.0000	127.9490	364.7640	118.4	75.0	125.0	12.3	20.0

DUPLICATE SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51963-270936	Magnesium	558.3590	538.8040	3.6	20.0	1.00
	Potassium	327.7580	294.3970	10.7	20.0	1.00
	Sodium	127.9490	130.4610	1.9	20.0	1.00

CONTROL SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSS1-073199	Magnesium	1051.4340	979.0000	107.4	72.1	128.1
	Potassium	2412.6900	2320.0000	104.0	65.9	134.3
	Sodium	1291.0660	1190.0000	108.5	67.9	132.3

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
1	Magnesium	5.0000	5.2416	104.8	90.0	110.0
	Potassium	12.5000	12.0880	96.7	90.0	110.0
	Sodium	12.5000	11.6580	93.3	90.0	110.0
2	Magnesium	5.0000	5.0327	100.7	90.0	110.0
	Potassium	12.5000	11.9125	95.3	90.0	110.0
	Sodium	12.5000	11.8153	94.5	90.0	110.0
3	Magnesium	5.0000	4.9791	99.6	90.0	110.0
	Potassium	12.5000	11.6865	93.5	90.0	110.0
	Sodium	12.5000	11.7741	94.2	90.0	110.0
4	Magnesium	5.0000	4.9826	99.7	90.0	110.0
	Potassium	12.5000	11.6476	93.2	90.0	110.0
	Sodium	12.5000	12.6592	101.3	90.0	110.0
5	Magnesium	5.0000	5.0579	101.2	90.0	110.0
	Potassium	12.5000	11.2400	89.9(CC)	90.0	110.0
	Sodium	12.5000	15.6836	125.5(CC)	90.0	110.0
6	Magnesium	5.0000	4.9740	99.5	90.0	110.0
	Potassium	12.5000	12.0648	96.5	90.0	110.0
	Sodium	12.5000	13.1519	105.2	90.0	110.0
7	Magnesium	5.0000	4.8670	97.3	90.0	110.0
	Potassium	12.5000	12.1348	97.1	90.0	110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICSTB-08/03/99-1254-1
Test Identification : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg Sequence: X080399
Number of Samples : 6
Batch Data-Date/Time : 08/03/99 / 18:15:05

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
7	Sodium	12.5000	13.0556	104.4	90.0	110.0
8	Magnesium	5.0000	4.8451	96.9	90.0	110.0
	Potassium	12.5000	12.4296	99.4	90.0	110.0
	Sodium	12.5000	12.5956	100.8	90.0	110.0
9	Magnesium	5.0000	4.8054	96.1	90.0	110.0
	Potassium	12.5000	12.1454	97.2	90.0	110.0
	Sodium	12.5000	12.3364	98.7	90.0	110.0
10	Magnesium	5.0000	4.9956	99.9	90.0	110.0
	Potassium	12.5000	12.1368	97.1	90.0	110.0
	Sodium	12.5000	14.1869	113.5(CC)	90.0	110.0
11	Magnesium	5.0000	4.8890	97.8	90.0	110.0
	Potassium	12.5000	11.9632	95.7	90.0	110.0
	Sodium	12.5000	13.3906	107.1	90.0	110.0
12	Magnesium	5.0000	4.8663	97.3	90.0	110.0
	Potassium	12.5000	11.8176	94.5	90.0	110.0
	Sodium	12.5000	12.5195	100.2	90.0	110.0

STANDARD#	ANALYTE	DATE EXP	BATCH DATE	DAYS/EXP
1	Magnesium	03/31/00	08/03/99	241
	Potassium	03/31/00	08/03/99	241
	Sodium	03/31/00	08/03/99	241

---------- Result Footnotes ----------
(A) - Matrix Interference
(CC) - The analyte CCV was not required to bracket data reported.

Groups & Samples

51963-270931 51963-270932 51963-270933 51963-270934 51963-270935 51963-270936

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:55
Group: 51963

Analysis Batch Number: ICWTB-08/03/99-1254-1
Test Identification : ICWTB-Metals by ICP, Trace Units: mg/l Sequence: X080399
Number of Samples : 9
Batch Data-Date/Time : 08/03/99 / 18:19:46

BLANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
PBW1-080299	Magnesium	0.0101	2.0000
	Potassium	0.3915	2.0000
	Sodium	0.6819	2.0000

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
51963-270937	Magnesium	2.2220	60.7635	61.7968	46.5(2a)	75.0	125.0
	Potassium	2.2220	6.2489	9.0651	126.7(A)	75.0	125.0
51963-270937-2	Sodium	2.2220	122.1676	112.9737	-413.8(2a)	75.0	125.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
51963-270937	Magnesium	2.2220	60.7635	61.9785	54.7(2a)	75.0	125.0	16.2	20.0
	Potassium	2.2220	6.2489	8.9850	123.1	75.0	125.0	2.9	20.0
51963-270937-2	Magnesium	2.2220	70.4094	63.7983	-297.5(2a)	75.0	125.0	9.5	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
51963-270937	Magnesium	60.7635	62.9698	3.6	20.0	1.00
	Potassium	6.2489	6.4876	3.7	20.0	1.00
	Sodium	0.0000	0.0000	0.0	20.0	1.00
51963-270937-2	Magnesium	70.4094	67.1818	4.7	20.0	10.00
	Potassium	8.2213	8.0916	1.6	20.0	10.00
	Sodium	122.1676	122.0041	0.1	20.0	10.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW1-080299	Magnesium	6.0462	6.2500	96.7	80.0	120.0
	Potassium	5.9375	6.2500	95.0	80.0	120.0
	Sodium	6.3372	6.2500	101.4	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
1	Magnesium	5.0000	5.2416	104.8	90.0	110.0
	Potassium	12.5000	12.0880	96.7	90.0	110.0
	Sodium	12.5000	11.6580	93.3	90.0	110.0
2	Magnesium	5.0000	5.0327	100.7	90.0	110.0
	Potassium	12.5000	11.9125	95.3	90.0	110.0
	Sodium	12.5000	11.8153	94.5	90.0	110.0
3	Magnesium	5.0000	4.9791	99.6	90.0	110.0
	Potassium	12.5000	11.6865	93.5	90.0	110.0
	Sodium	12.5000	11.7741	94.2	90.0	110.0
4	Magnesium	5.0000	4.9826	99.7	90.0	110.0
	Potassium	12.5000	11.6476	93.2	90.0	110.0
	Sodium	12.5000	12.6592	101.3	90.0	110.0
5	Magnesium	5.0000	5.0579	101.2	90.0	110.0
	Potassium	12.5000	11.2400	89.9(J)	90.0	110.0
	Sodium	12.5000	15.6836	125.5(CC)	90.0	110.0
6	Magnesium	5.0000	4.9740	99.5	90.0	110.0
	Potassium	12.5000	12.0648	96.5	90.0	110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

08/05/99
16:21:55
Group: 51963

Analysis Batch Number: ICWTB-08/03/99-1254-1
Test Identification : ICWTB-Metals by ICP, Trace Units: mg/l Sequence: X080399
Number of Samples : 9
Batch Data-Date/Time : 08/03/99 / 18:19:46

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
6	Sodium	12.5000	13.1519	105.2	90.0	110.0
7	Magnesium	5.0000	4.8670	97.3	90.0	110.0
	Potassium	12.5000	12.1348	97.1	90.0	110.0
	Sodium	12.5000	13.0556	104.4	90.0	110.0
8	Magnesium	5.0000	4.8451	96.9	90.0	110.0
	Potassium	12.5000	12.4296	99.4	90.0	110.0
	Sodium	12.5000	12.5956	100.8	90.0	110.0
9	Magnesium	5.0000	4.8054	96.1	90.0	110.0
	Potassium	12.5000	12.1454	97.2	90.0	110.0
	Sodium	12.5000	12.3364	98.7	90.0	110.0
10	Magnesium	5.0000	4.9956	99.9	90.0	110.0
	Potassium	12.5000	12.1368	97.1	90.0	110.0
	Sodium	12.5000	14.1869	113.5(CC)	90.0	110.0
11	Magnesium	5.0000	4.8890	97.8	90.0	110.0
	Potassium	12.5000	11.9632	95.7	90.0	110.0
	Sodium	12.5000	13.3906	107.1	90.0	110.0
12	Magnesium	5.0000	4.8663	97.3	90.0	110.0
	Potassium	12.5000	11.8176	94.5	90.0	110.0
	Sodium	12.5000	12.5195	100.2	90.0	110.0

STANDARD#	ANALYTE	DATE EXP	BATCH DATE	DAYS/EXP
1	Magnesium	03/31/00	08/03/99	241
	Potassium	03/31/00	08/03/99	241
	Sodium	03/31/00	08/03/99	241

---------- Result Footnotes ----------
(2a) - Spike Recovery is valid because the sample conc. is > four times the added spike conc.
(A) - Matrix Interference
(J) - Within in-house statistical limits
(CC) - The analyte CCV was not required to bracket data reported.

Groups & Samples

51963-270937 51963-270938 51963-270939 51963-270940

GULF STATES ANALYTICAL

CORE LAB

6310 Rothway, Houston, Texas 77040
(713) 690-4444, Fax (713) 690-5646

5 Request for Analysis

❶ Company:	Address: Cornerstone Environmental 2997 LBJ Fwy #103 Dallas Tx 75234
Tele #: 972-243-7643	Fax #: 972-247-0617
Reports Sent To: John Alderman	P O #:
Project #: 99003	
Project Name: S. Langley Jal Unit	Project Location: Jal, New Mexico
Sampler(s) Name: (Signature) John H. Alderman / Connie L. Smith	
Courier:	

❷ Field Sample ID	❸ Sampling Date	Time	❹ Matrix: Water	Soil	Sludge	Oil	Other	# of Containers	Haz. Sample (Y/N)	Cl	Br	SO4	Na	Mg	K
1. 072099-1	7/20/99	10:05a		X				1	N	X	X	X	X	X	X
2. 072099-2	7/20/99	10:20a		X				1	N	X	X	X	X	X	X
3. 072099-3	7/20/99	10:29a		X				1	N	X	X	X	X	X	X
4. 072099-4	7/20/99	10:44a		X				1	N	X	X	X	X	X	X
5. 072099-5	7/20/99	11:03a		X				1	N	X	X	X	X	X	X
6. 072099-6	7/20/99	11:27a		X				1	N	X	X	X	X	X	X
7. 072099-7 A, B	7/20/99		X					2	N	X	X	X	X	X	X
8. 072099-8 A, B	7/20/99		X					2	N	X	X	X	X	X	X
9. 072099-9 A, B	7/21/99	10:30a	X					2	N	X	X	X	X	X	X
10. 072099-10 A, B	7/21/99	8:25a	X					2	N	X	X	X	X	X	X
11.															
12.															
13.															

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Chris Van	7/21/99	2:00pm	Chris Van	7/21/99	12:33
Received by Laboratory: (Signature)	Date	Time	Relinquished by Sampler: (Signature)	Date	Time
[illegible]	7/22/99	8:54	[illegible]	7/21/99	12:34

❻ Remarks:

Requested Turnaround

GSAI Group: 51963

Special Detection Limits

QC Package: (check one)
☐ CLP ☐ Site Specific
☐ Tier 1 ☐ Tier 2 ☐ QC Summary

CORE LAB / GULF STATES ANALYTICAL
SAMPLE RECEIPT CHECKLIST

CLIENT: Cornerstone Stanley DC CONTACT: John Alderman

PROJECT: _____ CARRIER: FEDEX

DATE RECEIVED: _____ UNPACKED STAMP: _____

DATE SHIPPED: 7/24/09 UNPACKED BY: W

NUMBER OF KITS RECEIVED: 1 GROUP# 51963 B.O.# 10132S7

KIT CHECKLIST

KIT ID	COC PRESENT	CUSTODY TAPE		COOLER TEMP Thermometer # 274	# OF SAMPLE CONTAINERS
		PRESENT?	INTACT?		
All Blue 1169	Yes	C Yes	Yes	24°C	11
		B No	No		
		C			
		B			
		C			
		B			

C = COOLER B= BOTTLES

INCONSISTENCIES

SAMPLE	PARAMETER	INCONSISTENCY
4 soils	sample	in different cooler
HNO3	added fo	07/2099-10 metals bottle.

pH OF WATER SAMPLES CHECKED YES ✓ NO ___ SAMPLE(S) SCREENED FOR RADIATION YES ✓ NO ___
VOLATILE HEAD SPACE CHECKED YES ___ NO ___ SEE ATTACHED WORKSHEET ___

ACTION TAKEN

PERSON CONTACTED: _____ DATE: _____
RESOLUTION _____

CORE / GSA EMPLOYEE _____ DATE: _____

☑ HNO3 ☐ HCL ☐ H2SO4 ☐ NaOH ☐ Na2S2O3 ☑ NEAT ☐ NaHSO4 ☐ OT/PRE.

(Water Only)

__VOA
__OTHER

4 VOA
OTHER

# Cont.	Mtrx.
6	So
8	WS
Total 14	

Remaining Samples in Group _____

Project Manager _____