TRACEANALYSIS, INC.

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Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

Brad Davis
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Las Cruces, NM, 88011

Report Date: April 16, 2009

Work Order: 9040613

Project Name: HELSTF Long-Term Supplemental List Groundwater

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
192218	HLSF-0143-HMW-016-0409	water	2009-04-02	09:50	2009-04-02

Comment(s)

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Notes:

For inorganic analyses, the term MQL should actually read PQL.

Standard Flags

U - Not detected. The analyte is not detected above the SDL.

J - Estimated. The analyte is positively identified and the value is approximated between the SDL and MQL.

B - The sample contains less than ten times the concentration found in the method blank.

JB - The analyte is positively identified and the value is approximated between the SDL and MQL.
The sample contains less than ten times the concentration found in the method blank.
The result should be considered non-detect to the SDL.

Dr. Blair Leftwich, Director

Case Narrative

Samples for project HELSTF Long-Term Supplemental List Groundwater were received by TraceAnalysis, Inc. on 2009-04-02 and assigned to work order 9040613. Samples for work order 9040613 were received intact at a temperature of 12.0 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chromium, Hexavalent	SM 3500-Cr B	49803	2009-04-02 at 18:10	58312	2009-04-02 at 18:10
Cr, Dissolved	S 6010B	49867	2009-04-09 at 09:07	58420	2009-04-10 at 08:58
Cr, Total	S 6010B	49837	2009-04-08 at 09:37	58366	2009-04-08 at 11:58

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9040613 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 192218 - HLSF-0143-HMW-016-0409

Laboratory:	El Paso				
Analysis:	Chromium, Hexavalent	Analytical Method:	SM 3500-Cr B	Prep Method:	N/A
QC Batch:	58312	Date Analyzed:	2009-04-02	Analyzed By:	JR
Prep Batch:	49803	Sample Preparation:	2009-04-02	Prepared By:	JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Hexavalent Chromium		**0.312**	**0.312**	<0.00594	mg/L	1	0.00594	0.0125	0.00594

Sample: 192218 - HLSF-0143-HMW-016-0409

Laboratory:	Lubbock				
Analysis:	Cr, Dissolved	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	58420	Date Analyzed:	2009-04-10	Analyzed By:	RR
Prep Batch:	49867	Sample Preparation:	2009-04-09	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Dissolved Chromium		**0.233**	**0.233**	<0.000583	mg/L	1	0.000583	0.001	0.000583

Sample: 192218 - HLSF-0143-HMW-016-0409

Laboratory:	Lubbock				
Analysis:	Cr, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	58366	Date Analyzed:	2009-04-08	Analyzed By:	RR
Prep Batch:	49837	Sample Preparation:	2009-04-08	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Chromium		**0.219**	**0.219**	<0.000583	mg/L	1	0.000583	0.005	0.000583

Method Blank (1)

QC Batch:	58312	Date Analyzed:	2009-04-02	Analyzed By:	JR
Prep Batch:	49803	QC Preparation:	2009-04-02	Prepared By:	JR

continued . . .

method blank continued . . .

Parameter	Flag	Result	Units	Reporting Limits

Parameter	Flag	Result	Units	Reporting Limits
Hexavalent Chromium		<0.0119	mg/L	0.00594

Method Blank (1)

QC Batch: 58366 Date Analyzed: 2009-04-08 Analyzed By: RR
Prep Batch: 49837 QC Preparation: 2009-04-08 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Chromium		<0.000583	mg/L	0.000583

Method Blank (1)

QC Batch: 58420 Date Analyzed: 2009-04-10 Analyzed By: RR
Prep Batch: 49867 QC Preparation: 2009-04-09 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Dissolved Chromium		<0.000583	mg/L	0.000583

Laboratory Control Spike (LCS-1)

QC Batch: 58312 Date Analyzed: 2009-04-02 Analyzed By: JR
Prep Batch: 49803 QC Preparation: 2009-04-02 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Hexavalent Chromium	0.494	mg/L	1	0.500	<0.00594	99	95.4 - 105

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Hexavalent Chromium	0.495	mg/L	1	0.500	<0.00594	99	95.4 - 105	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 58366 Date Analyzed: 2009-04-08 Analyzed By: RR
Prep Batch: 49837 QC Preparation: 2009-04-08 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0940	mg/L	1	0.100	<0.000583	94	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.101	mg/L	1	0.100	<0.000583	101	85 - 115	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 58420 Date Analyzed: 2009-04-10 Analyzed By: RR
Prep Batch: 49867 QC Preparation: 2009-04-09 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.0950	mg/L	1	0.100	<0.000583	95	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Chromium	0.0960	mg/L	1	0.100	<0.000583	96	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 192217

QC Batch: 58312 Date Analyzed: 2009-04-02 Analyzed By: JR
Prep Batch: 49803 QC Preparation: 2009-04-02 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Hexavalent Chromium	0.546	mg/L	1.11	0.556	<0.00659	98	80.1 - 118

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Hexavalent Chromium	0.548	mg/L	1.11	0.556	<0.00659	98	80.1 - 118	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 58366 Date Analyzed: 2009-04-08 Analyzed By: RR
Prep Batch: 49837 QC Preparation: 2009-04-08 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.108	mg/L	1	0.100	<0.000583	108	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.102	mg/L	1	0.100	<0.000583	102	75 - 125	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 192173

QC Batch: 58420 Date Analyzed: 2009-04-10 Analyzed By: RR
Prep Batch: 49867 QC Preparation: 2009-04-09 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.0920	mg/L	1	0.100	<0.000583	92	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Chromium	0.0930	mg/L	1	0.100	<0.000583	93	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (CCV-1)

QC Batch: 58312 Date Analyzed: 2009-04-02 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hexavalent Chromium		mg/L	0.500	0.507	101	90 - 110	2009-04-02

Standard (CCV-2)

QC Batch: 58312 Date Analyzed: 2009-04-02 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hexavalent Chromium		mg/L	0.500	0.499	100	90 - 110	2009-04-02

Standard (ICV-1)

QC Batch: 58366 Date Analyzed: 2009-04-08 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	1.03	103	90 - 110	2009-04-08

Standard (CCV-1)

QC Batch: 58366 Date Analyzed: 2009-04-08 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	1.05	105	90 - 110	2009-04-08

Standard (ICV-1)

QC Batch: 58420 Date Analyzed: 2009-04-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Chromium		mg/L	1.00	1.02	102	90 - 110	2009-04-10

Standard (CCV-1)

QC Batch: 58420 Date Analyzed: 2009-04-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Chromium		mg/L	1.00	1.04	104	90 - 110	2009-04-10

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9040613

064

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME	NO. OF CONTAINERS	ANALYSIS REQUESTED										REMARKS
	HELSTF Long-Term Supplemental List Groundwater		VOC	Total Chromium	Hex. Chromium	Diss. Metals							
SAMPLER'S SIGNATURE													

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	VOC	Total Chromium	Hex. Chromium	Diss. Metals	REMARKS
4-2-09	0850	HLSF-0143-HMW-016-0409	WATER	192218	3	X	X	X	X	
		~~HLSF-0143-TB-09-064~~	~~WATER~~			X				NOTE: 24 HR. HOLD TIME ON HEX. CHROME

PROJECT INFORMATION	SAMPLES RECEIVED	1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS	(PRINTED NAME) GABRIEL CARTER	(PRINTED NAME)	(PRINTED NAME) Kim Vining
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY)
VIA: Lab Courier	GOOD CONDITION/COLD 4°C per IR1	(TIME/DATE) 1600 4/2/09	(TIME/DATE) 1655 4/2/09	(TIME/DATE) 1130 4-4-09
	CONFORMS TO RECORD	SPECIAL INSTRUCTIONS / COMMENTS: PLEASE SEE ATTACHED ANALYTE LIST FOR DETAILS		

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

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