

White Sands Missile Range- HELSTF Construction Landfill

Data Review

WHITE SANDS MISSILE RANGE, NEW MEXICO

Volatiles, Semivolatiles, GRO/DRO, Metals and
Miscellaneous Analyses

SDG #1203088 and 1203116

Analyses Performed By:
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Round Rock, Texas

Report # 15979R
Review Level: Tier II
Project: GP08WSMR.OMON.2012S

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #1203088 and 1203116 for samples collected in association with the HELSTF Construction Landfill. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
						VOC	DRO/GRO	SVOC	MET	MISC
1203088	HLSF-3839-HMW-008-0312	1203088-01	Water	3/08/2012		X	X	X	X	X
	HLSF-3839-HMW-TB-0312	1203088-02	Water	3/08/2012		X				
1203116	HLSF-3839-HMW-035-0312	1203116-01	Water	3/12/2012		X	X	X	X	X
	HLSF-3839-HMW-135-0312	1203116-02	Water	3/12/2012	HLSF-3839-HMW-035-0312	X	X	X	X	X
	HLSF-3839-HMW-TB-1-0312	1203116-03	Water	3/12/2012		X				
	HLSF-3839-HMW-TB-2-0312	1203116-04	Water	3/12/2012		X				
	HLSF-3839-HMW-034-0312	1203116-05	Water	3/12/2012		X	X	X	X	X
	HLSF-3839-HMW-059-0312	1203116-06	Water	3/12/2012		X	X	X	X	X
	HLSF-3839-RB-001-0312	1203116-07	Water	3/12/2012		X	X	X	X	X
	HLSF-3839-HMW-032-0312	1203116-08	Water	3/12/2012		X	X	X	X	X
	HLSF-3839-HMW-TB3-0312	1203116-09	Water	3/12/2012		X				

Note:

1. Miscellaneous analyses include TOC, alkalinity, chloride, sulfate and pH.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 8260B, 8270C and 8015D. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to 4°C±2°C.

s.u. Standard units

Please Note: 2-Chloroethyl vinyl ether degrades in the presence of acid. Since the samples were preserved with acid to a pH of less than 2, all sample results for 2-chloroethyl vinyl ether are rejected.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination with which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
HLSF-3839-HMW-059-0312	Acetone	Detected sample results <RL and <BAL	"UB" at the RL

RL Reporting limit

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
HLSF-3839-HMW-008-0312	2-Chloroethylvinylether	0%	0%
	2-Hexanone	>UL	>UL

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312	All compounds	U	U	AC

AC Acceptable
U Not Detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. Compound Identification

Compounds are identified on the GC/MS by laboratory personnel using the analytes relative retention time and ion spectra. These identifications were not reviewed by the data validator.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X	X		
C. Trip blanks		X	X		
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
 RPD Relative percent difference

SEMI-VOLATILE VOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8270	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4°C ± 2°C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4°C ± 2°C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
HLSF-3839-HMW-008-0312	Benzoic Acid	Detected sample results <RL and <BAL	"UB" at the RL
HLSF-3839-HMW-035-0312 HLSF-3839-HMW-059-0312			
HLSF-3839-HMW-135-0312 HLSF-3839-HMW-034-0312 HLSF-3839-HMW-032-0312	Benzoic Acid	Detected sample results >RL and <BAL	"UB" at detected sample concentration

RL Reporting limit

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
HLSF-3839-HMW-008-0312	2-Chloronaphthalene	>UL	AC
	Benzidine	>UL	AC
	Benzoic acid	<10%	<10%
	Hexachlorocyclopentadiene	>UL	>UL

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

Sample Locations	Compound	LCS Recovery	LCSD Recovery
HLSF-3839-HMW-008-0312	2-Chloronaphthalene	>UL	NA

Sample Locations	Compound	LCS Recovery	LCSD Recovery
	3,3-Dichlorobenzidine	>UL	NA
	Acenaphthylene	>UL	NA
	Benzo(a)pyrene	>UL	NA
	Hexachlorocyclopentadiene	>UL	NA
HLSF-3839-HMW-035-0312 HLSF-3839-HMW-135-0312 HLSF-3839-HMW-034-0312 HLSF-3839-HMW-059-0312 HLSF-3839-RB-001-0312 HLSF-3839-HMW-032-0312	Dimethylphenethylamine	AC	<10%
	2,4-Dichlorophenol	>UL	>UL
	2,4-Dimethylphenol	>UL	>UL

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
HLSF-3839-HMW-035-0312 HLSF-3839-HMW-135-0312 HLSF-3839-HMW-034-0312 HLSF-3839-HMW-059-0312 HLSF-3839-RB-001-0312 HLSF-3839-HMW-032-0312	Dimethylphenethylamine
	Benzidine

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312	All compounds	U	U	AC

AC Acceptable
U Not Detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. Compound Identification

Compounds are identified on the GC/MS by laboratory personnel using the analytes relative retention time and ion spectra. These identifications were not reviewed by the data validator.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR SVOCs

SVOCs: SW-846 8270C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
 RPD Relative percent difference

DIESEL RANGE ORGANICS (DRO) AND GASOLINE RANGE (GRO) ORGANICS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8015D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C
	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No qualification of the sample results was required.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. The analysis requires surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

5. Laboratory Control Sample (LCS) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312	DRO	0.0502 J	0.0500 U	AC
	GRO	0.0600 U	0.0600 U	AC

AC Acceptable
U Not Detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. Compound Identification

Compounds are identified on the GC by laboratory personnel using the analytes relative retention time. These identifications were not reviewed by the data validator.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GRO/DRO

GRO/DRO; SW-846 8015D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 6020, EPA 300.0, SM 5310C, SM 2320B and SM 4500-H. Data were reviewed in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review of July 2002.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

- U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
- B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

- E The reported value is estimated due to the presence of interference.
- N Spiked sample recovery is not within control limits.
- * Duplicate analysis is not within control limits.

- Validation Qualifiers

- J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
- UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
- UB Analyte considered non-detect at the listed value due to associated blank contamination.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6020	Soil	180 days from collection to analysis	Cool to 4°C±2°C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No qualification of the sample results was required.

3. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited RPD within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312 Total	Arsenic	0.00846	0.00840	AC
	Barium	0.0110	0.0110	AC
	Calcium	456	453	0.7%
	Magnesium	525	513	2.3%
	Potassium	43.3	41.7	AC
	Selenium	0.254	0.238	6.5%
	Sodium	2060	2000	3.0%
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312 Dissolved	Arsenic	0.00894	0.00915	AC
	Barium	0.0103	0.0109	AC
	Calcium	466	500	7.0%
	Magnesium	546	555	1.6%
	Potassium	45.4	46.5	AC
	Selenium	0.263	0.258	1.9%
	Sodium	2010	2060	2.5%

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within and RPD between the control limits.

6. Furnace Analysis QC

No furnace analyses were performed on the samples.

7. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

8. System Performance and Overall Assessment

The calculated %D between the total and the dissolved sample results were within the control limit.

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METALS

METALS; SW-846 6020	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP) Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks	X				
B. Method Blanks		X		X	
C. Equipment/Field Blanks		X		X	
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate (LCSD)		X		X	
LCS/LCSD RPD		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Reporting Limit Verification		X		X	
Moisture Content					X

%R Percent recovery

RPD Relative percent difference

GENERAL CHEMISTRY ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
TOC by SM 5310C	Water	28 days from collection to analysis	Cool to 4°C \pm 2°C; preserved to a pH of less than 2 s.u.
Chloride and Sulfate by EPA 300.0	Water	28 days from collection to analysis	Cool to 4°C \pm 2°C.
SM2320 B (Alkalinity)	Water	14 days from collection to analysis	Cool to 4°C \pm 2°C.
pH by SM 4500-H	Water	ASAP	Cool to 4°C \pm 2°C.

s.u. Standard units

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No other qualification of the sample results was required.

3. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS/MSD analysis exhibited recoveries within the control limits.

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited RPD within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
HLSF-3839-HMW-035-0312/ HLSF-3839-HMW-135-0312	Chloride	1140	1080	5.4%
	Sulfate	6190	5960	3.8%
	Alkalinity	179	180	0.6%
	pH	7.64	7.60	AC

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within and RPD between the control limits.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA 300.0, SM 2320B, SM 5310C, and SM 4500-H	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Dilution Factor					X
Moisture Content					X

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

VALIDATION PERFORMED

BY:

Jeffrey L. Davin

SIGNATURE:



DATE: April 11, 2012

PEER REVIEW: Dennis Capria

DATE:

April 29, 2012

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS**

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D		Analyst: DO			
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	03/18/12 10:22 AM
Surr: Isopropylbenzene	53.4	0	47-142		%REC	1	03/18/12 10:22 AM
Surr: Octacosane	93.1	0	51-124		%REC	1	03/18/12 10:22 AM
TPH PURGEABLE BY GC - WATER		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 02:58 PM
Surr: Tetrachlorethene	107	0	74-138		%REC	1	03/16/12 02:58 PM
MERCURY FILTERED (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:25 PM
TOTAL MERCURY: AQUEOUS		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 02:58 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	0.0122	0.00200	0.00600		mg/L	1	03/19/12 02:52 PM
Barium	0.00924	0.00300	0.0100	J	mg/L	1	03/19/12 02:52 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:52 PM
Calcium	450	20.0	60.0		mg/L	200	03/20/12 02:53 PM
Chromium	0.0148	0.00200	0.00600		mg/L	1	03/19/12 02:52 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:52 PM
Magnesium	694	20.0	60.0		mg/L	200	03/20/12 02:53 PM
Potassium	64.5	20.0	60.0		mg/L	200	03/20/12 02:53 PM
Selenium	0.0721	0.00200	0.00600		mg/L	1	03/19/12 02:52 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:52 PM
Sodium	2570	20.0	60.0		mg/L	200	03/20/12 02:53 PM
TRACE METALS: ICP-MS - WATER		SW6020		Analyst: AJR			
Arsenic	0.0123	0.00200	0.00600		mg/L	1	03/19/12 06:28 PM
Barium	0.0107	0.00300	0.0100		mg/L	1	03/19/12 06:28 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:28 PM
Calcium	459	20.0	60.0		mg/L	200	03/20/12 02:42 PM
Chromium	0.0162	0.00200	0.00600		mg/L	1	03/19/12 06:28 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:28 PM
Magnesium	692	20.0	60.0		mg/L	200	03/20/12 02:42 PM
Potassium	63.7	20.0	60.0		mg/L	200	03/20/12 02:42 PM
Selenium	0.0734	0.00200	0.00600		mg/L	1	03/19/12 06:28 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 06:28 PM
Sodium	2570	20.0	60.0		mg/L	200	03/20/12 02:42 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM

Qualifiers:

* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
RL Reporting Limit	S Spike Recovery outside control limits
N Parameter not NELAC certified	

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 05:23 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/12/12 11:14 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/12/12 11:14 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/12/12 11:14 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/12/12 11:14 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/12/12 11:14 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/12/12 11:14 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 2 of 8
 N Parameter not NELAC certified

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Benzoic acid	0.0060 -0.0473	0.00200	0.00600	UBJ	mg/L	1	03/12/12 11:14 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/12/12 11:14 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/12/12 11:14 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM
Dibenz(a,i)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 05:23 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/12/12 11:14 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 05:23 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/12/12 11:14 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/12/12 11:14 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 05:23 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 05:23 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/12/12 11:14 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/12/12 11:14 PM
Surr: 2,4,6-Tribromophenol	97.2	0	42-124		%REC	1	03/19/12 05:23 AM
Surr: 2,4,6-Tribromophenol	120	0	42-124		%REC	1	03/12/12 11:14 PM
Surr: 2-Fluorobiphenyl	86.2	0	50-110		%REC	1	03/19/12 05:23 AM
Surr: 2-Fluorobiphenyl	98.8	0	50-110		%REC	1	03/12/12 11:14 PM
Surr: 2-Fluorophenol	65.8	0	20-110		%REC	1	03/12/12 11:14 PM
Surr: 2-Fluorophenol	65.2	0	20-110		%REC	1	03/19/12 05:23 AM
Surr: 4-Terphenyl-d14	88.2	0	51-135		%REC	1	03/19/12 05:23 AM
Surr: 4-Terphenyl-d14	102	0	51-135		%REC	1	03/12/12 11:14 PM
Surr: Nitrobenzene-d5	90.2	0	41-110		%REC	1	03/19/12 05:23 AM
Surr: Nitrobenzene-d5	90.0	0	41-110		%REC	1	03/12/12 11:14 PM
Surr: Phenol-d6	43.2	0	20-115		%REC	1	03/19/12 05:23 AM
Surr: Phenol-d6	36.8	0	20-115		%REC	1	03/12/12 11:14 PM
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,1-Dichloroethene	0.000280	0.000200	0.00100	J	mg/L	1	03/09/12 01:53 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 01:53 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 01:53 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 01:53 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/09/12 01:53 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 4 of 8
 N Parameter not NELAC certified

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C					Analyst: KL
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 01:53 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/09/12 01:53 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/09/12 01:53 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/09/12 01:53 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 01:53 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 01:53 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/09/12 01:53 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-008-0312
Lab ID: 1203088-01
Collection Date: 03/08/12 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 01:53 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 01:53 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 01:53 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Trichloroethene	0.000950	0.000600	0.00200	J	mg/L	1	03/09/12 01:53 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 01:53 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/09/12 01:53 PM
Surr: 1,2-Dichloroethane-d4	99.1	0	70-120		%REC	1	03/09/12 01:53 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/09/12 01:53 PM
Surr: Dibromofluoromethane	92.0	0	85-115		%REC	1	03/09/12 01:53 PM
Surr: Toluene-d8	102	0	85-120		%REC	1	03/09/12 01:53 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	1290	30.0	100		mg/L	100	03/09/12 01:43 PM
Sulfate	7760	100	300		mg/L	100	03/09/12 01:43 PM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	246	10.0	20.0		mg/L	1	03/09/12 12:09 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/09/12 12:09 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/09/12 12:09 PM
Alkalinity, Total (As CaCO3)	246	10.0	20.0		mg/L	1	03/09/12 12:09 PM
PH		M4500-H+ B			Analyst: JBC		
pH	7.38	0	0		pH Units	1	03/09/12 10:59 AM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	0.661	0.300	1.00	J	mg/L	1	03/14/12 10:24 AM

Qualifiers:

* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
RL Reporting Limit	S Spike Recovery outside control limits
N Parameter not NELAC certified	

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-TB-0312
Lab ID: 1203088-02
Collection Date: 03/08/12 02:00 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C		Analyst: KL			
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 02:18 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 02:18 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 02:18 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/09/12 02:18 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/09/12 02:18 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/09/12 02:18 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/09/12 02:18 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/09/12 02:18 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified
 B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 22-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203088

Client Sample ID: HLSF-3839-HMW-TB-0312
Lab ID: 1203088-02
Collection Date: 03/08/12 02:00 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/09/12 02:18 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 02:18 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/09/12 02:18 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/09/12 02:18 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 02:18 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 02:18 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/09/12 02:18 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/09/12 02:18 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/09/12 02:18 PM
Surr: 1,2-Dichloroethane-d4	98.4	0	70-120		%REC	1	03/09/12 02:18 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/09/12 02:18 PM
Surr: Dibromofluoromethane	91.5	0	85-115		%REC	1	03/09/12 02:18 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	03/09/12 02:18 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	



766 S. Tebbel Blvd. Ste. F-201
Las Cruces, NM 88011
575-632-1626
575-632-1687

#1203088

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME		LAB NO.	MATRIX	NO. OF CONTAINERS	ANALYSIS REQUESTED								REMARKS	
	SAMPLER'S SIGNATURE	SAMPLE ID				DATE	TIME	TOC	VOCs	GR0	SVOCs	DRO	Total Metals		Dissolved Metals
	HELSTP Construction Landfill														
	<i>Bradley T. Davis</i>														
			3-8-12	1410	HLSF-3839-HMW-008-0312	16	X	X	X	X	X	X	X		
			3-8-12	1410	HLSF-2839-HMW-008-0312-MS/MS	16	X	X	X	X	X	X	X		
			3-8-12	1400	HLSF-3839-HMW-TB-0312	2	X								MS/MS Sample
PROJECT INFORMATION		SAMPLER RECEIVED	40	1. RELINQUISHED BY: (SIGNATURE) <i>Bradley T. Davis</i>		2. RELINQUISHED BY: (SIGNATURE) <i>Jedee</i>		3. RECEIVED BY LAB: (SIGNATURE)							
PROJECT MANAGER		TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis		(PRINTED NAME) Jedee		(PRINTED NAME)							
SHIPPING ID NO.		CHAIN OF CUSTODY SEALS	40	RECEIVED BY: (SIGNATURE) <i>Bradley T. Davis</i>		RECEIVED BY: (SIGNATURE) <i>Jedee</i>		(COMPANY)							
NO. Fed Ex		GOOD CONDITIONING FILLED	24	(TIME/DATE) 3/8/12 1700		(TIME/DATE) 3/8/12 1700		(TIME/DATE)							
		CONFORME TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS: Please see Attached Analyte List											

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

PLEASE USE BALL POINT PEN

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D					Analyst: DO
TPH-DRO C10-C28	0.0502	0.0500	0.100	J	mg/L	1	03/18/12 10:48 AM
Surr: Isopropylbenzene	52.5	0	47-142		%REC	1	03/18/12 10:48 AM
Surr: Octacosane	90.8	0	51-124		%REC	1	03/18/12 10:48 AM
TPH PURGEABLE BY GC - WATER		M8015V					Analyst: DEW
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 12:27 PM
Surr: Tetrachlorethene	111	0	74-138		%REC	1	03/16/12 12:27 PM
MERCURY FILTERED (0.45µ)		SW7470A					Analyst: LM
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:40 PM
TOTAL MERCURY: AQUEOUS		SW7470A					Analyst: LM
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:13 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020					Analyst: AJR
Arsenic	0.00894	0.00200	0.00600		mg/L	1	03/19/12 03:04 PM
Barium	0.0103	0.00300	0.0100		mg/L	1	03/19/12 03:04 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:04 PM
Calcium	466	10.0	30.0		mg/L	100	03/21/12 04:00 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 03:04 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:04 PM
Magnesium	546	10.0	30.0		mg/L	100	03/22/12 01:03 PM
Potassium	45.4	10.0	30.0		mg/L	100	03/22/12 01:03 PM
Selenium	0.263	0.00200	0.00600		mg/L	1	03/19/12 03:04 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:04 PM
Sodium	2010	10.0	30.0		mg/L	100	03/22/12 01:03 PM
TRACE METALS: ICP-MS - WATER		SW6020					Analyst: AJR
Arsenic	0.00846	0.00200	0.00600		mg/L	1	03/19/12 06:40 PM
Barium	0.0110	0.00300	0.0100		mg/L	1	03/19/12 06:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:40 PM
Calcium	456	10.0	30.0		mg/L	100	03/21/12 03:30 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 06:40 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:40 PM
Magnesium	525	10.0	30.0		mg/L	100	03/21/12 03:30 PM
Potassium	43.3	10.0	30.0		mg/L	100	03/21/12 03:30 PM
Selenium	0.254	0.00200	0.00600		mg/L	1	03/19/12 06:40 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 06:40 PM
Sodium	2060	10.0	30.0		mg/L	100	03/21/12 03:30 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C					Analyst: DO
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 07:41 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 01:40 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 01:40 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 01:40 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 01:40 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 01:40 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 01:40 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 01:40 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Benzoic acid	0.0060 0.00426	0.00200	0.00600	+UB	mg/L	1	03/18/12 01:40 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 01:40 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 01:40 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 01:40 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 01:40 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 01:40 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 07:41 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 01:40 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 01:40 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 07:41 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 01:40 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 01:40 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 07:41 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 07:41 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 01:40 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 01:40 PM
Surr: 2,4,6-Tribromophenol	97.0	0	42-124		%REC	1	03/19/12 07:41 AM
Surr: 2,4,6-Tribromophenol	101	0	42-124		%REC	1	03/18/12 01:40 PM
Surr: 2-Fluorobiphenyl	86.2	0	50-110		%REC	1	03/19/12 07:41 AM
Surr: 2-Fluorobiphenyl	97.0	0	50-110		%REC	1	03/18/12 01:40 PM
Surr: 2-Fluorophenol	67.8	0	20-110		%REC	1	03/18/12 01:40 PM
Surr: 2-Fluorophenol	66.2	0	20-110		%REC	1	03/19/12 07:41 AM
Surr: 4-Terphenyl-d14	87.3	0	51-135		%REC	1	03/19/12 07:41 AM
Surr: 4-Terphenyl-d14	99.3	0	51-135		%REC	1	03/18/12 01:40 PM
Surr: Nitrobenzene-d5	90.8	0	41-110		%REC	1	03/19/12 07:41 AM
Surr: Nitrobenzene-d5	89.5	0	41-110		%REC	1	03/18/12 01:40 PM
Surr: Phenol-d6	44.5	0	20-115		%REC	1	03/19/12 07:41 AM
Surr: Phenol-d6	43.0	0	20-115		%REC	1	03/18/12 01:40 PM
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:33 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:33 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:33 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 01:33 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C					Analyst: KL
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:33 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 01:33 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 01:33 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 01:33 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:33 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:33 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 01:33 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-035-0312
Lab ID: 1203116-01
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C		Analyst: KL			
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:33 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:33 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:33 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:33 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:33 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 01:33 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	03/19/12 01:33 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/19/12 01:33 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	03/19/12 01:33 PM
Surr: Toluene-d8	98.6	0	85-120		%REC	1	03/19/12 01:33 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JBC			
Chloride	1140	30.0	100		mg/L	100	03/14/12 10:35 AM
Sulfate	6190	100	300		mg/L	100	03/14/12 10:35 AM
ALKALINITY		M2320 B		Analyst: JBC			
Alkalinity, Bicarbonate (As CaCO3)	179	10.0	20.0		mg/L	1	03/13/12 02:16 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:16 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:16 PM
Alkalinity, Total (As CaCO3)	179	10.0	20.0		mg/L	1	03/13/12 02:16 PM
PH		M4500-H+ B		Analyst: JBC			
pH	7.64	0	0		pH Units	1	03/13/12 01:26 PM
TOTAL ORGANIC CARBON		M5310C		Analyst: TGK			
Total Organic Carbon	0.597	0.300	1.00	J	mg/L	1	03/14/12 11:32 AM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D		Analyst: DO			
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	03/18/12 10:57 AM
Surr: Isopropylbenzene	51.0	0	47-142		%REC	1	03/18/12 10:57 AM
Surr: Octacosane	89.2	0	51-124		%REC	1	03/18/12 10:57 AM
TPH PURGEABLE BY GC - WATER		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 12:52 PM
Surr: Tetrachlorethene	111	0	74-138		%REC	1	03/16/12 12:52 PM
MERCURY FILTERED (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:42 PM
TOTAL MERCURY: AQUEOUS		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:15 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	0.00915	0.00200	0.00600		mg/L	1	03/19/12 03:09 PM
Barium	0.0109	0.00300	0.0100		mg/L	1	03/19/12 03:09 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:09 PM
Calcium	500	10.0	30.0		mg/L	100	03/22/12 01:09 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 03:09 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:09 PM
Magnesium	555	10.0	30.0		mg/L	100	03/22/12 01:09 PM
Potassium	46.5	10.0	30.0		mg/L	100	03/22/12 01:09 PM
Selenium	0.258	0.00200	0.00600		mg/L	1	03/19/12 03:09 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:09 PM
Sodium	2060	10.0	30.0		mg/L	100	03/22/12 01:09 PM
TRACE METALS: ICP-MS - WATER		SW6020		Analyst: AJR			
Arsenic	0.00840	0.00200	0.00600		mg/L	1	03/19/12 06:45 PM
Barium	0.0110	0.00300	0.0100		mg/L	1	03/19/12 06:45 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:45 PM
Calcium	453	10.0	30.0		mg/L	100	03/21/12 03:36 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 06:45 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:45 PM
Magnesium	513	10.0	30.0		mg/L	100	03/21/12 03:36 PM
Potassium	41.7	10.0	30.0		mg/L	100	03/21/12 03:36 PM
Selenium	0.238	0.00200	0.00600		mg/L	1	03/19/12 06:45 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 06:45 PM
Sodium	2000	10.0	30.0		mg/L	100	03/21/12 03:36 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:04 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 02:03 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:03 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:03 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:03 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:03 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:03 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 02:03 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Benzoic acid	0.00776	0.00200	0.00600	UB	mg/L	1	03/18/12 02:03 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:03 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 02:03 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:03 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:03 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:03 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 08:04 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:03 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:03 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 08:04 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:03 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 02:03 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 9 of 42
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER			SW8270C			Analyst: DO	
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:04 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:04 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:03 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 02:03 PM
Surr: 2,4,6-Tribromophenol	99.5	0	42-124		%REC	1	03/19/12 08:04 AM
Surr: 2,4,6-Tribromophenol	104	0	42-124		%REC	1	03/18/12 02:03 PM
Surr: 2-Fluorobiphenyl	87.3	0	50-110		%REC	1	03/19/12 08:04 AM
Surr: 2-Fluorobiphenyl	98.8	0	50-110		%REC	1	03/18/12 02:03 PM
Surr: 2-Fluorophenol	65.5	0	20-110		%REC	1	03/18/12 02:03 PM
Surr: 2-Fluorophenol	64.0	0	20-110		%REC	1	03/19/12 08:04 AM
Surr: 4-Terphenyl-d14	89.0	0	51-135		%REC	1	03/19/12 08:04 AM
Surr: 4-Terphenyl-d14	102	0	51-135		%REC	1	03/18/12 02:03 PM
Surr: Nitrobenzene-d5	92.5	0	41-110		%REC	1	03/19/12 08:04 AM
Surr: Nitrobenzene-d5	91.2	0	41-110		%REC	1	03/18/12 02:03 PM
Surr: Phenol-d6	42.0	0	20-115		%REC	1	03/19/12 08:04 AM
Surr: Phenol-d6	41.0	0	20-115		%REC	1	03/18/12 02:03 PM
8260 WATER VOLATILES BY GC/MS			SW8260C			Analyst: KL	
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:57 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:57 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:57 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 01:57 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C					Analyst: KL
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 01:57 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 01:57 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 01:57 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 01:57 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 01:57 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:57 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 01:57 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-135-0312
Lab ID: 1203116-02
Collection Date: 03/12/12 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 01:57 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:57 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:57 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 01:57 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 01:57 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 01:57 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	03/19/12 01:57 PM
Surr: 4-Bromofluorobenzene	103	0	75-120		%REC	1	03/19/12 01:57 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	1	03/19/12 01:57 PM
Surr: Toluene-d8	96.5	0	85-120		%REC	1	03/19/12 01:57 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	1080	30.0	100		mg/L	100	03/14/12 11:34 AM
Sulfate	5960	100	300		mg/L	100	03/14/12 11:34 AM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	180	10.0	20.0		mg/L	1	03/13/12 02:25 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:25 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:25 PM
Alkalinity, Total (As CaCO3)	180	10.0	20.0		mg/L	1	03/13/12 02:25 PM
PH		M4500-H+ B			Analyst: JBC		
pH	7.60	0	0		pH Units	1	03/13/12 01:32 PM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	0.649	0.300	1.00	J	mg/L	1	03/14/12 11:54 AM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB-1-0312
Lab ID: 1203116-03
Collection Date: 03/12/12 10:20 AM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:22 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:22 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:22 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 02:22 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:22 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 02:22 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 02:22 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 02:22 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 13 of 42
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB-1-0312
Lab ID: 1203116-03
Collection Date: 03/12/12 10:20 AM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:22 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:22 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 02:22 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:22 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:22 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:22 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:22 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:22 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 02:22 PM
Surr: 1,2-Dichloroethane-d4	110	0	70-120		%REC	1	03/19/12 02:22 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/19/12 02:22 PM
Surr: Dibromofluoromethane	110	0	85-115		%REC	1	03/19/12 02:22 PM
Surr: Toluene-d8	97.8	0	85-120		%REC	1	03/19/12 02:22 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB-2-0312
Lab ID: 1203116-04
Collection Date: 03/12/12 12:10 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:46 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:46 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:46 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 02:46 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 02:46 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 02:46 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 02:46 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
Acetone	0.0202	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 02:46 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB-2-0312
Lab ID: 1203116-04
Collection Date: 03/12/12 12:10 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 02:46 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:46 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 02:46 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 02:46 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:46 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:46 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 02:46 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 02:46 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 02:46 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	03/19/12 02:46 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/19/12 02:46 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	03/19/12 02:46 PM
Surr: Toluene-d8	108	0	85-120		%REC	1	03/19/12 02:46 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D		Analyst: DO			
TPH-DRO C10-C28	0.102	0.0500	0.100		mg/L	1	03/18/12 11:05 AM
Surr: Isopropylbenzene	52.9	0	47-142		%REC	1	03/18/12 11:05 AM
Surr: Octacosane	91.8	0	51-124		%REC	1	03/18/12 11:05 AM
TPH PURGEABLE BY GC - WATER		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 01:17 PM
Surr: Tetrachlorethene	113	0	74-138		%REC	1	03/16/12 01:17 PM
MERCURY FILTERED (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:44 PM
TOTAL MERCURY: AQUEOUS		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:17 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	0.0122	0.00200	0.00600		mg/L	1	03/19/12 04:00 PM
Barium	0.0160	0.00300	0.0100		mg/L	1	03/19/12 04:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Calcium	449	20.0	60.0		mg/L	200	03/22/12 01:26 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 04:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Magnesium	523	20.0	60.0		mg/L	200	03/22/12 01:26 PM
Potassium	52.1	20.0	60.0	J	mg/L	200	03/22/12 01:26 PM
Selenium	0.00879	0.00200	0.00600		mg/L	1	03/19/12 04:00 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:00 PM
Sodium	2280	20.0	60.0		mg/L	200	03/22/12 01:26 PM
TRACE METALS: ICP-MS - WATER		SW6020		Analyst: AJR			
Arsenic	0.0112	0.00200	0.00600		mg/L	1	03/19/12 06:51 PM
Barium	0.0168	0.00300	0.0100		mg/L	1	03/19/12 06:51 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:51 PM
Calcium	418	20.0	60.0		mg/L	200	03/21/12 03:42 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 06:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:51 PM
Magnesium	515	20.0	60.0		mg/L	200	03/22/12 01:15 PM
Potassium	50.6	20.0	60.0	J	mg/L	200	03/22/12 01:15 PM
Selenium	0.00784	0.00200	0.00600		mg/L	1	03/19/12 06:51 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 06:51 PM
Sodium	2240	20.0	60.0		mg/L	200	03/22/12 01:15 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
MDL Method Detection Limit ND Not Detected at the Method Detection Limit
RL Reporting Limit S Spike Recovery outside control limits Page 17 of 42
N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:27 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 02:26 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:26 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 08:27 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:26 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:26 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:26 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:26 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 02:26 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Benzoic acid	0.0102	0.00200	0.00600	UB	mg/L	1	03/18/12 02:26 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:26 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 02:26 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:26 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:26 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:26 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 08:27 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:26 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:26 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 08:27 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:26 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 02:26 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 19 of 42
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:27 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:27 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:26 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 02:26 PM
Surr: 2,4,6-Tribromophenol	98.5	0	42-124		%REC	1	03/19/12 08:27 AM
Surr: 2,4,6-Tribromophenol	102	0	42-124		%REC	1	03/18/12 02:26 PM
Surr: 2-Fluorobiphenyl	86.8	0	50-110		%REC	1	03/19/12 08:27 AM
Surr: 2-Fluorobiphenyl	98.5	0	50-110		%REC	1	03/18/12 02:26 PM
Surr: 2-Fluorophenol	65.5	0	20-110		%REC	1	03/18/12 02:26 PM
Surr: 2-Fluorophenol	65.2	0	20-110		%REC	1	03/19/12 08:27 AM
Surr: 4-Terphenyl-d14	88.5	0	51-135		%REC	1	03/19/12 08:27 AM
Surr: 4-Terphenyl-d14	101	0	51-135		%REC	1	03/18/12 02:26 PM
Surr: Nitrobenzene-d5	92.5	0	41-110		%REC	1	03/19/12 08:27 AM
Surr: Nitrobenzene-d5	90.2	0	41-110		%REC	1	03/18/12 02:26 PM
Surr: Phenol-d6	42.2	0	20-115		%REC	1	03/19/12 08:27 AM
Surr: Phenol-d6	39.8	0	20-115		%REC	1	03/18/12 02:26 PM
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:11 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:11 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:11 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 03:11 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
MDL Method Detection Limit ND Not Detected at the Method Detection Limit
RL Reporting Limit S Spike Recovery outside control limits
N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C					Analyst: KL
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:11 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 03:11 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 03:11 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 03:11 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:11 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:11 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 03:11 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
MDL Method Detection Limit ND Not Detected at the Method Detection Limit
RL Reporting Limit S Spike Recovery outside control limits
N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-034-0312
Lab ID: 1203116-05
Collection Date: 03/12/12 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:11 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:11 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:11 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:11 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:11 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 03:11 PM
Surr: 1,2-Dichloroethane-d4	106	0	70-120		%REC	1	03/19/12 03:11 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/19/12 03:11 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	03/19/12 03:11 PM
Surr: Toluene-d8	93.9	0	85-120		%REC	1	03/19/12 03:11 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	817	30.0	100		mg/L	100	03/14/12 11:48 AM
Sulfate	6700	100	300		mg/L	100	03/14/12 11:48 AM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	174	10.0	20.0		mg/L	1	03/13/12 02:30 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:30 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:30 PM
Alkalinity, Total (As CaCO3)	174	10.0	20.0		mg/L	1	03/13/12 02:30 PM
PH		M4500-H+ B			Analyst: JBC		
pH	7.47	0	0		pH Units	1	03/13/12 01:35 PM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	0.689	0.300	1.00	J	mg/L	1	03/14/12 12:15 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D		Analyst: DO			
TPH-DRO C10-C28	0.0868	0.0500	0.100	J	mg/L	1	03/18/12 11:14 AM
Surr: Isopropylbenzene	47.7	0	47-142		%REC	1	03/18/12 11:14 AM
Surr: Octacosane	89.5	0	51-124		%REC	1	03/18/12 11:14 AM
TPH PURGEABLE BY GC - WATER		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 01:42 PM
Surr: Tetrachlorethene	109	0	74-138		%REC	1	03/16/12 01:42 PM
MERCURY FILTERED (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:46 PM
TOTAL MERCURY: AQUEOUS		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:19 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	0.0142	0.00200	0.00600		mg/L	1	03/19/12 03:20 PM
Barium	0.0105	0.00300	0.0100		mg/L	1	03/19/12 03:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:20 PM
Calcium	455	20.0	60.0		mg/L	200	03/22/12 01:32 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 03:20 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:20 PM
Magnesium	555	20.0	60.0		mg/L	200	03/22/12 01:32 PM
Potassium	54.6	20.0	60.0	J	mg/L	200	03/22/12 01:32 PM
Selenium	0.0309	0.00200	0.00600		mg/L	1	03/19/12 03:20 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:20 PM
Sodium	2360	20.0	60.0		mg/L	200	03/22/12 01:32 PM
TRACE METALS: ICP-MS - WATER		SW6020		Analyst: AJR			
Arsenic	0.0135	0.00200	0.00600		mg/L	1	03/19/12 06:57 PM
Barium	0.0115	0.00300	0.0100		mg/L	1	03/19/12 06:57 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:57 PM
Calcium	426	20.0	60.0		mg/L	200	03/21/12 03:48 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 06:57 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 06:57 PM
Magnesium	545	20.0	60.0		mg/L	200	03/22/12 01:20 PM
Potassium	54.3	20.0	60.0	J	mg/L	200	03/22/12 01:20 PM
Selenium	0.0295	0.00200	0.00600		mg/L	1	03/19/12 06:57 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 06:57 PM
Sodium	2320	20.0	60.0		mg/L	200	03/22/12 01:20 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM

Qualifiers:

* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
RL Reporting Limit	S Spike Recovery outside control limits
N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:51 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 02:49 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:49 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:49 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:49 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:49 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 02:49 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 02:49 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 24 of 42
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Benzoic acid	0.0060 0.00349	0.00200	0.00600	+UB	mg/L	1	03/18/12 02:49 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:49 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 02:49 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:49 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:49 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:49 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 08:51 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:49 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 02:49 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 08:51 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 02:49 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 02:49 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM

Qualifiers:

* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
RL Reporting Limit	S Spike Recovery outside control limits
N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 08:51 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 08:51 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 02:49 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 02:49 PM
Surr: 2,4,6-Tribromophenol	104	0	42-124		%REC	1	03/19/12 08:51 AM
Surr: 2,4,6-Tribromophenol	112	0	42-124		%REC	1	03/18/12 02:49 PM
Surr: 2-Fluorobiphenyl	91.0	0	50-110		%REC	1	03/19/12 08:51 AM
Surr: 2-Fluorobiphenyl	102	0	50-110		%REC	1	03/18/12 02:49 PM
Surr: 2-Fluorophenol	70.0	0	20-110		%REC	1	03/18/12 02:49 PM
Surr: 2-Fluorophenol	69.5	0	20-110		%REC	1	03/19/12 08:51 AM
Surr: 4-Terphenyl-d14	92.2	0	51-135		%REC	1	03/19/12 08:51 AM
Surr: 4-Terphenyl-d14	106	0	51-135		%REC	1	03/18/12 02:49 PM
Surr: Nitrobenzene-d5	96.2	0	41-110		%REC	1	03/19/12 08:51 AM
Surr: Nitrobenzene-d5	95.2	0	41-110		%REC	1	03/18/12 02:49 PM
Surr: Phenol-d6	46.8	0	20-115		%REC	1	03/19/12 08:51 AM
Surr: Phenol-d6	44.2	0	20-115		%REC	1	03/18/12 02:49 PM
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:35 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:35 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:35 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 03:35 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 03:35 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 03:35 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:35 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 03:35 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:35 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:35 PM
Acetone	0.0150	0.0150	0.00500	JUB	mg/L	1	03/19/12 03:35 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 03:35 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:35 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 03:35 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:35 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 03:35 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative
 DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern
 J Analyte detected between MDL and RL
 MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-059-0312
Lab ID: 1203116-06
Collection Date: 03/12/12 01:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:35 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:35 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:35 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:35 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 03:35 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 03:35 PM
Surr: 1,2-Dichloroethane-d4	103	0	70-120		%REC	1	03/19/12 03:35 PM
Surr: 4-Bromofluorobenzene	106	0	75-120		%REC	1	03/19/12 03:35 PM
Surr: Dibromofluoromethane	110	0	85-115		%REC	1	03/19/12 03:35 PM
Surr: Toluene-d8	98.0	0	85-120		%REC	1	03/19/12 03:35 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	960	30.0	100		mg/L	100	03/14/12 12:28 PM
Sulfate	6830	100	300		mg/L	100	03/14/12 12:28 PM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	177	10.0	20.0		mg/L	1	03/13/12 02:35 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:35 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:35 PM
Alkalinity, Total (As CaCO3)	177	10.0	20.0		mg/L	1	03/13/12 02:35 PM
PH		M4500-H+ B			Analyst: JBC		
pH	7.75	0	0		pH Units	1	03/13/12 01:37 PM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	0.649	0.300	1.00	J	mg/L	1	03/14/12 12:36 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D		Analyst: DO			
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	03/18/12 12:51 PM
Surr: Isopropylbenzene	58.9	0	47-142		%REC	1	03/18/12 12:51 PM
Surr: Octacosane	91.6	0	51-124		%REC	1	03/18/12 12:51 PM
TPH PURGEABLE BY GC - WATER		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 02:08 PM
Surr: Tetrachlorethene	106	0	74-138		%REC	1	03/16/12 02:08 PM
MERCURY FILTERED (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:48 PM
TOTAL MERCURY: AQUEOUS		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:21 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	03/21/12 03:24 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 03:26 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:26 PM
Calcium	<0.100	0.100	0.300		mg/L	1	03/21/12 03:24 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/21/12 03:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:26 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	03/21/12 03:24 PM
Potassium	<0.100	0.100	0.300		mg/L	1	03/21/12 03:24 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	03/21/12 03:24 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:26 PM
Sodium	0.482	0.100	0.300		mg/L	1	03/21/12 03:24 PM
TRACE METALS: ICP-MS - WATER		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 07:03 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 07:03 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 07:03 PM
Calcium	<0.100	0.100	0.300		mg/L	1	03/21/12 03:18 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 07:03 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 07:03 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	03/21/12 03:18 PM
Potassium	<0.100	0.100	0.300		mg/L	1	03/19/12 07:03 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	03/19/12 07:03 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 07:03 PM
Sodium	0.727	0.100	0.300		mg/L	1	03/21/12 03:18 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 09:14 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 03:12 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:12 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:12 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:12 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:12 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:12 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 03:12 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Benzoic acid	0.00457	0.00200	0.00600	J	mg/L	1	03/18/12 03:12 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:12 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 03:12 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:12 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:12 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:12 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 09:14 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:12 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:12 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 09:14 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:12 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 03:12 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
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SEMIVOLATILES BY GC/MS - WATER

SW8270C

Analyst: **DO**

Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 09:14 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:14 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:12 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 03:12 PM
Surr: 2,4,6-Tribromophenol	103	0	42-124		%REC	1	03/19/12 09:14 AM
Surr: 2,4,6-Tribromophenol	112	0	42-124		%REC	1	03/18/12 03:12 PM
Surr: 2-Fluorobiphenyl	91.2	0	50-110		%REC	1	03/19/12 09:14 AM
Surr: 2-Fluorobiphenyl	104	0	50-110		%REC	1	03/18/12 03:12 PM
Surr: 2-Fluorophenol	69.2	0	20-110		%REC	1	03/18/12 03:12 PM
Surr: 2-Fluorophenol	68.3	0	20-110		%REC	1	03/19/12 09:14 AM
Surr: 4-Terphenyl-d14	92.8	0	51-135		%REC	1	03/19/12 09:14 AM
Surr: 4-Terphenyl-d14	107	0	51-135		%REC	1	03/18/12 03:12 PM
Surr: Nitrobenzene-d5	97.0	0	41-110		%REC	1	03/19/12 09:14 AM
Surr: Nitrobenzene-d5	94.8	0	41-110		%REC	1	03/18/12 03:12 PM
Surr: Phenol-d6	42.8	0	20-115		%REC	1	03/19/12 09:14 AM
Surr: Phenol-d6	41.5	0	20-115		%REC	1	03/18/12 03:12 PM

8260 WATER VOLATILES BY GC/MS

SW8260C

Analyst: **KL**

1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:00 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:00 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:00 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 04:00 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:00 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 04:00 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 04:00 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 04:00 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Bromodichloromethane	0.00114	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Chloroform	0.00117	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Dibromochloromethane	0.00115	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:00 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:00 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 04:00 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-RB-001-0312
Lab ID: 1203116-07
Collection Date: 03/12/12 02:15 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:00 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:00 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:00 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:00 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:00 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 04:00 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	03/19/12 04:00 PM
Surr: 4-Bromofluorobenzene	104	0	75-120		%REC	1	03/19/12 04:00 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	03/19/12 04:00 PM
Surr: Toluene-d8	98.3	0	85-120		%REC	1	03/19/12 04:00 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	0.475	0.300	1.00	J	mg/L	1	03/14/12 09:56 AM
Sulfate	<1.00	1.00	3.00		mg/L	1	03/14/12 09:56 AM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:37 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:37 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:37 PM
Alkalinity, Total (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:37 PM
PH		M4500-H+ B			Analyst: JBC		
pH	8.37	0	0		pH Units	1	03/13/12 01:40 PM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	<0.300	0.300	1.00		mg/L	1	03/14/12 12:55 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D			Analyst: DO		
TPH-DRO C10-C28	0.0525	0.0500	0.100	J	mg/L	1	03/18/12 11:49 AM
Surr: Isopropylbenzene	52.2	0	47-142		%REC	1	03/18/12 11:49 AM
Surr: Octacosane	87.4	0	51-124		%REC	1	03/18/12 11:49 AM
TPH PURGEABLE BY GC - WATER		M8015V			Analyst: DEW		
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/12 02:33 PM
Surr: Tetrachlorethene	108	0	74-138		%REC	1	03/16/12 02:33 PM
MERCURY FILTERED (0.45µ)		SW7470A			Analyst: LM		
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:50 PM
TOTAL MERCURY: AQUEOUS		SW7470A			Analyst: LM		
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	03/19/12 03:23 PM
DISSOLVED METALS-ICPMS (0.45µ)		SW6020			Analyst: AJR		
Arsenic	0.00254	0.00200	0.00600	J	mg/L	1	03/19/12 03:32 PM
Barium	0.0173	0.00300	0.0100		mg/L	1	03/19/12 03:32 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:32 PM
Calcium	430	20.0	60.0		mg/L	200	03/21/12 04:59 PM
Calcium	453	20.0	60.0		mg/L	200	03/22/12 01:37 PM
Chromium	0.0393	0.00200	0.00600		mg/L	1	03/19/12 03:32 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 03:32 PM
Magnesium	258	20.0	60.0		mg/L	200	03/22/12 01:37 PM
Potassium	50.3	20.0	60.0	J	mg/L	200	03/22/12 01:37 PM
Selenium	0.0590	0.00200	0.00600		mg/L	1	03/19/12 03:32 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 03:32 PM
Sodium	2290	20.0	60.0		mg/L	200	03/22/12 01:37 PM
TRACE METALS: ICP-MS - WATER		SW6020			Analyst: AJR		
Arsenic	0.00224	0.00200	0.00600	J	mg/L	1	03/19/12 07:09 PM
Barium	0.0176	0.00300	0.0100		mg/L	1	03/19/12 07:09 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 07:09 PM
Calcium	422	20.0	60.0		mg/L	200	03/21/12 03:54 PM
Chromium	0.0406	0.00200	0.00600		mg/L	1	03/19/12 07:09 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 07:09 PM
Magnesium	256	20.0	60.0		mg/L	200	03/22/12 01:43 PM
Potassium	49.6	20.0	60.0	J	mg/L	200	03/22/12 01:43 PM
Selenium	0.0570	0.00200	0.00600		mg/L	1	03/19/12 07:09 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 07:09 PM
Sodium	2270	20.0	60.0		mg/L	200	03/22/12 01:43 PM
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 09:37 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	03/18/12 03:35 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:35 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:35 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:35 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:35 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	03/18/12 03:35 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C		Analyst: DO			
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	03/18/12 03:35 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Benzoic acid	0.0147	0.00200	0.00600	UB	mg/L	1	03/18/12 03:35 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:35 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	03/18/12 03:35 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:35 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:35 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:35 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	03/19/12 09:37 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:35 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	03/18/12 03:35 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	03/19/12 09:37 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	03/18/12 03:35 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	03/18/12 03:35 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER		SW8270C			Analyst: DO		
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	03/19/12 09:37 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	03/19/12 09:37 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	03/18/12 03:35 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	03/18/12 03:35 PM
Surr: 2,4,6-Tribromophenol	94.8	0	42-124		%REC	1	03/19/12 09:37 AM
Surr: 2,4,6-Tribromophenol	96.5	0	42-124		%REC	1	03/18/12 03:35 PM
Surr: 2-Fluorobiphenyl	83.5	0	50-110		%REC	1	03/19/12 09:37 AM
Surr: 2-Fluorobiphenyl	95.5	0	50-110		%REC	1	03/18/12 03:35 PM
Surr: 2-Fluorophenol	63.8	0	20-110		%REC	1	03/19/12 09:37 AM
Surr: 2-Fluorophenol	65.0	0	20-110		%REC	1	03/18/12 03:35 PM
Surr: 4-Terphenyl-d14	86.2	0	51-135		%REC	1	03/19/12 09:37 AM
Surr: 4-Terphenyl-d14	98.5	0	51-135		%REC	1	03/18/12 03:35 PM
Surr: Nitrobenzene-d5	87.8	0	41-110		%REC	1	03/19/12 09:37 AM
Surr: Nitrobenzene-d5	85.5	0	41-110		%REC	1	03/18/12 03:35 PM
Surr: Phenol-d6	43.0	0	20-115		%REC	1	03/18/12 03:35 PM
Surr: Phenol-d6	44.5	0	20-115		%REC	1	03/19/12 09:37 AM
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:24 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:24 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:24 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 04:24 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
MDL Method Detection Limit ND Not Detected at the Method Detection Limit
RL Reporting Limit S Spike Recovery outside control limits
N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:24 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 04:24 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
2-Chloroethylvinylether	<0.00500	0.00600	0.0150	R	mg/L	1	03/19/12 04:24 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 04:24 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:24 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:24 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM

Qualifiers:

* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
RL Reporting Limit	S Spike Recovery outside control limits
N Parameter not NELAC certified	

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-032-0312
Lab ID: 1203116-08
Collection Date: 03/12/12 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 04:24 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:24 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:24 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:24 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:24 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:24 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 04:24 PM
Surr: 1,2-Dichloroethane-d4	114	0	70-120		%REC	1	03/19/12 04:24 PM
Surr: 4-Bromofluorobenzene	106	0	75-120		%REC	1	03/19/12 04:24 PM
Surr: Dibromofluoromethane	111	0	85-115		%REC	1	03/19/12 04:24 PM
Surr: Toluene-d8	98.2	0	85-120		%REC	1	03/19/12 04:24 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: JBC		
Chloride	1400	30.0	100		mg/L	100	03/14/12 12:43 PM
Sulfate	5150	100	300		mg/L	100	03/14/12 12:43 PM
ALKALINITY		M2320 B			Analyst: JBC		
Alkalinity, Bicarbonate (As CaCO3)	50.0	10.0	20.0		mg/L	1	03/13/12 02:39 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:39 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	03/13/12 02:39 PM
Alkalinity, Total (As CaCO3)	50.0	10.0	20.0		mg/L	1	03/13/12 02:39 PM
PH		M4500-H+ B			Analyst: JBC		
pH	7.47	0	0		pH Units	1	03/13/12 01:43 PM
TOTAL ORGANIC CARBON		M5310C			Analyst: TGK		
Total Organic Carbon	<0.300	0.300	1.00		mg/L	1	03/14/12 01:17 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB3-0312
Lab ID: 1203116-09
Collection Date: 03/12/12 03:40 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:49 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:49 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:49 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	03/19/12 04:49 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	03/19/12 04:49 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	03/19/12 04:49 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	03/19/12 04:49 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/19/12 04:49 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank
 C Sample Result or QC discussed in the Case Narrative DF Dilution Factor
 E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL
 MDL Method Detection Limit ND Not Detected at the Method Detection Limit
 RL Reporting Limit S Spike Recovery outside control limits Page 41 of 42
 N Parameter not NELAC certified

DHL Analytical

Date: 23-Mar-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1203116

Client Sample ID: HLSF-3839-HMW-TB3-0312
Lab ID: 1203116-09
Collection Date: 03/12/12 03:40 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW8260C			Analyst: KL		
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	03/19/12 04:49 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:49 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/19/12 04:49 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/19/12 04:49 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:49 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:49 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/19/12 04:49 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	03/19/12 04:49 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	03/19/12 04:49 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	03/19/12 04:49 PM
Surr: 4-Bromofluorobenzene	105	0	75-120		%REC	1	03/19/12 04:49 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	03/19/12 04:49 PM
Surr: Toluene-d8	98.8	0	85-120		%REC	1	03/19/12 04:49 PM

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	



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 575-532-1526
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1203114

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME	PROJECT INFORMATION		NO. OF CONTAINERS	ANALYSIS REQUESTED							REMARKS					
		SAMPLER'S SIGNATURE	SAMPLE ID		MATRIX	LAB NO.	TOC	VOCs	GRO	DRO	SVOCS		Total metals	Dissolved metals	Anions		
07	HELSTF Construction Landfill <i>Bradley Davis</i>	DATE	TIME														
		3-12-12	1415	HLSE-3839-RB-08-0312	Water						X	X	X	X	X	X	Rinseate Blank
08		3-12-12	1540	HLSE-3839-HMW-032-0312	Water	16	X	X	X	X	X	X	X	X	X	X	
09		3-12-12	1540	HLSE-3839-HMW-T82-0312	Water	2	X	X	X	X	X	X	X	X	X		Note: Rinseate blank sample - dissolved metals + Anions not field filtered or preserved. Please fill and preserve at Lab.
PROJECT INFORMATION		SAMPLER'S SIGNATURE		NO. OF CONTAINERS		ANALYSIS REQUESTED							REMARKS				
PROJECT MANAGER		TOTAL NO. OF CONTAINERS		CHAIN OF CUSTODY/SERIALS		GOOD CONDITIONING FILLED		CONFORMS TO RECORD		1. RELINQUISHED BY: (SIGNATURE)		2. RELINQUISHED BY: (SIGNATURE)		3. RECEIVED BY LAB: (SIGNATURE)			
<i>Brad Davis</i>		40		2.1		<i>Bradley Davis</i>		3-12-12 1700		<i>Bradley Davis</i>		<i>Bradley Davis</i>		<i>Bradley Davis</i>			
SHIPPING ID NO.		DATE		TIME		SPECIAL INSTRUCTIONS/COMMENTS:		SPECIAL INSTRUCTIONS/COMMENTS:		SPECIAL INSTRUCTIONS/COMMENTS:		SPECIAL INSTRUCTIONS/COMMENTS:		SPECIAL INSTRUCTIONS/COMMENTS:			
FedEx		3/12/12		1700		See Attached Analyte List.											

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

PLEASE USE BALL POINT PEN

