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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

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Report Date: September 18, 2009

Work Order: 9090414

Project Name: HELSTF Diesel Spill 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
209227	HLSF-0154-HCF-001-0909	water	2009-09-02	11:15	2009-09-02

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.

This report consists of a total of 78 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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
Dr. Michael Abel, Project Manager

Case Narrative

Samples for project HELSTF Diesel Spill Groundwater were received by TraceAnalysis, Inc. on 2009-09-02 and assigned to work order 9090414. Samples for work order 9090414 were received intact without headspace and at a temperature of 11.0 deg. C, just sampled, on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Ag, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Alkalinity	SM 2320B	54372	2009-09-15 at 11:00	63683	2009-09-15 at 11:00
Al, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Ammonia	SM 4500-NH3 B,C	54190	2009-09-11 at 13:30	63487	2009-09-11 at 16:00
As, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Ba, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Be, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Bromide (IC)	E 300.0	54368	2009-09-04 at 17:40	63679	2009-09-04 at 17:40
Ca, Total	S 6010B	54109	2009-09-10 at 07:08	63546	2009-09-15 at 08:58
Cd, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Chloride (IC)	E 300.0	54368	2009-09-04 at 17:40	63679	2009-09-04 at 17:40
Chromium, Hexavalent	SM 3500-Cr B	54059	2009-09-03 at 10:15	63334	2009-09-03 at 10:15
Co, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Cr, Dissolved	S 6010B	54154	2009-09-11 at 08:26	63462	2009-09-11 at 11:56
Cr, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Cu, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Explosives (8330)	S 8330-C18	54138	2009-09-09 at 15:00	63426	2009-09-10 at 15:30
Fe, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Fluoride (IC)	E 300.0	54368	2009-09-04 at 17:40	63679	2009-09-04 at 17:40
Hg, Total	S 7470A	54088	2009-09-09 at 10:45	63372	2009-09-09 at 12:45
K, Total	S 6010B	54109	2009-09-10 at 07:08	63546	2009-09-15 at 08:58
Mg, Total	S 6010B	54109	2009-09-10 at 07:08	63546	2009-09-15 at 08:58
Mn, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Mo, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Na, Total	S 6010B	54109	2009-09-10 at 07:08	63546	2009-09-15 at 08:58
Ni, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Nitrate and Nitrite as N	SM 4500-NO3 E	54370	2009-09-17 at 09:43	63681	2009-09-17 at 15:44
O/G	E 1664	54391	2009-09-17 at 11:00	63699	2009-09-17 at 14:30
Pb, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
pH	SM 4500-H+	54066	2009-09-03 at 07:15	63342	2009-09-03 at 07:15
P, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Sb, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Semivolatiles	S 8270C	54112	2009-09-08 at 15:00	63393	2009-09-10 at 07:56
Se, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
SO4 (IC)	E 300.0	54368	2009-09-04 at 17:40	63679	2009-09-04 at 17:40
TDS	SM 2540C	54174	2009-09-08 at 16:13	63474	2009-09-08 at 16:13
TKN	E 351.3	54150	2009-09-09 at 11:15	63441	2009-09-09 at 15:00
Tl, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
TOC	SM 5310C	54065	2009-09-08 at 13:26	63340	2009-09-08 at 13:29
Total Cyanide	SM 4500-CN C,E	54136	2009-09-10 at 10:30	63422	2009-09-10 at 14:00
TPH DRO	Mod. 8015B	54035	2009-09-04 at 15:00	63307	2009-09-07 at 18:00

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
TPH GRO	S 8015B	54070	2009-09-08 at 08:42	63348	2009-09-08 at 08:42
V, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31
Zn, Total	S 6010B	54109	2009-09-10 at 07:08	63415	2009-09-10 at 13:31

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 9090414 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: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Ag, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Silver	U	<0.00111	<0.00500	<0.00111	mg/L	1	0.00111	0.005	0.00111

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Al, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Aluminum		**0.194**	**0.194**	<0.00301	mg/L	1	0.00301	0.05	0.00301

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	63683	Date Analyzed:	2009-09-15	Analyzed By:	JG
Prep Batch:	54372	Sample Preparation:	2009-09-15	Prepared By:	JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Hydroxide Alkalinity	U	<1.00	<1.00	<1.00	mg/L as CaCo3	1	1.00	1	1
Carbonate Alkalinity	U	<1.00	<1.00	<1.00	mg/L as CaCo3	1	1.00	1	1
Bicarbonate Alkalinity		**1180**	**1180**	<4.00	mg/L as CaCo3	1	4.00	4	4
Total Alkalinity		**1180**	**1180**	<4.00	mg/L as CaCo3	1	4.00	4	4

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Ammonia	Analytical Method:	SM 4500-NH3 B,C	Prep Method:	N/A
QC Batch:	63487	Date Analyzed:	2009-09-11	Analyzed By:	AH
Prep Batch:	54190	Sample Preparation:	2009-09-11	Prepared By:	AH

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Ammonia-N	J	**0.560**	<1.00	<0.353	mg/L	1	0.353	1	0.353

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	As, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Arsenic	U	<0.00448	<0.0100	<0.00448	mg/L	1	0.00448	0.01	0.00448

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Ba, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Barium		**0.0310**	**0.0310**	<0.00105	mg/L	1	0.00105	0.005	0.00105

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Be, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Beryllium	U	<0.000450	<0.00200	<0.000450	mg/L	1	0.000450	0.002	0.00045

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	Bromide (IC)	Analytical Method:	E 300.0	Prep Method:	N/A

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 Sample Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Bromide	U	<0.197	<1.35	<0.197	mg/L	5	0.197	0.27	0.0394

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Ca, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Calcium		**314**	**314**	<1.17	mg/L	10	1.17	1	0.117

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Cd, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Cadmium	U	<0.000303	<0.00200	<0.000303	mg/L	1	0.000303	0.002	0.000303

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: El Paso
Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A
QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 Sample Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Chloride		**492**	**492**	<32.0	mg/L	50	32.0	1.22	0.6404

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: El Paso
Analysis: Chromium, Hexavalent Analytical Method: SM 3500-Cr B Prep Method: N/A
QC Batch: 63334 Date Analyzed: 2009-09-03 Analyzed By: JR
Prep Batch: 54059 Sample Preparation: 2009-09-03 Prepared By: JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Hexavalent Chromium	U	<0.00594	<0.0100	<0.00594	mg/L	1	0.00594	0.01	0.00594

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Co, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Cobalt	U	<0.000822	<0.00200	<0.000822	mg/L	1	0.000822	0.002	0.000822

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Cr, Dissolved Analytical Method: S 6010B Prep Method: S 3005A
QC Batch: 63462 Date Analyzed: 2009-09-11 Analyzed By: RR
Prep Batch: 54154 Sample Preparation: 2009-09-11 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Dissolved Chromium	U	<0.000583	<0.00100	<0.000583	mg/L	1	0.000583	0.001	0.000583

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Cr, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Chromium	U	<0.000583	<0.00500	<0.000583	mg/L	1	0.000583	0.005	0.000583

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Cu, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Copper	U	<0.000843	<0.00500	<0.000843	mg/L	1	0.000843	0.005	0.000843

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Explosives (8330)	Analytical Method:	S 8330-C18	Prep Method:	S 3535A
QC Batch:	63426	Date Analyzed:	2009-09-10	Analyzed By:	DS
Prep Batch:	54138	Sample Preparation:	2009-09-09	Prepared By:	DS

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
HMX		**37.8**	**37.8**	<0.615	μg/L	5	0.615	0.5	0.123
RDX		**27.4**	**27.4**	<1.49	μg/L	5	1.49	0.5	0.298
1,3,5-Trinitrobenzene	U	<1.70	<2.50	<1.70	μg/L	5	1.70	0.5	0.339
1,3-Dinitrobenzene	U	<1.94	<2.50	<1.94	μg/L	5	1.94	0.5	0.389
Nitrobenzene		**7.70**	**7.70**	<1.90	μg/L	5	1.90	0.5	0.379
Tetryl		**18.4**	**18.4**	<2.06	μg/L	5	2.06	0.5	0.413
TNT	U	<2.32	<2.50	<2.32	μg/L	5	2.32	0.5	0.464
4-Amino-DNT	U	<1.60	<2.50	<1.60	μg/L	5	1.60	0.5	0.319
2-Amino-DNT	U	<1.96	<2.50	<1.96	μg/L	5	1.96	0.5	0.391
2,6-DNT		**12.0**	**12.0**	<1.62	μg/L	5	1.62	0.5	0.323
2,4-DNT		**25.7**	**25.7**	<1.83	μg/L	5	1.83	0.5	0.366
2-NT	U	<1.90	<2.50	<1.90	μg/L	5	1.90	0.5	0.379
4-NT	U	<1.99	<2.50	<1.99	μg/L	5	1.99	0.5	0.398
3-NT		**34.2**	**34.2**	<1.73	μg/L	5	1.73	0.5	0.346

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
1,2-Dinitrobenzene	[1]	19.9	μg/L	5	2.50	796	19.8 - 160

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Fe, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

[1] High surrogate recovery due to peak interference.

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Iron	U	<0.000872	<0.0100	<0.000872	mg/L	1	0.000872	0.01	0.000872

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	63679	Date Analyzed:	2009-09-04	Analyzed By:	JR
Prep Batch:	54368	Sample Preparation:	2009-09-04	Prepared By:	JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Fluoride	U	<0.217	<0.850	<0.217	mg/L	5	0.217	0.17	0.0434

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Hg, Total	Analytical Method:	S 7470A	Prep Method:	N/A
QC Batch:	63372	Date Analyzed:	2009-09-09	Analyzed By:	TP
Prep Batch:	54088	Sample Preparation:	2009-09-09	Prepared By:	TP

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Mercury	U	<0.0000329	<0.000200	<0.0000329	mg/L	1	0.0000329	0.0002	3.29e-05

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	K, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63546	Date Analyzed:	2009-09-15	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Potassium		**91.2**	**91.2**	<1.72	mg/L	10	1.72	1	0.172

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Mg, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Magnesium		**388**	**388**	<1.60	mg/L	10	1.60	1	0.16

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Manganese		**0.268**	**0.268**	<0.000305	mg/L	1	0.000305	0.0025	0.000305

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Mo, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Molybdenum		**0.0120**	**0.0120**	<0.00119	mg/L	1	0.00119	0.01	0.00119

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Na, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Sodium		**1050**	**1050**	<5.00	mg/L	100	5.00	1	0.05

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Ni, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Nickel	U	<0.00121	<0.00500	<0.00121	mg/L	1	0.00121	0.005	0.00121

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Nitrate and Nitrite as N Analytical Method: SM 4500-NO3 E Prep Method: N/A
QC Batch: 63681 Date Analyzed: 2009-09-17 Analyzed By: KV
Prep Batch: 54370 Sample Preparation: 2009-09-17 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Nitrate and Nitrite as N		**0.209**	**0.209**	<0.0700	mg/L	2	0.0700	0.1	0.035

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: El Paso
Analysis: O/G Analytical Method: E 1664 Prep Method: N/A
QC Batch: 63699 Date Analyzed: 2009-09-17 Analyzed By: JR
Prep Batch: 54391 Sample Preparation: 2009-09-17 Prepared By: JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Oil and Grease		**9.28**	**9.28**	<3.60	mg/L	1	3.60	5	3.6

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: P, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Phosphorous	J	**0.0130**	<0.0250	<0.00289	mg/L	1	0.00289	0.025	0.00289

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Pb, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Lead	U	<0.00326	<0.00500	<0.00326	mg/L	1	0.00326	0.005	0.00326

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	63342	Date Analyzed:	2009-09-03	Analyzed By:	JG
Prep Batch:	54066	Sample Preparation:	2009-09-03	Prepared By:	JR

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.13	s.u.	1	

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Sb, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Antimony	U	<0.00440	<0.0200	<0.00440	mg/L	1	0.00440	0.02	0.0044

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Se, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Selenium	U	<0.00508	<0.0200	<0.00508	mg/L	1	0.00508	0.02	0.00508

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	63393	Date Analyzed:	2009-09-10	Analyzed By:	MN
Prep Batch:	54112	Sample Preparation:	2009-09-08	Prepared By:	MN

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Pyridine	U	<0.000560	<0.00461	<0.000560	mg/L	0.922	0.000560	0.005	0.000608
N-Nitrosodimethylamine	U	<0.000509	<0.00461	<0.000509	mg/L	0.922	0.000509	0.005	0.000552
2-Picoline	U	<0.000376	<0.00461	<0.000376	mg/L	0.922	0.000376	0.005	0.000408
Methyl methanesulfonate	U	<0.000323	<0.00461	<0.000323	mg/L	0.922	0.000323	0.005	0.00035
Ethyl methanesulfonate	U	<0.000413	<0.00461	<0.000413	mg/L	0.922	0.000413	0.005	0.000448
Phenol	U	<0.000469	<0.00461	<0.000469	mg/L	0.922	0.000469	0.005	0.000509
Aniline	U	<0.000637	<0.00461	<0.000637	mg/L	0.922	0.000637	0.005	0.000691
bis(2-chloroethyl)ether	U	<0.000406	<0.00461	<0.000406	mg/L	0.922	0.000406	0.005	0.00044
2-Chlorophenol	U	<0.000495	<0.00461	<0.000495	mg/L	0.922	0.000495	0.005	0.000537
1,3-Dichlorobenzene (meta)	U	<0.000407	<0.00461	<0.000407	mg/L	0.922	0.000407	0.005	0.000441
1,4-Dichlorobenzene (para)	U	<0.000406	<0.00461	<0.000406	mg/L	0.922	0.000406	0.005	0.00044
Benzyl alcohol	U	<0.000496	<0.00461	<0.000496	mg/L	0.922	0.000496	0.005	0.000538
1,2-Dichlorobenzene (ortho)	U	<0.000408	<0.00461	<0.000408	mg/L	0.922	0.000408	0.005	0.000443
2-Methylphenol	U	<0.000669	<0.00461	<0.000669	mg/L	0.922	0.000669	0.005	0.000726
bis(2-chloroisopropyl)ether	U	<0.000464	<0.00461	<0.000464	mg/L	0.922	0.000464	0.005	0.000503
4-Methylphenol / 3-Methylphenol	U	<0.000472	<0.00461	<0.000472	mg/L	0.922	0.000472	0.005	0.000512
N-Nitrosodi-n-propylamine	U	<0.000675	<0.00461	<0.000675	mg/L	0.922	0.000675	0.005	0.000732
Hexachloroethane	U	<0.000467	<0.00461	<0.000467	mg/L	0.922	0.000467	0.005	0.000507
Acetophenone	U	<0.000391	<0.00461	<0.000391	mg/L	0.922	0.000391	0.005	0.000424
Nitrobenzene	U	<0.000429	<0.00461	<0.000429	mg/L	0.922	0.000429	0.005	0.000465
N-Nitrosopiperidine	U	<0.000408	<0.00461	<0.000408	mg/L	0.922	0.000408	0.005	0.000443
Isophorone	U	<0.000571	<0.00461	<0.000571	mg/L	0.922	0.000571	0.005	0.000619
2-Nitrophenol	U	<0.000374	<0.00461	<0.000374	mg/L	0.922	0.000374	0.005	0.000406
2,4-Dimethylphenol	U	<0.000440	<0.00461	<0.000440	mg/L	0.922	0.000440	0.005	0.000477
bis(2-chloroethoxy)methane	U	<0.000398	<0.00461	<0.000398	mg/L	0.922	0.000398	0.005	0.000432
2,4-Dichlorophenol	U	<0.000369	<0.00461	<0.000369	mg/L	0.922	0.000369	0.005	0.0004
1,2,4-Trichlorobenzene	U	<0.000372	<0.00461	<0.000372	mg/L	0.922	0.000372	0.005	0.000404
Benzoic acid	U	<0.00150	<0.00461	<0.00150	mg/L	0.922	0.00150	0.005	0.00163
Naphthalene		**0.0122**	**0.0122**	<0.000451	mg/L	0.922	0.000451	0.005	0.000489
a,a-Dimethylphenethylamine	U	<0.00119	<0.00461	<0.00119	mg/L	0.922	0.00119	0.005	0.00129
4-Chloroaniline	U	<0.000348	<0.00461	<0.000348	mg/L	0.922	0.000348	0.005	0.000378
2,6-Dichlorophenol	U	<0.000446	<0.00922	<0.000446	mg/L	0.922	0.000446	0.01	0.000484
Hexachlorobutadiene	U	<0.000477	<0.00461	<0.000477	mg/L	0.922	0.000477	0.005	0.000517
N-Nitroso-di-n-butylamine	U	<0.000605	<0.00461	<0.000605	mg/L	0.922	0.000605	0.005	0.000656
4-Chloro-3-methylphenol	U	<0.000481	<0.00461	<0.000481	mg/L	0.922	0.000481	0.005	0.000522
2-Methylnaphthalene		**0.0152**	**0.0152**	<0.000390	mg/L	0.922	0.000390	0.005	0.000423
1-Methylnaphthalene		**0.0425**	**0.0425**	<0.000456	mg/L	0.922	0.000456	0.005	0.000495
1,2,4,5-Tetrachlorobenzene	U	<0.000564	<0.00461	<0.000564	mg/L	0.922	0.000564	0.005	0.000612
Hexachlorocyclopentadiene	U	<0.000514	<0.00461	<0.000514	mg/L	0.922	0.000514	0.005	0.000558
2,4,6-Trichlorophenol	U	<0.000732	<0.00922	<0.000732	mg/L	0.922	0.000732	0.01	0.000794

continued . . .

sample 209227 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
2,4,5-Trichlorophenol	U	<0.000769	<0.00461	<0.000769	mg/L	0.922	0.000769	0.005	0.000834
2-Chloronaphthalene	U	<0.000384	<0.00461	<0.000384	mg/L	0.922	0.000384	0.005	0.000416
1-Chloronaphthalene	U	<0.000439	<0.00461	<0.000439	mg/L	0.922	0.000439	0.005	0.000476
2-Nitroaniline	U	<0.000701	<0.00461	<0.000701	mg/L	0.922	0.000701	0.005	0.00076
Dimethylphthalate	U	<0.000593	<0.00461	<0.000593	mg/L	0.922	0.000593	0.005	0.000643
Acenaphthylene	U	<0.000540	<0.00461	<0.000540	mg/L	0.922	0.000540	0.005	0.000586
2,6-Dinitrotoluene	U	<0.000590	<0.00461	<0.000590	mg/L	0.922	0.000590	0.005	0.00064
3-Nitroaniline	U	<0.000665	<0.00461	<0.000665	mg/L	0.922	0.000665	0.005	0.000721
Acenaphthene	J	**0.00176**	<0.00461	<0.000390	mg/L	0.922	0.000390	0.005	0.000423
2,4-Dinitrophenol	U	<0.000203	<0.00461	<0.000203	mg/L	0.922	0.000203	0.005	0.00022
Dibenzofuran	J	**0.00379**	<0.00461	<0.000376	mg/L	0.922	0.000376	0.005	0.000408
Pentachlorobenzene	U	<0.000526	<0.00461	<0.000526	mg/L	0.922	0.000526	0.005	0.000571
4-Nitrophenol	U	<0.00170	<0.0230	<0.00170	mg/L	0.922	0.00170	0.025	0.00185
2,4-Dinitrotoluene	U	<0.000840	<0.00461	<0.000840	mg/L	0.922	0.000840	0.005	0.000911
1-Naphthylamine	U	<0.000634	<0.00461	<0.000634	mg/L	0.922	0.000634	0.005	0.000688
2,3,4,6-Tetrachlorophenol	U	<0.000521	<0.00922	<0.000521	mg/L	0.922	0.000521	0.01	0.000565
2-Naphthylamine	U	<0.000644	<0.00461	<0.000644	mg/L	0.922	0.000644	0.005	0.000699
Fluorene	U	<0.000597	<0.00461	<0.000597	mg/L	0.922	0.000597	0.005	0.000648
4-Chlorophenyl-phenylether	U	<0.000571	<0.00461	<0.000571	mg/L	0.922	0.000571	0.005	0.000619
Diethylphthalate	U	<0.000763	<0.00461	<0.000763	mg/L	0.922	0.000763	0.005	0.000828
4-Nitroaniline	U	<0.000647	<0.00461	<0.000647	mg/L	0.922	0.000647	0.005	0.000702
Diphenylhydrazine	U	<0.000606	<0.00461	<0.000606	mg/L	0.922	0.000606	0.005	0.000657
4,6-Dinitro-2-methylphenol	U	<0.00182	<0.00461	<0.00182	mg/L	0.922	0.00182	0.005	0.00198
Diphenylamine	U	<0.000406	<0.00461	<0.000406	mg/L	0.922	0.000406	0.005	0.00044
4-Bromophenyl-phenylether	U	<0.000507	<0.00461	<0.000507	mg/L	0.922	0.000507	0.005	0.00055
Phenacetin	U	<0.000558	<0.00461	<0.000558	mg/L	0.922	0.000558	0.005	0.000605
Hexachlorobenzene	U	<0.000466	<0.00461	<0.000466	mg/L	0.922	0.000466	0.005	0.000506
4-Aminobiphenyl	U	<0.000486	<0.00461	<0.000486	mg/L	0.922	0.000486	0.005	0.000527
Pentachlorophenol	[2] U	<0.000401	<0.00922	<0.000401	mg/L	0.922	0.000401	0.01	0.000435
Anthracene	U	<0.000395	<0.00461	<0.000395	mg/L	0.922	0.000395	0.005	0.000428
Pentachloronitrobenzene	U	<0.000376	<0.00461	<0.000376	mg/L	0.922	0.000376	0.005	0.000408
Pronamide	U	<0.000439	<0.00461	<0.000439	mg/L	0.922	0.000439	0.005	0.000476
Phenanthrene	J	**0.00359**	<0.00461	<0.000505	mg/L	0.922	0.000505	0.005	0.000548
Di-n-butylphthalate	U	<0.000445	<0.00461	<0.000445	mg/L	0.922	0.000445	0.005	0.000483
Fluoranthene	U	<0.000583	<0.00461	<0.000583	mg/L	0.922	0.000583	0.005	0.000632
Benzidine	U	<0.00219	<0.0230	<0.00219	mg/L	0.922	0.00219	0.025	0.00238
Pyrene	U	<0.000667	<0.00461	<0.000667	mg/L	0.922	0.000667	0.005	0.000723
p-Dimethylaminoazobenzene	U	<0.000832	<0.00461	<0.000832	mg/L	0.922	0.000832	0.005	0.000902
Butylbenzylphthalate	U	<0.000410	<0.00461	<0.000410	mg/L	0.922	0.000410	0.005	0.000445
Benzo(a)anthracene	U	<0.000486	<0.00461	<0.000486	mg/L	0.922	0.000486	0.005	0.000527
3,3-Dichlorobenzidine	U	<0.00109	<0.00461	<0.00109	mg/L	0.922	0.00109	0.005	0.00118
Chrysene	U	<0.000588	<0.00461	<0.000588	mg/L	0.922	0.000588	0.005	0.000638
bis(2-ethylhexyl)phthalate	J	**0.000940**	<0.00461	<0.000517	mg/L	0.922	0.000517	0.005	0.000561
Di-n-octylphthalate	U	<0.00107	<0.00461	<0.00107	mg/L	0.922	0.00107	0.005	0.00116

continued ...

[2] Concentration biased low.

sample 209227 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Benzo(b)fluoranthene	U	<0.000810	<0.00461	<0.000810	mg/L	0.922	0.000810	0.005	0.000879
Benzo(k)fluoranthene	U	<0.000779	<0.00461	<0.000779	mg/L	0.922	0.000779	0.005	0.000845
7,12-Dimethylbenz(a)anthracene	U	<0.000940	<0.00461	<0.000940	mg/L	0.922	0.000940	0.005	0.00102
Benzo(a)pyrene	U	<0.00154	<0.00461	<0.00154	mg/L	0.922	0.00154	0.005	0.00167
3-Methylcholanthrene	U	<0.000837	<0.00461	<0.000837	mg/L	0.922	0.000837	0.005	0.000908
Dibenzo(a,j)acridine	U	<0.00119	<0.00461	<0.00119	mg/L	0.922	0.00119	0.005	0.00129
Indeno(1,2,3-cd)pyrene	U	<0.000795	<0.00461	<0.000795	mg/L	0.922	0.000795	0.005	0.000862
Dibenzo(a,h)anthracene	U	<0.000746	<0.00461	<0.000746	mg/L	0.922	0.000746	0.005	0.000809
Benzo(g,h,i)perylene	U	<0.000875	<0.00461	<0.000875	mg/L	0.922	0.000875	0.005	0.000949

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0228	mg/L	0.922	0.0800	28	10 - 53.1
Phenol-d5		0.0136	mg/L	0.922	0.0800	17	10 - 36.9
Nitrobenzene-d5		0.0395	mg/L	0.922	0.0800	49	23.8 - 108
2-Fluorobiphenyl		0.0401	mg/L	0.922	0.0800	50	15.9 - 127
2,4,6-Tribromophenol		0.0620	mg/L	0.922	0.0800	78	10 - 123
Terphenyl-d14		0.0425	mg/L	0.922	0.0800	53	17.2 - 160

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	63679	Date Analyzed:	2009-09-04	Analyzed By:	JR
Prep Batch:	54368	Sample Preparation:	2009-09-04	Prepared By:	JR

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate		**2600**	**2600**	<50.4	mg/L	100	50.4	1.33	0.5038

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	El Paso				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	63474	Date Analyzed:	2009-09-08	Analyzed By:	MD
Prep Batch:	54174	Sample Preparation:	2009-09-08	Prepared By:	MD

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		**6220**	**6220**	<5.00	mg/L	1	5.00		5

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	TKN	Analytical Method:	E 351.3	Prep Method:	N/A
QC Batch:	63441	Date Analyzed:	2009-09-09	Analyzed By:	AH
Prep Batch:	54150	Sample Preparation:	2009-09-09	Prepared By:	AH

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Kjeldahl Nitrogen - N	J	**3.08**	<10.0	<2.45	mg/L	1	2.45	10	2.45

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Tl, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	Sample Preparation:	2009-09-10	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Thallium	U	<0.00488	<0.0500	<0.00488	mg/L	1	0.00488	0.05	0.00488

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	TOC	Analytical Method:	SM 5310C	Prep Method:	N/A
QC Batch:	63340	Date Analyzed:	2009-09-08	Analyzed By:	KV
Prep Batch:	54065	Sample Preparation:	2009-09-08	Prepared By:	KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Organic Carbon		**18.6**	**18.6**	<0.401	mg/L	1	0.401	1	0.401

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	Total Cyanide	Analytical Method:	SM 4500-CN C,E	Prep Method:	N/A
QC Batch:	63422	Date Analyzed:	2009-09-10	Analyzed By:	AH
Prep Batch:	54136	Sample Preparation:	2009-09-10	Prepared By:	AH

continued . . .

sample 209227 continued ...

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Cyanide	U	<0.0110	<0.0150	<0.0110	mg/L	1	0.0110	0.015	0.011

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	63307	Date Analyzed:	2009-09-07	Analyzed By:	
Prep Batch:	54035	Sample Preparation:	2009-09-04	Prepared By:	

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
DRO	J	**1.72**	<5.00	<0.876	mg/L	1	0.876	5	0.876

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		9.18	mg/L	1	10.0	92	57.3 - 151

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5030B
QC Batch:	63348	Date Analyzed:	2009-09-08	Analyzed By:	MT
Prep Batch:	54070	Sample Preparation:	2009-09-08	Prepared By:	MT

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
GRO		**0.216**	**0.216**	<0.152	mg/L	1	0.152	0.2	0.152

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.104	mg/L	1	0.100	104	70.8 - 112
4-Bromofluorobenzene (4-BFB)	[3]	0.112	mg/L	1	0.100	112	80 - 109

Sample: 209227 - HLSF-0154-HCF-001-0909

[3] High surrogate recovery due to peak interference.

Laboratory: Lubbock
Analysis: V, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Vanadium	J	**0.00200**	<0.00500	<0.000426	mg/L	1	0.000426	0.005	0.000426

Sample: 209227 - HLSF-0154-HCF-001-0909

Laboratory: Lubbock
Analysis: Zn, Total Analytical Method: S 6010B Prep Method: S 3010A
QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 Sample Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Zinc	U	<0.000465	<0.00500	<0.000465	mg/L	1	0.000465	0.005	0.000465

Method Blank (1)

QC Batch: 63307 Date Analyzed: 2009-09-07 Analyzed By:
Prep Batch: 54035 QC Preparation: 2009-09-04 Prepared By:

Parameter	Flag	Result	Units	Reporting Limits
DRO		<0.876	mg/L	0.876

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		8.25	mg/L	1	10.0	82	57.3 - 151

Method Blank (1)

QC Batch: 63334 Date Analyzed: 2009-09-03 Analyzed By: JR
Prep Batch: 54059 QC Preparation: 2009-09-03 Prepared By: JR

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

Method Blank (1)

QC Batch: 63340 Date Analyzed: 2009-09-08 Analyzed By: KV
Prep Batch: 54065 QC Preparation: 2009-09-08 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Organic Carbon		0.848	mg/L	0.401

Method Blank (1)

QC Batch: 63348 Date Analyzed: 2009-09-08 Analyzed By: MT
Prep Batch: 54070 QC Preparation: 2009-09-08 Prepared By: MT

Parameter	Flag	Result	Units	Reporting Limits
GRO		<0.152	mg/L	0.152

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.102	mg/L	1	0.100	102	70.8 - 112
4-Bromofluorobenzene (4-BFB)		0.0996	mg/L	1	0.100	100	80 - 109

Method Blank (1)

QC Batch: 63372 Date Analyzed: 2009-09-09 Analyzed By: TP
Prep Batch: 54088 QC Preparation: 2009-09-09 Prepared By: TP

Parameter	Flag	Result	Units	Reporting Limits
Total Mercury		<0.0000329	mg/L	3.29e-05

Method Blank (1)

QC Batch: 63393 Date Analyzed: 2009-09-10 Analyzed By: MN
Prep Batch: 54112 QC Preparation: 2009-09-08 Prepared By: MN

Parameter	Flag	Result	Units	Reporting Limits
Pyridine		<0.000608	mg/L	0.000608
N-Nitrosodimethylamine		<0.000552	mg/L	0.000552
2-Picoline		<0.000408	mg/L	0.000408
Methyl methanesulfonate		<0.000350	mg/L	0.00035
Ethyl methanesulfonate		<0.000448	mg/L	0.000448
Phenol		<0.000509	mg/L	0.000509
Aniline		<0.000691	mg/L	0.000691

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Parameter	Flag	Result	Units	Reporting Limits
bis(2-chloroethyl)ether		<0.000440	mg/L	0.00044
2-Chlorophenol		<0.000537	mg/L	0.000537
1,3-Dichlorobenzene (meta)		<0.000441	mg/L	0.000441
1,4-Dichlorobenzene (para)		<0.000440	mg/L	0.00044
Benzyl alcohol		<0.000538	mg/L	0.000538
1,2-Dichlorobenzene (ortho)		<0.000443	mg/L	0.000443
2-Methylphenol		<0.000726	mg/L	0.000726
bis(2-chloroisopropyl)ether		<0.000503	mg/L	0.000503
4-Methylphenol / 3-Methylphenol		<0.000512	mg/L	0.000512
N-Nitrosodi-n-propylamine		<0.000732	mg/L	0.000732
Hexachloroethane		<0.000507	mg/L	0.000507
Acetophenone		0.000600	mg/L	0.000424
Nitrobenzene		<0.000465	mg/L	0.000465
N-Nitrosopiperidine		<0.000443	mg/L	0.000443
Isophorone		<0.000619	mg/L	0.000619
2-Nitrophenol		<0.000406	mg/L	0.000406
2,4-Dimethylphenol		<0.000477	mg/L	0.000477
bis(2-chloroethoxy)methane		<0.000432	mg/L	0.000432
2,4-Dichlorophenol		<0.000400	mg/L	0.0004
1,2,4-Trichlorobenzene		<0.000404	mg/L	0.000404
Benzoic acid		<0.00163	mg/L	0.00163
Naphthalene		<0.000489	mg/L	0.000489
a,a-Dimethylphenethylamine		<0.00129	mg/L	0.00129
4-Chloroaniline		<0.000378	mg/L	0.000378
2,6-Dichlorophenol		<0.000484	mg/L	0.000484
Hexachlorobutadiene		<0.000517	mg/L	0.000517
N-Nitroso-di-n-butylamine		<0.000656	mg/L	0.000656
4-Chloro-3-methylphenol		<0.000522	mg/L	0.000522
2-Methylnaphthalene		<0.000423	mg/L	0.000423
1-Methylnaphthalene		<0.000495	mg/L	0.000495
1,2,4,5-Tetrachlorobenzene		<0.000612	mg/L	0.000612
Hexachlorocyclopentadiene		<0.000558	mg/L	0.000558
2,4,6-Trichlorophenol		<0.000794	mg/L	0.000794
2,4,5-Trichlorophenol		<0.000834	mg/L	0.000834
2-Chloronaphthalene		<0.000416	mg/L	0.000416
1-Chloronaphthalene		<0.000476	mg/L	0.000476
2-Nitroaniline		<0.000760	mg/L	0.00076
Dimethylphthalate		<0.000643	mg/L	0.000643
Acenaphthylene		<0.000586	mg/L	0.000586
2,6-Dinitrotoluene		<0.000640	mg/L	0.00064
3-Nitroaniline		<0.000721	mg/L	0.000721
Acenaphthene		<0.000423	mg/L	0.000423
2,4-Dinitrophenol		<0.000220	mg/L	0.00022
Dibenzofuran		<0.000408	mg/L	0.000408
Pentachlorobenzene		<0.000571	mg/L	0.000571
4-Nitrophenol		<0.00185	mg/L	0.00185
2,4-Dinitrotoluene		<0.000911	mg/L	0.000911

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Parameter	Flag	Result	Units	Reporting Limits
1-Naphthylamine		<0.000688	mg/L	0.000688
2,3,4,6-Tetrachlorophenol		<0.000565	mg/L	0.000565
2-Naphthylamine		<0.000699	mg/L	0.000699
Fluorene		<0.000648	mg/L	0.000648
4-Chlorophenyl-phenylether		<0.000619	mg/L	0.000619
Diethylphthalate		<0.000828	mg/L	0.000828
4-Nitroaniline		<0.000702	mg/L	0.000702
Diphenylhydrazine		<0.000657	mg/L	0.000657
4,6-Dinitro-2-methylphenol		<0.00198	mg/L	0.00198
Diphenylamine		<0.000440	mg/L	0.00044
4-Bromophenyl-phenylether		<0.000550	mg/L	0.00055
Phenacetin		<0.000605	mg/L	0.000605
Hexachlorobenzene		<0.000506	mg/L	0.000506
4-Aminobiphenyl		<0.000527	mg/L	0.000527
Pentachlorophenol		<0.000435	mg/L	0.000435
Anthracene		<0.000428	mg/L	0.000428
Pentachloronitrobenzene		<0.000408	mg/L	0.000408
Pronamide		<0.000476	mg/L	0.000476
Phenanthrene		<0.000548	mg/L	0.000548
Di-n-butylphthalate		<0.000483	mg/L	0.000483
Fluoranthene		<0.000632	mg/L	0.000632
Benzidine		<0.00238	mg/L	0.00238
Pyrene		<0.000723	mg/L	0.000723
p-Dimethylaminoazobenzene		<0.000902	mg/L	0.000902
Butylbenzylphthalate		<0.000445	mg/L	0.000445
Benzo(a)anthracene		<0.000527	mg/L	0.000527
3,3-Dichlorobenzidine		<0.00118	mg/L	0.00118
Chrysene		<0.000638	mg/L	0.000638
bis(2-ethylhexyl)phthalate		<0.000561	mg/L	0.000561
Di-n-octylphthalate		<0.00116	mg/L	0.00116
Benzo(b)fluoranthene		<0.000879	mg/L	0.000879
Benzo(k)fluoranthene		<0.000845	mg/L	0.000845
7,12-Dimethylbenz(a)anthracene		<0.00102	mg/L	0.00102
Benzo(a)pyrene		<0.00167	mg/L	0.00167
3-Methylcholanthrene		<0.000908	mg/L	0.000908
Dibenzo(a,j)acridine		<0.00129	mg/L	0.00129
Indeno(1,2,3-cd)pyrene		<0.000862	mg/L	0.000862
Dibenzo(a,h)anthracene		<0.000809	mg/L	0.000809
Benzo(g,h,i)perylene		<0.000949	mg/L	0.000949

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0243	mg/L	1	0.0800	30	10 - 53.1
Phenol-d5		0.0140	mg/L	1	0.0800	18	10 - 36.9
Nitrobenzene-d5		0.0454	mg/L	1	0.0800	57	23.8 - 108
2-Fluorobiphenyl		0.0489	mg/L	1	0.0800	61	15.9 - 127
2,4,6-Tribromophenol		0.0596	mg/L	1	0.0800	74	10 - 123

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Terphenyl-d14		0.0518	mg/L	1	0.0800	65	17.2 - 160

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Silver		<0.00111	mg/L	0.00111

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Aluminum		<0.00301	mg/L	0.00301

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Arsenic		<0.00448	mg/L	0.00448

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Barium		<0.00105	mg/L	0.00105

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Beryllium		<0.000450	mg/L	0.00045

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Cadmium		<0.000303	mg/L	0.000303

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Cobalt		<0.000822	mg/L	0.000822

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

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

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Copper		<0.000843	mg/L	0.000843

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Iron		<0.000872	mg/L	0.000872

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Manganese		<0.000305	mg/L	0.000305

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Molybdenum		<0.00119	mg/L	0.00119

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Nickel		<0.00121	mg/L	0.00121

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Phosphorous		<0.00289	mg/L	0.00289

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Lead		<0.00326	mg/L	0.00326

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Antimony		<0.00440	mg/L	0.0044

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Selenium		<0.00508	mg/L	0.00508

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Thallium		<0.00488	mg/L	0.00488

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Vanadium		<0.000426	mg/L	0.000426

Method Blank (1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Zinc		<0.000465	mg/L	0.000465

Method Blank (1)

QC Batch: 63422 Date Analyzed: 2009-09-10 Analyzed By: AH
Prep Batch: 54136 QC Preparation: 2009-09-10 Prepared By: AH

Parameter	Flag	Result	Units	Reporting Limits
Total Cyanide		<0.0110	mg/L	0.011

Method Blank (1)

QC Batch: 63426 Date Analyzed: 2009-09-10 Analyzed By: DS
Prep Batch: 54138 QC Preparation: 2009-09-09 Prepared By: DS

Parameter	Flag	Result	Units	Reporting Limits
HMX		<0.123	µg/L	0.123
RDX		<0.298	µg/L	0.298
1,3,5-Trinitrobenzene		<0.339	µg/L	0.339
1,3-Dinitrobenzene		<0.389	µg/L	0.389
Nitrobenzene		<0.379	µg/L	0.379
Tetryl		<0.413	µg/L	0.413
TNT		<0.464	µg/L	0.464
4-Amino-DNT		<0.319	µg/L	0.319
2-Amino-DNT		<0.391	µg/L	0.391
2,6-DNT		<0.323	µg/L	0.323
2,4-DNT		<0.366	µg/L	0.366
2-NT		<0.379	µg/L	0.379
4-NT		<0.398	µg/L	0.398
3-NT		<0.346	µg/L	0.346

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
1,2-Dinitrobenzene		2.46	µg/L	1	2.50	98	19.8 - 160

Method Blank (1)

QC Batch: 63441 Date Analyzed: 2009-09-09 Analyzed By: AH
Prep Batch: 54150 QC Preparation: 2009-09-09 Prepared By: AH

Parameter	Flag	Result	Units	Reporting Limits
Total Kjeldahl Nitrogen - N		<2.45	mg/L	2.45

Method Blank (1)

QC Batch: 63462 Date Analyzed: 2009-09-11 Analyzed By: RR
Prep Batch: 54154 QC Preparation: 2009-09-11 Prepared By: KV

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

Method Blank (1)

QC Batch: 63474 Date Analyzed: 2009-09-08 Analyzed By: MD
Prep Batch: 54174 QC Preparation: 2009-09-08 Prepared By: MD

Parameter	Flag	Result	Units	Reporting Limits
Total Dissolved Solids		<5.00	mg/L	5

Method Blank (1)

QC Batch: 63487 Date Analyzed: 2009-09-11 Analyzed By: AH
Prep Batch: 54190 QC Preparation: 2009-09-11 Prepared By: AH

Parameter	Flag	Result	Units	Reporting Limits
Ammonia-N		<0.353	mg/L	0.353

Method Blank (1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Calcium		<0.117	mg/L	0.117

Method Blank (1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Potassium		<0.172	mg/L	0.172

Method Blank (1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Magnesium		<0.160	mg/L	0.16

Method Blank (1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Total Sodium		<0.0500	mg/L	0.05

Method Blank (1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	Result	Units	Reporting Limits
Bromide		<0.0394	mg/L	0.0394

Method Blank (1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	Result	Units	Reporting Limits
Chloride		<0.640	mg/L	0.6404

Method Blank (1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	Result	Units	Reporting Limits
Fluoride		<0.0434	mg/L	0.0434

Method Blank (1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Parameter	Flag	Result	Units	Reporting Limits
Sulfate		<0.504	mg/L	0.5038

Method Blank (1)

QC Batch: 63681 Date Analyzed: 2009-09-17 Analyzed By: KV
Prep Batch: 54370 QC Preparation: 2009-09-17 Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Nitrate and Nitrite as N		<0.0350	mg/L	0.035

Method Blank (1)

QC Batch: 63683 Date Analyzed: 2009-09-15 Analyzed By: JG
Prep Batch: 54372 QC Preparation: 2009-09-15 Prepared By: JG

Parameter	Flag	Result	Units	Reporting Limits
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Method Blank (1)

QC Batch: 63699 Date Analyzed: 2009-09-17 Analyzed By: JR
Prep Batch: 54391 QC Preparation: 2009-09-17 Prepared By: MD

Parameter	Flag	Result	Units	Reporting Limits
Oil and Grease		<3.60	mg/L	3.6

Duplicate (1) Duplicated Sample: 209230

QC Batch: 63342 Date Analyzed: 2009-09-03 Analyzed By: JG
Prep Batch: 54066 QC Preparation: 2009-09-03 Prepared By: JG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	7.04	7.04	s.u.	1	0	1.1

Duplicate (1) Duplicated Sample: 209230

QC Batch: 63474 Date Analyzed: 2009-09-08 Analyzed By: MD
Prep Batch: 54174 QC Preparation: 2009-09-08 Prepared By: MD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	7840	7970	mg/L	1	2	10

Duplicate (1) Duplicated Sample: 209227

QC Batch: 63683 Date Analyzed: 2009-09-15 Analyzed By: JG
Prep Batch: 54372 QC Preparation: 2009-09-15 Prepared By: JG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	1180	1180	mg/L as CaCo3	1	0	20
Total Alkalinity	1180	1180	mg/L as CaCo3	1	0	20

Laboratory Control Spike (LCS-1)

QC Batch: 63307 Date Analyzed: 2009-09-07 Analyzed By:
Prep Batch: 54035 QC Preparation: 2009-09-04 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	27.0	mg/L	1	25.0	<0.876	108	78.6 - 154

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
DRO	28.3	mg/L	1	25.0	<0.876	113	78.6 - 154	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	8.66	8.90	mg/L	1	10.0	87	89	57.3 - 151

Laboratory Control Spike (LCS-1)

QC Batch: 63334 Date Analyzed: 2009-09-03 Analyzed By: JR
Prep Batch: 54059 QC Preparation: 2009-09-03 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Hexavalent Chromium	0.493	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	0.491	mg/L	1	0.500	<0.00594	98	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: 63340 Date Analyzed: 2009-09-08 Analyzed By: KV
Prep Batch: 54065 QC Preparation: 2009-09-08 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Organic Carbon	48.4	mg/L	1	50.0	<0.401	97	89.5 - 114

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 Organic Carbon	49.4	mg/L	1	50.0	<0.401	99	89.5 - 114	2	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: 63348 Date Analyzed: 2009-09-08 Analyzed By: MT
Prep Batch: 54070 QC Preparation: 2009-09-08 Prepared By: MT

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	1.14	mg/L	1	1.00	<0.152	114	75.5 - 118

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
GRO	1.14	mg/L	1	1.00	<0.152	114	75.5 - 118	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.101	0.105	mg/L	1	0.100	101	105	78.2 - 121
4-Bromofluorobenzene (4-BFB)	0.101	0.104	mg/L	1	0.100	101	104	82.2 - 118

Laboratory Control Spike (LCS-1)

QC Batch: 63372 Date Analyzed: 2009-09-09 Analyzed By: TP
Prep Batch: 54088 QC Preparation: 2009-09-09 Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.000990	mg/L	1	0.00100	<0.0000329	99	90.3 - 108

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 Mercury	0.00102	mg/L	1	0.00100	<0.0000329	102	90.3 - 108	3	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: 63393 Date Analyzed: 2009-09-10 Analyzed By: MN
Prep Batch: 54112 QC Preparation: 2009-09-08 Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Phenol	0.0142	mg/L	1	0.0800	<0.000509	18	10 - 66.5
2-Chlorophenol	0.0356	mg/L	1	0.0800	<0.000537	44	11.2 - 108
1,4-Dichlorobenzene (para)	0.0341	mg/L	1	0.0800	<0.000440	43	16 - 101
N-Nitrosodi-n-propylamine	0.0466	mg/L	1	0.0800	<0.000732	58	10 - 142
1,2,4-Trichlorobenzene	0.0353	mg/L	1	0.0800	<0.000404	44	18 - 118
Naphthalene	0.0369	mg/L	1	0.0800	<0.000489	46	20.2 - 114
4-Chloro-3-methylphenol	0.0539	mg/L	1	0.0800	<0.000522	67	21.5 - 125
Acenaphthylene	0.0465	mg/L	1	0.0800	<0.000586	58	25.8 - 121
Acenaphthene	0.0462	mg/L	1	0.0800	<0.000423	58	33.5 - 122
4-Nitrophenol	0.0204	mg/L	1	0.0800	<0.00185	26	10 - 125

continued ...

control spikes continued ...

Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
2,4-Dinitrotoluene		0.0550	mg/L	1	0.0800	<0.000911	69	53 - 130
Fluorene		0.0502	mg/L	1	0.0800	<0.000648	63	44.6 - 117
Pentachlorophenol		0.0148	mg/L	1	0.0800	<0.000435	18	10 - 139
Anthracene		0.0481	mg/L	1	0.0800	<0.000428	60	57.5 - 115
Phenanthrene		0.0504	mg/L	1	0.0800	<0.000548	63	55.5 - 118
Fluoranthene		0.0541	mg/L	1	0.0800	<0.000632	68	57 - 122
Pyrene	[4]	0.0453	mg/L	1	0.0800	<0.000723	57	58.5 - 130
Benzo(a)anthracene	[5]	0.0467	mg/L	1	0.0800	<0.000527	58	63.4 - 109
Chrysene		0.0492	mg/L	1	0.0800	<0.000638	62	54.7 - 114
Benzo(b)fluoranthene	[6]	0.0434	mg/L	1	0.0800	<0.000879	54	64.8 - 120
Benzo(k)fluoranthene		0.0675	mg/L	1	0.0800	<0.000845	84	70.3 - 114
Benzo(a)pyrene		0.0612	mg/L	1	0.0800	<0.00167	76	63.7 - 120
Indeno(1,2,3-cd)pyrene		0.0598	mg/L	1	0.0800	<0.000862	75	65.4 - 119
Dibenzo(a,h)anthracene		0.0600	mg/L	1	0.0800	<0.000809	75	68.7 - 117
Benzo(g,h,i)perylene		0.0613	mg/L	1	0.0800	<0.000949	77	57.2 - 125

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
Phenol		0.0145	mg/L	1	0.0800	<0.000509	18	10 - 66.5	2	20
2-Chlorophenol		0.0359	mg/L	1	0.0800	<0.000537	45	11.2 - 108	1	20
1,4-Dichlorobenzene (para)		0.0337	mg/L	1	0.0800	<0.000440	42	16 - 101	1	20
N-Nitrosodi-n-propylamine		0.0459	mg/L	1	0.0800	<0.000732	57	10 - 142	2	20
1,2,4-Trichlorobenzene		0.0347	mg/L	1	0.0800	<0.000404	43	18 - 118	2	20
Naphthalene		0.0369	mg/L	1	0.0800	<0.000489	46	20.2 - 114	0	20
4-Chloro-3-methylphenol		0.0541	mg/L	1	0.0800	<0.000522	68	21.5 - 125	0	20
Acenaphthylene		0.0459	mg/L	1	0.0800	<0.000586	57	25.8 - 121	1	20
Acenaphthene		0.0457	mg/L	1	0.0800	<0.000423	57	33.5 - 122	1	20
4-Nitrophenol		0.0203	mg/L	1	0.0800	<0.00185	25	10 - 125	0	20
2,4-Dinitrotoluene		0.0536	mg/L	1	0.0800	<0.000911	67	53 - 130	3	20
Fluorene		0.0496	mg/L	1	0.0800	<0.000648	62	44.6 - 117	1	20
Pentachlorophenol		0.0161	mg/L	1	0.0800	<0.000435	20	10 - 139	8	20
Anthracene		0.0491	mg/L	1	0.0800	<0.000428	61	57.5 - 115	2	20
Phenanthrene		0.0514	mg/L	1	0.0800	<0.000548	64	55.5 - 118	2	20
Fluoranthene		0.0549	mg/L	1	0.0800	<0.000632	69	57 - 122	2	20
Pyrene		0.0463	mg/L	1	0.0800	<0.000723	58	58.5 - 130	2	20
Benzo(a)anthracene	[7]	0.0476	mg/L	1	0.0800	<0.000527	60	63.4 - 109	2	20
Chrysene		0.0502	mg/L	1	0.0800	<0.000638	63	54.7 - 114	2	20
Benzo(b)fluoranthene	[8]	0.0558	mg/L	1	0.0800	<0.000879	70	64.8 - 120	25	20
Benzo(k)fluoranthene		0.0692	mg/L	1	0.0800	<0.000845	86	70.3 - 114	2	20
Benzo(a)pyrene		0.0604	mg/L	1	0.0800	<0.00167	76	63.7 - 120	1	20
Indeno(1,2,3-cd)pyrene		0.0591	mg/L	1	0.0800	<0.000862	74	65.4 - 119	1	20
Dibenzo(a,h)anthracene		0.0616	mg/L	1	0.0800	<0.000809	77	68.7 - 117	3	20

continued ...

[4] Spike analyte out of control limits. Results biased low. •
[5] Spike analyte out of control limits. Results biased low. •
[6] Spike analyte out of control limits. Results biased low. •
[7] Spike analyte out of control limits. Results biased low. •
[8] RPD outside RPD limits.

control spikes continued ...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzo(g,h,i)perylene	0.0630	mg/L	1	0.0800	<0.000949	79	57.2 - 125	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
2-Fluorophenol	0.0285	0.0283	mg/L	1	0.0800	36	35	10 - 53.1
Phenol-d5	0.0192	0.0195	mg/L	1	0.0800	24	24	10 - 36.9
Nitrobenzene-d5	0.0465	0.0464	mg/L	1	0.0800	58	58	23.8 - 108
2-Fluorobiphenyl	0.0489	0.0486	mg/L	1	0.0800	61	61	15.9 - 127
2,4,6-Tribromophenol	0.0799	0.0799	mg/L	1	0.0800	100	100	10 - 123
Terphenyl-d14	0.0635	0.0653	mg/L	1	0.0800	79	82	17.2 - 160

Laboratory Control Spike (LCS-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.124	mg/L	1	0.125	<0.00111	99	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 Silver	0.122	mg/L	1	0.125	<0.00111	98	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	0.888	mg/L	1	1.00	<0.00301	89	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 Aluminum	0.867	mg/L	1	1.00	<0.00301	87	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.478	mg/L	1	0.500	<0.00448	96	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 Arsenic	0.468	mg/L	1	0.500	<0.00448	94	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	1.02	mg/L	1	1.00	<0.00105	102	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 Barium	1.01	mg/L	1	1.00	<0.00105	101	85 - 115	1	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Beryllium	0.0250	mg/L	1	0.0250	<0.000450	100	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 Beryllium	0.0238	mg/L	1	0.0250	<0.000450	95	85 - 115	5	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.246	mg/L	1	0.250	<0.000303	98	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 Cadmium	0.242	mg/L	1	0.250	<0.000303	97	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.245	mg/L	1	0.250	<0.000822	98	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 Cobalt	0.241	mg/L	1	0.250	<0.000822	96	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0960	mg/L	1	0.100	<0.000583	96	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	0.0940	mg/L	1	0.100	<0.000583	94	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.124	mg/L	1	0.125	<0.000843	99	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 Copper	0.119	mg/L	1	0.125	<0.000843	95	85 - 115	4	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	0.436	mg/L	1	0.500	<0.000872	87	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 Iron	0.443	mg/L	1	0.500	<0.000872	89	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.257	mg/L	1	0.250	<0.000305	103	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 Manganese	0.253	mg/L	1	0.250	<0.000305	101	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.546	mg/L	1	0.500	<0.00119	109	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 Molybdenum	0.536	mg/L	1	0.500	<0.00119	107	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.250	mg/L	1	0.250	<0.00121	100	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 Nickel	0.246	mg/L	1	0.250	<0.00121	98	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Phosphorous	0.452	mg/L	1	0.500	<0.00289	90	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 Phosphorous	0.447	mg/L	1	0.500	<0.00289	89	85 - 115	1	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.475	mg/L	1	0.500	<0.00326	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
Total Lead	0.466	mg/L	1	0.500	<0.00326	93	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Antimony	0.238	mg/L	1	0.250	<0.00440	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
Total Antimony	0.233	mg/L	1	0.250	<0.00440	93	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.440	mg/L	1	0.500	<0.00508	88	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 Selenium	0.444	mg/L	1	0.500	<0.00508	89	85 - 115	1	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Thallium	0.504	mg/L	1	0.500	<0.00488	101	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 Thallium	0.494	mg/L	1	0.500	<0.00488	99	85 - 115	2	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Vanadium	0.243	mg/L	1	0.250	<0.000426	97	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 Vanadium	0.241	mg/L	1	0.250	<0.000426	96	85 - 115	1	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: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.234	mg/L	1	0.250	<0.000465	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 Zinc	0.234	mg/L	1	0.250	<0.000465	94	85 - 115	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: 63426 Date Analyzed: 2009-09-10 Analyzed By: DS
Prep Batch: 54138 QC Preparation: 2009-09-09 Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
HMX	2.55	μg/L	1	2.50	<0.123	102	63.5 - 125
RDX	2.35	μg/L	1	2.50	<0.298	94	74.5 - 124
1,3,5-Trinitrobenzene	2.39	μg/L	1	2.50	<0.339	96	54.1 - 131
1,3-Dinitrobenzene	2.38	μg/L	1	2.50	<0.389	95	72 - 112
Nitrobenzene	2.56	μg/L	1	2.50	<0.379	102	72.5 - 126
Tetryl	2.43	μg/L	1	2.50	<0.413	97	35.9 - 149
TNT	2.41	μg/L	1	2.50	<0.464	96	40.7 - 129
4-Amino-DNT	2.62	μg/L	1	2.50	<0.319	105	80 - 120
2-Amino-DNT	2.49	μg/L	1	2.50	<0.391	100	80 - 120
2,6-DNT	2.26	μg/L	1	2.50	<0.323	90	80 - 120
2,4-DNT	2.63	μg/L	1	2.50	<0.366	105	80 - 120
2-NT	2.59	μg/L	1	2.50	<0.379	104	49.8 - 139
4-NT	2.18	μg/L	1	2.50	<0.398	87	56.3 - 141
3-NT	2.32	μg/L	1	2.50	<0.346	93	66.2 - 129

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
HMX	2.47	μg/L	1	2.50	<0.123	99	63.5 - 125	3	20
RDX	2.27	μg/L	1	2.50	<0.298	91	74.5 - 124	4	20
1,3,5-Trinitrobenzene	2.30	μg/L	1	2.50	<0.339	92	54.1 - 131	4	20
1,3-Dinitrobenzene	2.38	μg/L	1	2.50	<0.389	95	72 - 112	0	20
Nitrobenzene	2.37	μg/L	1	2.50	<0.379	95	72.5 - 126	8	20
Tetryl	2.12	μg/L	1	2.50	<0.413	85	35.9 - 149	14	20
TNT	2.28	μg/L	1	2.50	<0.464	91	40.7 - 129	6	20
4-Amino-DNT	2.55	μg/L	1	2.50	<0.319	102	80 - 120	3	20
2-Amino-DNT	2.57	μg/L	1	2.50	<0.391	103	80 - 120	3	20
2,6-DNT	2.26	μg/L	1	2.50	<0.323	90	80 - 120	0	20
2,4-DNT	2.53	μg/L	1	2.50	<0.366	101	80 - 120	4	20
2-NT	2.37	μg/L	1	2.50	<0.379	95	49.8 - 139	9	20
4-NT	2.07	μg/L	1	2.50	<0.398	83	56.3 - 141	5	20
3-NT	2.20	μg/L	1	2.50	<0.346	88	66.2 - 129	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
1,2-Dinitrobenzene	2.28	2.30	μg/L	1	2.50	91	92	53 - 134

Laboratory Control Spike (LCS-1)

QC Batch: 63462 Date Analyzed: 2009-09-11 Analyzed By: RR
Prep Batch: 54154 QC Preparation: 2009-09-11 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.100	mg/L	1	0.100	<0.000583	100	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	0.101	mg/L	1	0.100	<0.000583	101	85 - 115	1	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: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Calcium	51.4	mg/L	1	50.0	<0.117	103	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 Calcium	52.9	mg/L	1	50.0	<0.117	106	85 - 115	3	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: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Potassium	51.5	mg/L	1	50.0	<0.172	103	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 Potassium	52.4	mg/L	1	50.0	<0.172	105	85 - 115	2	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: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Magnesium	49.6	mg/L	1	50.0	<0.160	99	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 Magnesium	50.5	mg/L	1	50.0	<0.160	101	85 - 115	2	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: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Sodium	52.3	mg/L	1	50.0	<0.0500	105	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 Sodium	53.1	mg/L	1	50.0	<0.0500	106	85 - 115	2	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: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromide	4.64	mg/L	1	5.00	<0.0394	93	90 - 110

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
Bromide	4.63	mg/L	1	5.00	<0.0394	93	90 - 110	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: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.5	mg/L	1	25.0	<0.640	94	90 - 110

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
Chloride	23.4	mg/L	1	25.0	<0.640	94	90 - 110	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: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride	4.61	mg/L	1	5.00	<0.0434	92	90 - 110

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
Fluoride	4.59	mg/L	1	5.00	<0.0434	92	90 - 110	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: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	23.0	mg/L	1	25.0	<0.504	92	90 - 110

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
Sulfate	23.0	mg/L	1	25.0	<0.504	92	90 - 110	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: 63699 Date Analyzed: 2009-09-17 Analyzed By: JR
Prep Batch: 54391 QC Preparation: 2009-09-17 Prepared By: MD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Oil and Grease	39.5	mg/L	1	40.0	<3.60	99	78 - 114

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
Oil and Grease	35.2	mg/L	1	40.0	<3.60	88	78 - 114	12	18

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

Matrix Spike (MS-1) Spiked Sample: 208666

QC Batch: 63307 Date Analyzed: 2009-09-07 Analyzed By:
Prep Batch: 54035 QC Preparation: 2009-09-04 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	24.3	mg/L	1	25.0	<0.876	97	54 - 144

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
DRO	23.5	mg/L	1	25.0	<0.876	94	54 - 144	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	10.9	10.9	mg/L	1	10	109	109	57.3 - 151

Matrix Spike (MS-1) Spiked Sample: 209227

QC Batch: 63334 Date Analyzed: 2009-09-03 Analyzed By: JR
Prep Batch: 54059 QC Preparation: 2009-09-03 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Hexavalent Chromium	0.684	mg/L	1.11	0.556	0.175	92	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	0.663	mg/L	1.11	0.556	0.175	88	80.1 - 118	3	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: 208408

QC Batch: 63340 Date Analyzed: 2009-09-08 Analyzed By: KV
Prep Batch: 54065 QC Preparation: 2009-09-08 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Organic Carbon	51.2	mg/L	1	50.0	1.66	99	66.9 - 121

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 Organic Carbon	48.4	mg/L	1	50.0	1.66	93	66.9 - 121	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: 209227

QC Batch: 63348 Date Analyzed: 2009-09-08 Analyzed By: MT
Prep Batch: 54070 QC Preparation: 2009-09-08 Prepared By: MT

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	0.865	mg/L	1	1.00	0.216	65	48.4 - 136

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
GRO [9]	0.696	mg/L	1	1.00	0.216	48	48.4 - 136	22	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT) [10]	0.0826	0.0570	mg/L	1	0.1	83	57	70.3 - 129
4-Bromofluorobenzene (4-BFB) [11]	0.0870	0.0630	mg/L	1	0.1	87	63	82.5 - 118

Matrix Spike (MS-1) Spiked Sample: 209296

QC Batch: 63372 Date Analyzed: 2009-09-09 Analyzed By: TP
Prep Batch: 54088 QC Preparation: 2009-09-09 Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury [12]	0.000790	mg/L	1	0.00100	<0.0000329	79	80 - 116

[9] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
[10] Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.
[11] Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.
[12] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

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 Mercury	0.000820	mg/L	1	0.00100	<0.0000329	82	80 - 116	4	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: 209098

QC Batch: 63393 Date Analyzed: 2009-09-10 Analyzed By: MN
Prep Batch: 54112 QC Preparation: 2009-09-08 Prepared By: MN

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Phenol		0.0145	mg/L	0.922	0.0800	<0.000469	18	10 - 66.5
2-Chlorophenol		0.0347	mg/L	0.922	0.0800	<0.000495	43	11.2 - 108
1,4-Dichlorobenzene (para)		0.0324	mg/L	0.922	0.0800	<0.000406	40	16 - 101
N-Nitrosodi-n-propylamine		0.0430	mg/L	0.922	0.0800	<0.000675	54	10 - 142
1,2,4-Trichlorobenzene		0.0340	mg/L	0.922	0.0800	<0.000372	42	18 - 108
Naphthalene		0.0347	mg/L	0.922	0.0800	<0.000451	43	20.2 - 114
4-Chloro-3-methylphenol		0.0474	mg/L	0.922	0.0800	<0.000481	59	21.5 - 125
Acenaphthylene		0.0423	mg/L	0.922	0.0800	<0.000540	53	25.8 - 121
Acenaphthene		0.0413	mg/L	0.922	0.0800	<0.000390	52	33.5 - 122
4-Nitrophenol		0.0130	mg/L	0.922	0.0800	<0.00170	16	10 - 125
2,4-Dinitrotoluene		0.0476	mg/L	0.922	0.0800	<0.000840	60	53 - 130
Fluorene		0.0445	mg/L	0.922	0.0800	<0.000597	56	44.6 - 117
Pentachlorophenol		0.0163	mg/L	0.922	0.0800	<0.000401	20	10 - 139
Anthracene	[13]	0.0422	mg/L	0.922	0.0800	<0.000395	53	57.5 - 115
Phenanthrene		0.0444	mg/L	0.922	0.0800	<0.000505	56	55.5 - 118
Fluoranthene		0.0471	mg/L	0.922	0.0800	<0.000583	59	57 - 122
Pyrene	[14]	0.0399	mg/L	0.922	0.0800	<0.000667	50	58.5 - 130
Benzo(a)anthracene	[15]	0.0403	mg/L	0.922	0.0800	<0.000486	50	63.4 - 109
Chrysene	[16]	0.0426	mg/L	0.922	0.0800	<0.000588	53	54.7 - 114
Benzo(b)fluoranthene	[17]	0.0375	mg/L	0.922	0.0800	<0.000810	47	64.8 - 120
Benzo(k)fluoranthene		0.0599	mg/L	0.922	0.0800	<0.000779	75	70.3 - 114
Benzo(a)pyrene		0.0522	mg/L	0.922	0.0800	<0.00154	65	63.7 - 120
Indeno(1,2,3-cd)pyrene	[18]	0.0509	mg/L	0.922	0.0800	<0.000795	64	65.4 - 119
Dibenzo(a,h)anthracene	[19]	0.0514	mg/L	0.922	0.0800	<0.000746	64	68.7 - 117
Benzo(g,h,i)perylene		0.0521	mg/L	0.922	0.0800	<0.000875	65	57.2 - 125

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

[13] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[14] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[15] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[16] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[17] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[18] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[19] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Phenol		0.0149	mg/L	0.922	0.0800	<0.000469	19	10 - 66.5	3	20
2-Chlorophenol		0.0351	mg/L	0.922	0.0800	<0.000495	44	11.2 - 108	1	20
1,4-Dichlorobenzene (para)		0.0332	mg/L	0.922	0.0800	<0.000406	42	16 - 101	2	20
N-Nitrosodi-n-propylamine		0.0438	mg/L	0.922	0.0800	<0.000675	55	10 - 142	2	20
1,2,4-Trichlorobenzene		0.0337	mg/L	0.922	0.0800	<0.000372	42	18 - 108	1	20
Naphthalene		0.0349	mg/L	0.922	0.0800	<0.000451	44	20.2 - 114	1	20
4-Chloro-3-methylphenol		0.0481	mg/L	0.922	0.0800	<0.000481	60	21.5 - 125	2	20
Acenaphthylene		0.0432	mg/L	0.922	0.0800	<0.000540	54	25.8 - 121	2	20
Acenaphthene		0.0426	mg/L	0.922	0.0800	<0.000390	53	33.5 - 122	3	20
4-Nitrophenol		0.0128	mg/L	0.922	0.0800	<0.00170	16	10 - 125	2	20
2,4-Dinitrotoluene		0.0486	mg/L	0.922	0.0800	<0.000840	61	53 - 130	2	20
Fluorene		0.0454	mg/L	0.922	0.0800	<0.000597	57	44.6 - 117	2	20
Pentachlorophenol		0.0192	mg/L	0.922	0.0800	<0.000401	24	10 - 139	16	20
Anthracene	[20]	0.0439	mg/L	0.922	0.0800	<0.000395	55	57.5 - 115	4	20
Phenanthrene		0.0449	mg/L	0.922	0.0800	<0.000505	56	55.5 - 118	1	20
Fluoranthene		0.0483	mg/L	0.922	0.0800	<0.000583	60	57 - 122	2	20
Pyrene	[21]	0.0408	mg/L	0.922	0.0800	<0.000667	51	58.5 - 130	2	20
Benzo(a)anthracene	[22]	0.0407	mg/L	0.922	0.0800	<0.000486	51	63.4 - 109	1	20
Chrysene	[23]	0.0433	mg/L	0.922	0.0800	<0.000588	54	54.7 - 114	2	20
Benzo(b)fluoranthene	[24]	0.0454	mg/L	0.922	0.0800	<0.000810	57	64.8 - 120	19	20
Benzo(k)fluoranthene	[25]	0.0564	mg/L	0.922	0.0800	<0.000779	70	70.3 - 114	6	20
Benzo(a)pyrene		0.0521	mg/L	0.922	0.0800	<0.00154	65	63.7 - 120	0	20
Indeno(1,2,3-cd)pyrene		0.0532	mg/L	0.922	0.0800	<0.000795	66	65.4 - 119	4	20
Dibenzo(a,h)anthracene	[26]	0.0537	mg/L	0.922	0.0800	<0.000746	67	68.7 - 117	4	20
Benzo(g,h,i)perylene		0.0536	mg/L	0.922	0.0800	<0.000875	67	57.2 - 125	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
2-Fluorophenol	0.0250	0.0247	mg/L	0.922	0.08	31	31	10 - 53.1
Phenol-d5	0.0159	0.0155	mg/L	0.922	0.08	20	19	10 - 36.9
Nitrobenzene-d5	0.0419	0.0422	mg/L	0.922	0.08	52	53	23.8 - 108
2-Fluorobiphenyl	0.0443	0.0451	mg/L	0.922	0.08	55	56	15.9 - 127
2,4,6-Tribromophenol	0.0585	0.0595	mg/L	0.922	0.08	73	74	10 - 123
Terphenyl-d14	0.0458	0.0475	mg/L	0.922	0.08	57	59	17.2 - 160

Matrix Spike (MS-1) Spiked Sample: 209227

QC Batch:	63415	Date Analyzed:	2009-09-10	Analyzed By:	RR
Prep Batch:	54109	QC Preparation:	2009-09-10	Prepared By:	KV

[20] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[21] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[22] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[23] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[24] Matrix spike recovery out of control limits due to matrix interference. Result biased low.
[25] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[26] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.133	mg/L	1	0.125	<0.00111	106	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 Silver	0.133	mg/L	1	0.125	<0.00111	106	75 - 125	0	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	1.09	mg/L	1	1.00	0.194	90	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 Aluminum	1.12	mg/L	1	1.00	0.194	93	75 - 125	3	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.486	mg/L	1	0.500	<0.00448	97	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 Arsenic	0.488	mg/L	1	0.500	<0.00448	98	75 - 125	0	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	1.01	mg/L	1	1.00	0.031	98	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 Barium	1.02	mg/L	1	1.00	0.031	99	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Beryllium	0.0246	mg/L	1	0.0250	<0.000450	98	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 Beryllium	0.0249	mg/L	1	0.0250	<0.000450	100	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.220	mg/L	1	0.250	<0.000303	88	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 Cadmium	0.223	mg/L	1	0.250	<0.000303	89	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.228	mg/L	1	0.250	<0.000822	91	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 Cobalt	0.230	mg/L	1	0.250	<0.000822	92	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0930	mg/L	1	0.100	<0.000583	93	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	0.0910	mg/L	1	0.100	<0.000583	91	75 - 125	2	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.134	mg/L	1	0.125	<0.000843	107	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 Copper	0.137	mg/L	1	0.125	<0.000843	110	75 - 125	2	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	0.469	mg/L	1	0.500	<0.000872	94	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 Iron	0.484	mg/L	1	0.500	<0.000872	97	75 - 125	3	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.553	mg/L	1	0.250	0.268	114	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 Manganese	0.568	mg/L	1	0.250	0.268	120	75 - 125	3	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.521	mg/L	1	0.500	0.012	102	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 Molybdenum	0.526	mg/L	1	0.500	0.012	103	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.226	mg/L	1	0.250	<0.00121	90	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 Nickel	0.230	mg/L	1	0.250	<0.00121	92	75 - 125	2	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Phosphorous	0.496	mg/L	1	0.500	0.013	97	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 Phosphorous	0.507	mg/L	1	0.500	0.013	99	75 - 125	2	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.411	mg/L	1	0.500	<0.00326	82	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 Lead	0.414	mg/L	1	0.500	<0.00326	83	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Antimony	0.233	mg/L	1	0.250	<0.00440	93	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 Antimony	0.227	mg/L	1	0.250	<0.00440	91	75 - 125	3	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.468	mg/L	1	0.500	<0.00508	94	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 Selenium	0.454	mg/L	1	0.500	<0.00508	91	75 - 125	3	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Thallium	0.424	mg/L	1	0.500	<0.00488	85	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 Thallium	0.427	mg/L	1	0.500	<0.00488	85	75 - 125	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Vanadium	0.239	mg/L	1	0.250	0.002	95	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 Vanadium	0.243	mg/L	1	0.250	0.002	96	75 - 125	2	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: 209227

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.235	mg/L	1	0.250	<0.000465	94	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 Zinc	0.236	mg/L	1	0.250	<0.000465	94	75 - 125	0	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: 209227

QC Batch: 63422 Date Analyzed: 2009-09-10 Analyzed By: AH
Prep Batch: 54136 QC Preparation: 2009-09-10 Prepared By: AH

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cyanide	0.118	mg/L	1	0.120	<0.0110	98	62.6 - 132

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 Cyanide	0.122	mg/L	1	0.120	<0.0110	102	62.6 - 132	3	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: 209230

QC Batch: 63441 Date Analyzed: 2009-09-09 Analyzed By: AH
Prep Batch: 54150 QC Preparation: 2009-09-09 Prepared By: AH

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Kjeldahl Nitrogen - N	44.5	mg/L	1	50.0	2.52	84	61.2 - 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
Total Kjeldahl Nitrogen - N	46.2	mg/L	1	50.0	2.52	87	61.2 - 118	4	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: 209097

QC Batch: 63462 Date Analyzed: 2009-09-11 Analyzed By: RR
Prep Batch: 54154 QC Preparation: 2009-09-11 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.0990	mg/L	1	0.100	0.003	96	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	0.0990	mg/L	1	0.100	0.003	96	75 - 125	0	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: 209227

QC Batch: 63487 Date Analyzed: 2009-09-11 Analyzed By: AH
Prep Batch: 54190 QC Preparation: 2009-09-11 Prepared By: AH

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Ammonia-N	5.38	mg/L	1	5.00	0.56	96	57.2 - 133

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
Ammonia-N	5.77	mg/L	1	5.00	0.56	104	57.2 - 133	7	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: 209227

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Calcium	363	mg/L	1	50.0	314	98	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 Calcium	359	mg/L	1	50.0	314	90	75 - 125	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: 209227

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Potassium	151	mg/L	1	50.0	91.2	120	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 Potassium	144	mg/L	1	50.0	91.2	106	75 - 125	5	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: 209227

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Magnesium	433	mg/L	1	50.0	388	90	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 Magnesium	431	mg/L	1	50.0	388	86	75 - 125	0	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: 209227

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR
Prep Batch: 54109 QC Preparation: 2009-09-10 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Sodium	1100	mg/L	1	50.0	1050	100	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 Sodium	1100	mg/L	1	50.0	1050	100	75 - 125	0	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: 209227

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromide	2570	mg/L	556	2780	<21.9	92	90 - 110

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
Bromide	2580	mg/L	556	2780	<21.9	93	90 - 110	0	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: 209227

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	13700	mg/L	556	13900	492	95	90 - 110

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
Chloride	13700	mg/L	556	13900	492	95	90 - 110	0	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: 209227

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride	2560	mg/L	556	2780	<24.1	92	90 - 110

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
Fluoride	2570	mg/L	556	2780	<24.1	92	90 - 110	0	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: 209227

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR
Prep Batch: 54368 QC Preparation: 2009-09-04 Prepared By: JR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	15900	mg/L	556	13900	2600	96	90 - 110

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
Sulfate	16000	mg/L	556	13900	2600	96	90 - 110	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: 209096

QC Batch: 63681 Date Analyzed: 2009-09-17 Analyzed By: KV
Prep Batch: 54370 QC Preparation: 2009-09-17 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate and Nitrite as N [27]	0.183	mg/L	2	0.200	0.124	30	80 - 120

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
Nitrate and Nitrite as N [28]	0.192	mg/L	2	0.200	0.124	34	80 - 120	5	20

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

Standard (CCV-1)

QC Batch: 63307 Date Analyzed: 2009-09-07 Analyzed By:

[27] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[28] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	286	114	80 - 120	2009-09-07

Standard (CCV-2)

QC Batch: 63307 Date Analyzed: 2009-09-07 Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	262	105	80 - 120	2009-09-07

Standard (CCV-1)

QC Batch: 63334 Date Analyzed: 2009-09-03 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	0.495	99	90 - 110	2009-09-03

Standard (CCV-2)

QC Batch: 63334 Date Analyzed: 2009-09-03 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	0.495	99	90 - 110	2009-09-03

Standard (CCV-2)

QC Batch: 63340 Date Analyzed: 2009-09-08 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Organic Carbon		mg/L	50.0	49.8	100	80 - 120	2009-09-08

Standard (CCV-3)

QC Batch: 63340 Date Analyzed: 2009-09-08 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Organic Carbon		mg/L	50.0	49.0	98	80 - 120	2009-09-08

Standard (ICV-1)

QC Batch: 63342 Date Analyzed: 2009-09-03 Analyzed By: JG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.00	100	98 - 102	2009-09-03

Standard (CCV-1)

QC Batch: 63342 Date Analyzed: 2009-09-03 Analyzed By: JG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.00	100	98 - 102	2009-09-03

Standard (CCV-1)

QC Batch: 63348 Date Analyzed: 2009-09-08 Analyzed By: MT

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	1.11	111	80 - 120	2009-09-08

Standard (CCV-2)

QC Batch: 63348 Date Analyzed: 2009-09-08 Analyzed By: MT

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	1.10	110	80 - 120	2009-09-08

Standard (ICV-1)

QC Batch: 63372 Date Analyzed: 2009-09-09 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00100	0.000980	98	90 - 110	2009-09-09

Standard (CCV-1)

QC Batch: 63372 Date Analyzed: 2009-09-09 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00100	0.000990	99	90 - 110	2009-09-09

Standard (CCV-2)

QC Batch: 63393 Date Analyzed: 2009-09-10 Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60.0	54.6	91	80 - 120	2009-09-10
1,4-Dichlorobenzene (para)		mg/L	60.0	59.5	99	80 - 120	2009-09-10
2-Nitrophenol		mg/L	60.0	63.9	106	80 - 120	2009-09-10
2,4-Dichlorophenol		mg/L	60.0	63.6	106	80 - 120	2009-09-10
Hexachlorobutadiene		mg/L	60.0	58.7	98	80 - 120	2009-09-10
4-Chloro-3-methylphenol		mg/L	60.0	68.9	115	80 - 120	2009-09-10
2,4,6-Trichlorophenol		mg/L	60.0	59.6	99	80 - 120	2009-09-10
Acenaphthene		mg/L	60.0	60.2	100	80 - 120	2009-09-10
Diphenylamine		mg/L	60.0	59.3	99	80 - 120	2009-09-10
Pentachlorophenol	[29]	mg/L	60.0	41.9	70	80 - 120	2009-09-10
Fluoranthene		mg/L	60.0	59.8	100	80 - 120	2009-09-10
Di-n-octylphthalate		mg/L	60.0	69.6	116	80 - 120	2009-09-10
Benzo(a)pyrene		mg/L	60.0	67.8	113	80 - 120	2009-09-10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		61.1	mg/L	1	60.0	102	80 - 120
Phenol-d5		57.9	mg/L	1	60.0	96	80 - 120
Nitrobenzene-d5		60.5	mg/L	1	60.0	101	80 - 120
2-Fluorobiphenyl		58.9	mg/L	1	60.0	98	80 - 120
2,4,6-Tribromophenol		70.2	mg/L	1	60.0	117	80 - 120
Terphenyl-d14		56.4	mg/L	1	60.0	94	80 - 120

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

[29] Control analyte out of CCV control limits. Result biased low.

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.250	0.250	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	0.943	94	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	2.00	1.99	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	1.01	101	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Beryllium		mg/L	1.00	1.00	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	1.02	102	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	0.989	99	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 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	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	1.02	102	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	0.982	98	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	1.00	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	0.993	99	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	0.997	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Phosphorous		mg/L	5.00	4.97	99	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	2.00	2.06	103	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Antimony		mg/L	2.00	2.01	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	1.00	100	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Thallium		mg/L	5.00	5.07	101	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Vanadium		mg/L	1.00	1.03	103	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.02	102	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.127	102	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	0.924	92	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	1.00	0.959	96	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	1.01	101	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Beryllium		mg/L	1.00	0.986	99	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	0.983	98	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	0.974	97	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 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	0.998	100	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	1.01	101	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	0.954	95	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	0.997	100	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	0.960	96	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	0.963	96	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Phosphorous		mg/L	5.00	4.78	96	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	1.00	0.962	96	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Antimony		mg/L	1.00	0.974	97	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	0.976	98	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Thallium		mg/L	1.00	0.995	100	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Vanadium		mg/L	1.00	1.01	101	90 - 110	2009-09-10

Standard (CCV-1)

QC Batch: 63415 Date Analyzed: 2009-09-10 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.01	101	90 - 110	2009-09-10

Standard (ICV-1)

QC Batch: 63422 Date Analyzed: 2009-09-10 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.116	97	85 - 115	2009-09-10

Standard (CCV-1)

QC Batch: 63422 Date Analyzed: 2009-09-10 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.120	100	85 - 115	2009-09-10

Standard (ICV-1)

QC Batch: 63426 Date Analyzed: 2009-09-10 Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
HMX		µg/L	500	505	101	85 - 115	2009-09-10
RDX		µg/L	500	478	96	85 - 115	2009-09-10
1,3,5-Trinitrobenzene		µg/L	500	490	98	85 - 115	2009-09-10
1,3-Dinitrobenzene		µg/L	500	507	101	85 - 115	2009-09-10
Nitrobenzene		µg/L	500	507	101	85 - 115	2009-09-10
Tetryl		µg/L	500	485	97	85 - 115	2009-09-10
TNT		µg/L	500	481	96	85 - 115	2009-09-10
4-Amino-DNT		µg/L	500	518	104	85 - 115	2009-09-10
2-Amino-DNT		µg/L	500	540	108	85 - 115	2009-09-10
2,6-DNT		µg/L	500	466	93	85 - 115	2009-09-10
2,4-DNT		µg/L	500	520	104	85 - 115	2009-09-10
2-NT		µg/L	500	503	101	85 - 115	2009-09-10
4-NT		µg/L	500	433	87	85 - 115	2009-09-10
3-NT		µg/L	500	493	99	85 - 115	2009-09-10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
1,2-Dinitrobenzene		456	µg/L	1	500	91	85 - 115

Standard (CCV-1)

QC Batch: 63426 Date Analyzed: 2009-09-10 Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
HMX		µg/L	500	545	109	85 - 115	2009-09-10
RDX		µg/L	500	461	92	85 - 115	2009-09-10

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,3,5-Trinitrobenzene		µg/L	500	483	97	85 - 115	2009-09-10
1,3-Dinitrobenzene		µg/L	500	516	103	85 - 115	2009-09-10
Nitrobenzene		µg/L	500	511	102	85 - 115	2009-09-10
Tetryl		µg/L	500	467	93	85 - 115	2009-09-10
TNT		µg/L	500	486	97	85 - 115	2009-09-10
4-Amino-DNT		µg/L	500	538	108	85 - 115	2009-09-10
2-Amino-DNT		µg/L	500	551	110	85 - 115	2009-09-10
2,6-DNT		µg/L	500	502	100	85 - 115	2009-09-10
2,4-DNT		µg/L	500	552	110	85 - 115	2009-09-10
2-NT		µg/L	500	535	107	85 - 115	2009-09-10
4-NT		µg/L	500	500	100	85 - 115	2009-09-10
3-NT		µg/L	500	507	101	85 - 115	2009-09-10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
1,2-Dinitrobenzene		491	µg/L	1	500	98	85 - 115

Standard (ICV-1)

QC Batch: 63441 Date Analyzed: 2009-09-09 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Kjeldahl Nitrogen - N		mg/L	5.00	5.21	104	85 - 115	2009-09-09

Standard (CCV-1)

QC Batch: 63441 Date Analyzed: 2009-09-09 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Kjeldahl Nitrogen - N		mg/L	5.00	4.93	99	85 - 115	2009-09-09

Standard (ICV-1)

QC Batch: 63462 Date Analyzed: 2009-09-11 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	1.03	103	90 - 110	2009-09-11

Standard (CCV-1)

QC Batch: 63462 Date Analyzed: 2009-09-11 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	2009-09-11

Standard (ICV-1)

QC Batch: 63474 Date Analyzed: 2009-09-08 Analyzed By: MD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1010	101	90 - 110	2009-09-08

Standard (CCV-1)

QC Batch: 63474 Date Analyzed: 2009-09-08 Analyzed By: MD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	992	99	90 - 110	2009-09-08

Standard (ICV-1)

QC Batch: 63487 Date Analyzed: 2009-09-11 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ammonia-N		mg/L	5.00	4.90	98	85 - 115	2009-09-11

Standard (CCV-1)

QC Batch: 63487 Date Analyzed: 2009-09-11 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ammonia-N		mg/L	5.00	5.10	102	85 - 115	2009-09-11

Standard (ICV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	50.0	50.7	101	90 - 110	2009-09-15

Standard (ICV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Potassium		mg/L	50.0	51.7	103	90 - 110	2009-09-15

Standard (ICV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Magnesium		mg/L	50.0	52.4	105	90 - 110	2009-09-15

Standard (ICV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Sodium		mg/L	50.0	51.6	103	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	50.0	52.4	105	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Potassium		mg/L	50.0	53.6	107	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Magnesium		mg/L	50.0	52.7	105	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63546 Date Analyzed: 2009-09-15 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Sodium		mg/L	50.0	52.8	106	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromide		mg/L	5.00	4.56	91	90 - 110	2009-09-04

Standard (CCV-1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.0	92	90 - 110	2009-09-04

Standard (CCV-1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		mg/L	5.00	4.54	91	90 - 110	2009-09-04

Standard (CCV-1)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	22.6	90	90 - 110	2009-09-04

Standard (CCV-2)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromide		mg/L	5.00	4.64	93	90 - 110	2009-09-04

Standard (CCV-2)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.6	94	90 - 110	2009-09-04

Standard (CCV-2)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		mg/L	5.00	4.62	92	90 - 110	2009-09-04

Standard (CCV-2)

QC Batch: 63679 Date Analyzed: 2009-09-04 Analyzed By: JR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	23.1	92	90 - 110	2009-09-04

Standard (ICV-1)

QC Batch: 63681 Date Analyzed: 2009-09-17 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate and Nitrite as N		mg/L	0.200	0.205	102	85 - 115	2009-09-17

Standard (CCV-1)

QC Batch: 63681 Date Analyzed: 2009-09-17 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate and Nitrite as N		mg/L	0.200	0.188	94	85 - 115	2009-09-17

Standard (ICV-1)

QC Batch: 63683 Date Analyzed: 2009-09-15 Analyzed By: JG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		90 - 110	2009-09-15
Carbonate Alkalinity		mg/L as CaCo3	0.00	240		90 - 110	2009-09-15
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	8.00		90 - 110	2009-09-15
Total Alkalinity		mg/L as CaCo3	250	248	99	90 - 110	2009-09-15

Standard (CCV-1)

QC Batch: 63683 Date Analyzed: 2009-09-15 Analyzed By: JG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		90 - 110	2009-09-15
Carbonate Alkalinity		mg/L as CaCo3	0.00	236		90 - 110	2009-09-15
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	8.00		90 - 110	2009-09-15
Total Alkalinity		mg/L as CaCo3	250	244	98	90 - 110	2009-09-15

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CHAIN OF CUSTODY RECORD

PROJECT NO.

PROJECT NAME: HELSTF Diesel Spill Groundwater

SAMPLER'S SIGNATURE

DATE	TIME	SAMPLE ID	MATRIX	LAB NO	NO. OF CONTAINERS	VOC	DRO	GRO	TOC	SVOC	Explosives	TRPH	Water Quality	Total Cyanide	Nutrients	REMARKS
9-2-09	1115	HLSF-0154-HCF-001-0909	WATER	209227	18	X	X	X	X	X	X	X	X	X	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 GALLE	(PRINTED NAME)	(PRINTED NAME) Carol Fox
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS		RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY) Trace-Lab
	GOOD CONDITION/COOLED BY: Rice	10/11	(TIME/DATE) 1600 9/2/09	(TIME/DATE) 1710 9-2-09	(TIME/DATE) 9-4-09 9:40 AM
VIA: Lab Courier	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS: PLEASE SEE ATTACHED ANALYTE LIST FOR DETAILS LS43635706		4.3 4.5 P

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575-532-1587 f

9090414

CHAIN OF CUSTODY RECORD

PROJECT NO:

PROJECT NAME: HELSTF Diesel Spill Groundwater

SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	Total Metals	Diss. Metals	Diss. Ions								REMARKS
9-2-09	1115	HLSF-0154-HCF-001-0909	WATER	209227	18	X	X	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 Smith	(PRINTED NAME) Jesus Cotera	(PRINTED NAME) Carol Fox
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS		RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY) Trace-Lab
	GOOD CONDITION/CHILLED B+RL	10/11	(TIME/DATE) 1600 9/2/09	(TIME/DATE) 1200 9-2-09	(TIME/DATE) 9-4-09 9:40 AM
VIA: Lab Courier	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS: PLEASE SEE ATTACHED ANALYTE LIST FOR DETAILS LS 43635706		4.3 P 4.5

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