

White Sands Missile Range- MPL #3 Long-term GW Monitoring

Data Review

WHITE SANDS MISSILE RANGE, NEW MEXICO

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

SDG #1104021

Analyses Performed By:
DHL Analytical, Inc.
Round Rock, Texas

Report #14024R
Review Level: Tier II
Project: GP08WSMR.OODM.OC110

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #1104021 for samples collected in association with MPL#3 Long-term Groundwater Monitoring. 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	SVOC	DRO/GRO	MET	MISC
1104021	0065-MW-011-0311	1104021-01	Water	3/31/2011		X	X	X	X	X
	0065-MW-TB-375-0311	1104021-02	Water	3/31/2011		X				
	0065-MW-RB-001-0311	1104021-03	Water	3/31/2011		X	X	X	X	X
	0065-MW-09-0311	1104021-04	Water	3/31/2011		X	X	X	X	X
	0065-MW-TB-373-0311	1104021-05	Water	3/31/2011		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.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

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
0065-MW-011-0311	2-Chloroethylvinylether	0%	0%

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.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	LCS Recovery
0065-MW-011-0311 0065-MW-TB-375-0311 0065-MW-RB-001-0311 0065-MW-09-0311 0065-MW-TB-373-0311	Acetone	>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

Control Limit	Sample Result	Qualification
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	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.

A field duplicate was not included with this SDG.

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
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
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
 RPD Relative percent difference

SEMIVOLATILE 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°
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4°C ± 2°

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.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

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
0065-MW-011-0311	Dimethylphenethylamine	<LL but >10%	0%
	1-Naphthylamine	AC	<LL but >10%
	Benzoic acid	>UL	>UL
	N-Nitrosodiphenylamine	>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
	Non-detect	

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

Sample Locations	Compound
0065-MW-011-0311	1-Naphthylamine
	2-Naphthylamine
	Benzidine

The criteria used to evaluate the RPD between the MS/MSD 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

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.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	LCS Recovery
0065-MW-011-0311 0065-MW-RB-001-0311 0065-MW-09-0311	Dimethylphenethylamine	<LL but >10%

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

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 50% for water matrices and 100% 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.

A field duplicate was not included with this SDG.

7. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

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 8270	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
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 Duplicate (RPD)					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 Percent difference

DIESEL RANGE ORGANICS (DRO) 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 not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

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.

A field duplicate was not included with this SDG.

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 DRO

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
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, 7470A, EPA 300.0, SM 2320A, SM 5310C, and SM 4500H. 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	Water	180 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.
SW-846 7470	Water	28 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.

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.

A field duplicate was not included with this SDG.

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. General Assessment

The calculated %D between the total and the dissolved sample results were within the control limit, with the exception of the analytes presented in the following table.

Sample Location	Analytes	%D
0065-MW-011-0311	Sodium	12.2%
0065-MW-09-0311	Sodium	11.1%
	Barium	11.6%

The criteria used to evaluate total and dissolved %D are presented in the following table. In the case of a total and dissolved %D deviation, the sample results are qualified. The qualifications are applied to the all sample results associated with this SDG.

Sample Concentration	Control Limit	Sample Result	Qualification
Dissolved sample concentration > total sample concentration and > 5x RL	>10%	Non-detect	UJ
		Detect	J
Dissolved sample concentration > total sample concentration and > 5x RL	>50%	Non-detect	R
		Detect	R

7. 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 METALS

METALS; SW-846 6020 and 7470A	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
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.
Alkalinity by SM 2320B	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 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.

A field duplicate was not included with this SDG.

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: SM 3500D, 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
Dilution Factor		X		X	
Moisture Content					X

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

VALIDATION PERFORMED

BY:

Jeffrey L. Davin

SIGNATURE:

A handwritten signature in black ink, appearing to read "Jeffrey L. Davin", written over a horizontal line.

DATE: April 20, 2011

PEER REVIEW: Dennis Capria

DATE: April 27, 2011

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
 Lab ID: 1104021-01
 Collection Date: 03/31/11 01:00 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	04/04/11 02:57 PM
Surr: Isopropylbenzene	69.0	0	47 - 142		%REC	1	04/04/11 02:57 PM
Surr: Octacosane	123	0	51 - 124		%REC	1	04/04/11 02:57 PM
Method 8015 Gasoline (GRO)		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	04/05/11 02:32 PM
Surr: Tetrachlorethene	121	0	74 - 138		%REC	1	04/05/11 02:32 PM
Mercury Filtered (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 12:33 PM
Total Mercury: Aqueous		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 12:57 PM
Dissolved Metals-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/07/11 11:42 PM
Barium	0.0885	0.00300	0.0100		mg/L	1	04/07/11 11:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/07/11 11:42 PM
Calcium	44.5	0.500	1.50		mg/L	5	04/08/11 01:49 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/07/11 11:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/07/11 11:42 PM
Magnesium	5.57	0.100	0.300		mg/L	1	04/07/11 11:42 PM
Potassium	1.65	0.100	0.300		mg/L	1	04/07/11 11:42 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/07/11 11:42 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/07/11 11:42 PM
Sodium	23.4	0.100	0.300	J	mg/L	1	04/07/11 11:42 PM
Trace Metals: ICP-MS - Water		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:45 PM
Barium	0.0856	0.00300	0.0100		mg/L	1	04/08/11 05:45 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 05:45 PM
Calcium	41.7	0.500	1.50		mg/L	5	04/08/11 05:22 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:45 PM
Lead	0.000346	0.000300	0.00100	J	mg/L	1	04/08/11 05:45 PM
Magnesium	5.24	0.100	0.300		mg/L	1	04/08/11 05:45 PM
Potassium	1.65	0.100	0.300		mg/L	1	04/08/11 05:45 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:45 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/08/11 05:45 PM
Sodium	20.7	0.100	0.300	J	mg/L	1	04/08/11 05:45 PM
Semivolatiles by GC/MS - Water		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1,2,4-Trichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1,2-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1,3-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1,4-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 06:56 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/06/11 03:40 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
Lab ID: 1104021-01
Collection Date: 03/31/11 01:00 PM
Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1-Naphthylamine	<0.000200	0.000200	0.000800	J	mg/L	1	04/05/11 06:56 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 03:40 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Naphthylamine	<0.000200	0.000200	0.000800	J	mg/L	1	04/05/11 06:56 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 03:40 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:40 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:40 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 03:40 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzidine	<0.00200	0.00200	0.00600	J	mg/L	1	04/06/11 03:40 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Benzoic acid	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:40 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
 Lab ID: 1104021-01
 Collection Date: 03/31/11 01:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 03:40 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	04/05/11 06:56 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 03:40 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	R	mg/L	1	04/05/11 06:56 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:40 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	04/06/11 03:40 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 06:56 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 06:56 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 03:40 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	04/06/11 03:40 PM
Surr: 2,4,6-Tribromophenol	97.2	0	42 - 124		%REC	1	04/05/11 06:56 PM
Surr: 2,4,6-Tribromophenol	85.5	0	42 - 124		%REC	1	04/06/11 03:40 PM
Surr: 2-Fluorobiphenyl	71.0	0	50 - 110		%REC	1	04/05/11 06:56 PM
Surr: 2-Fluorobiphenyl	78.0	0	50 - 110		%REC	1	04/06/11 03:40 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
 Lab ID: 1104021-01
 Collection Date: 03/31/11 01:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Surr: 2-Fluorophenol	60.8	0	20 - 110		%REC	1	04/06/11 03:40 PM
Surr: 2-Fluorophenol	52.8	0	20 - 110		%REC	1	04/05/11 06:56 PM
Surr: 4-Terphenyl-d14	79.2	0	51 - 135		%REC	1	04/05/11 06:56 PM
Surr: 4-Terphenyl-d14	86.0	0	51 - 135		%REC	1	04/06/11 03:40 PM
Surr: Nitrobenzene-d5	82.0	0	41 - 110		%REC	1	04/05/11 06:56 PM
Surr: Nitrobenzene-d5	78.8	0	41 - 110		%REC	1	04/06/11 03:40 PM
Surr: Phenol-d6	38.8	0	20 - 115		%REC	1	04/05/11 06:56 PM
Surr: Phenol-d6	35.8	0	20 - 115		%REC	1	04/06/11 03:40 PM

8260 Water Volatiles by GC/MS

SW8260C

Analyst: KL

1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:01 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:01 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:01 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	04/06/11 04:01 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:01 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	04/06/11 04:01 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	04/06/11 04:01 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:01 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
 Lab ID: 1104021-01
 Collection Date: 03/31/11 01:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Hexachlorobutadiene	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:01 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:01 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	04/06/11 04:01 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:01 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:01 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:01 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:01 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:01 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:01 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	04/06/11 04:01 PM
Surr: 1,2-Dichloroethane-d4	105	0	70 - 120		%REC	1	04/06/11 04:01 PM
Surr: 4-Bromofluorobenzene	99.8	0	75 - 120		%REC	1	04/06/11 04:01 PM
Surr: Dibromofluoromethane	102	0	85 - 115		%REC	1	04/06/11 04:01 PM
Surr: Toluene-d8	98.7	0	85 - 120		%REC	1	04/06/11 04:01 PM
Anions by IC method - Water		E300					Analyst: JBC
Chloride	23.5	0.300	1.00		mg/L	1	04/04/11 10:40 AM
Sulfate	58.1	1.00	3.00		mg/L	1	04/04/11 10:40 AM
Alkalinity		M2320 B					Analyst: JBC
Alkalinity, Bicarbonate (As CaCO3)	93.8	10.0	20.0		mg/L	1	04/04/11 10:24 AM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:24 AM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:24 AM
Alkalinity, Total (As CaCO3)	93.8	10.0	20.0		mg/L	1	04/04/11 10:24 AM

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

DHL Analytical

Date: 04/13/11

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-011-0311
Lab ID: 1104021-01
Collection Date: 03/31/11 01:00 PM
Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
pH		M4500-H+ B					Analyst: JBC
pH	7.91	0	0		pH Units	1	04/04/11 09:35 AM
Total Organic Carbon		M5310C					Analyst: TGK
Total Organic Carbon	<0.300	0.300	1.00		mg/L	1	04/04/11 05:39 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-TB-375-0311
 Lab ID: 1104021-02
 Collection Date: 03/31/11 01:00 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	04/06/11 02:47 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 02:47 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 02:47 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 02:47 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	04/06/11 02:47 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 02:47 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	04/06/11 02:47 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	04/06/11 02:47 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 02:47 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM

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

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-TB-375-0311
Lab ID: 1104021-02
Collection Date: 03/31/11 01:00 PM
Matrix: Trip Blank

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Hexachlorobutadiene	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 02:47 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 02:47 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	04/06/11 02:47 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 02:47 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 02:47 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 02:47 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 02:47 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 02:47 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 02:47 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	04/06/11 02:47 PM
Surr: 1,2-Dichloroethane-d4	104	0	70 - 120		%REC	1	04/06/11 02:47 PM
Surr: 4-Bromofluorobenzene	99.4	0	75 - 120		%REC	1	04/06/11 02:47 PM
Surr: Dibromofluoromethane	102	0	85 - 115		%REC	1	04/06/11 02:47 PM
Surr: Toluene-d8	98.7	0	85 - 120		%REC	1	04/06/11 02:47 PM

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

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
Lab ID: 1104021-03
Collection Date: 03/31/11 02:15 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	04/04/11 03:34 PM
Surr: Isopropylbenzene	66.4	0	47 - 142		%REC	1	04/04/11 03:34 PM
Surr: Octacosane	117	0	51 - 124		%REC	1	04/04/11 03:34 PM
Method 8015 Gasoline (GRO)		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	04/05/11 02:57 PM
Surr: Tetrachlorethene	111	0	74 - 138		%REC	1	04/05/11 02:57 PM
Mercury Filtered (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 12:53 PM
Total Mercury: Aqueous		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 01:18 PM
Dissolved Metals-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 01:44 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	04/08/11 01:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 01:44 PM
Calcium	<0.100	0.100	0.300		mg/L	1	04/08/11 01:44 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 01:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 01:44 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	04/08/11 01:44 PM
Potassium	<0.100	0.100	0.300		mg/L	1	04/08/11 01:44 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 01:44 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/08/11 01:44 PM
Sodium	0.107	0.100	0.300	J	mg/L	1	04/08/11 01:44 PM
Trace Metals: ICP-MS - Water		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:56 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	04/08/11 05:56 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 05:56 PM
Calcium	0.110	0.100	0.300	J	mg/L	1	04/08/11 05:56 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:56 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 05:56 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	04/08/11 05:56 PM
Potassium	<0.100	0.100	0.300		mg/L	1	04/08/11 05:56 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 05:56 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/08/11 05:56 PM
Sodium	<0.100	0.100	0.300		mg/L	1	04/08/11 05:56 PM
Semivolatiles by GC/MS - Water		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1,2,4-Trichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1,2-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1,3-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1,4-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 07:20 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/06/11 04:04 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
 Lab ID: 1104021-03
 Collection Date: 03/31/11 02:15 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:04 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:04 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:04 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:04 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:04 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Benzoic acid	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:04 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
 Lab ID: 1104021-03
 Collection Date: 03/31/11 02:15 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:04 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	04/05/11 07:20 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:04 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	J	mg/L	1	04/05/11 07:20 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:04 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	04/06/11 04:04 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 07:20 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:20 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:04 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	04/06/11 04:04 PM
Surr: 2,4,6-Tribromophenol	98.0	0	42 - 124		%REC	1	04/05/11 07:20 PM
Surr: 2,4,6-Tribromophenol	86.5	0	42 - 124		%REC	1	04/06/11 04:04 PM
Surr: 2-Fluorobiphenyl	71.8	0	50 - 110		%REC	1	04/05/11 07:20 PM
Surr: 2-Fluorobiphenyl	77.0	0	50 - 110		%REC	1	04/06/11 04:04 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
 Lab ID: 1104021-03
 Collection Date: 03/31/11 02:15 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Surr: 2-Fluorophenol	63.5	0	20 - 110		%REC	1	04/06/11 04:04 PM
Surr: 2-Fluorophenol	63.3	0	20 - 110		%REC	1	04/05/11 07:20 PM
Surr: 4-Terphenyl-d14	79.0	0	51 - 135		%REC	1	04/05/11 07:20 PM
Surr: 4-Terphenyl-d14	86.5	0	51 - 135		%REC	1	04/06/11 04:04 PM
Surr: Nitrobenzene-d5	81.8	0	41 - 110		%REC	1	04/05/11 07:20 PM
Surr: Nitrobenzene-d5	79.0	0	41 - 110		%REC	1	04/06/11 04:04 PM
Surr: Phenol-d6	37.5	0	20 - 115		%REC	1	04/05/11 07:20 PM
Surr: Phenol-d6	35.8	0	20 - 115		%REC	1	04/06/11 04:04 PM

8260 Water Volatiles by GC/MS

SW8260C

Analyst: KL

1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:12 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:12 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:12 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	04/06/11 03:12 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:12 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	04/06/11 03:12 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	04/06/11 03:12 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 03:12 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
Lab ID: 1104021-03
Collection Date: 03/31/11 02:15 PM
Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Hexachlorobutadiene	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 03:12 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:12 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	04/06/11 03:12 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:12 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:12 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:12 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:12 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:12 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:12 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	04/06/11 03:12 PM
Surr: 1,2-Dichloroethane-d4	104	0	70 - 120		%REC	1	04/06/11 03:12 PM
Surr: 4-Bromofluorobenzene	99.8	0	75 - 120		%REC	1	04/06/11 03:12 PM
Surr: Dibromofluoromethane	103	0	85 - 115		%REC	1	04/06/11 03:12 PM
Surr: Toluene-d8	98.8	0	85 - 120		%REC	1	04/06/11 03:12 PM
Anions by IC method - Water		E300		Analyst: JBC			
Chloride	<0.300	0.300	1.00		mg/L	1	04/04/11 11:37 AM
Sulfate	<1.00	1.00	3.00		mg/L	1	04/04/11 11:37 AM
Alkalinity		M2320 B		Analyst: JBC			
Alkalinity, Bicarbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:30 AM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:30 AM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:30 AM
Alkalinity, Total (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:30 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 04/13/11

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-RB-001-0311
 Lab ID: 1104021-03
 Collection Date: 03/31/11 02:15 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
pH		M4500-H+ B					Analyst: JBC
pH	8.07	0	0		pH Units	1	04/04/11 09:37 AM
Total Organic Carbon		M5310C					Analyst: TGK
Total Organic Carbon	0.411	0.300	1.00	J	mg/L	1	04/04/11 05:57 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
Lab ID: 1104021-04
Collection Date: 03/31/11 03:00 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	04/04/11 03:43 PM
Surr: Isopropylbenzene	69.4	0	47 - 142		%REC	1	04/04/11 03:43 PM
Surr: Octacosane	122	0	51 - 124		%REC	1	04/04/11 03:43 PM
Method 8015 Gasoline (GRO)		M8015V		Analyst: DEW			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	04/05/11 03:22 PM
Surr: Tetrachlorethene	109	0	74 - 138		%REC	1	04/05/11 03:22 PM
Mercury Filtered (0.45µ)		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 12:55 PM
Total Mercury: Aqueous		SW7470A		Analyst: LM			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	04/06/11 01:20 PM
Dissolved Metals-ICPMS (0.45µ)		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 04:00 PM
Barium	0.0854	0.00300	0.0100	J	mg/L	1	04/08/11 04:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 04:00 PM
Calcium	29.9	0.500	1.50		mg/L	5	04/08/11 02:19 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 04:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 04:00 PM
Magnesium	6.41	0.100	0.300		mg/L	1	04/08/11 04:00 PM
Potassium	1.84	0.100	0.300		mg/L	1	04/08/11 04:00 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 04:00 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/08/11 04:00 PM
Sodium	20.8	0.100	0.300	J	mg/L	1	04/08/11 04:00 PM
Trace Metals: ICP-MS - Water		SW6020		Analyst: AJR			
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 06:01 PM
Barium	0.0760	0.00300	0.0100	J	mg/L	1	04/08/11 06:01 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 06:01 PM
Calcium	27.6	0.500	1.50		mg/L	5	04/08/11 05:39 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 06:01 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/08/11 06:01 PM
Magnesium	6.02	0.100	0.300		mg/L	1	04/08/11 06:01 PM
Potassium	1.79	0.100	0.300		mg/L	1	04/08/11 06:01 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	04/08/11 06:01 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	04/08/11 06:01 PM
Sodium	18.6	0.100	0.300	J	mg/L	1	04/08/11 06:01 PM
Semivolatiles by GC/MS - Water		SW8270C		Analyst: DO			
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1,2,4-Trichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1,2-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1,3-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1,4-Dichlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 07:44 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	04/06/11 04:28 PM

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

CLIENT: Zia Engineering & Environmental
Project: MPL #3 Long-term Groundwater Monitoring
Project No:
Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
Lab ID: 1104021-04
Collection Date: 03/31/11 03:00 PM
Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:28 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:28 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:28 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:28 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	04/06/11 04:28 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Benzoic acid	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:28 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
 Lab ID: 1104021-04
 Collection Date: 03/31/11 03:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:28 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	04/05/11 07:44 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	04/06/11 04:28 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600	J	mg/L	1	04/05/11 07:44 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:28 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	04/06/11 04:28 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	04/05/11 07:44 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	04/05/11 07:44 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	04/06/11 04:28 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	04/06/11 04:28 PM
Surr: 2,4,6-Tribromophenol	104	0	42 - 124		%REC	1	04/05/11 07:44 PM
Surr: 2,4,6-Tribromophenol	91.8	0	42 - 124		%REC	1	04/06/11 04:28 PM
Surr: 2-Fluorobiphenyl	77.0	0	50 - 110		%REC	1	04/05/11 07:44 PM
Surr: 2-Fluorobiphenyl	82.8	0	50 - 110		%REC	1	04/06/11 04:28 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
 Lab ID: 1104021-04
 Collection Date: 03/31/11 03:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Surr: 2-Fluorophenol	65.0	0	20 - 110		%REC	1	04/06/11 04:28 PM
Surr: 2-Fluorophenol	66.0	0	20 - 110		%REC	1	04/05/11 07:44 PM
Surr: 4-Terphenyl-d14	85.8	0	51 - 135		%REC	1	04/05/11 07:44 PM
Surr: 4-Terphenyl-d14	93.3	0	51 - 135		%REC	1	04/06/11 04:28 PM
Surr: Nitrobenzene-d5	87.3	0	41 - 110		%REC	1	04/05/11 07:44 PM
Surr: Nitrobenzene-d5	84.5	0	41 - 110		%REC	1	04/06/11 04:28 PM
Surr: Phenol-d6	40.5	0	20 - 115		%REC	1	04/05/11 07:44 PM
Surr: Phenol-d6	36.8	0	20 - 115		%REC	1	04/06/11 04:28 PM

8260 Water Volatiles by GC/MS

SW8260C

Analyst: KL

1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:25 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:25 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:25 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	04/06/11 04:25 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 04:25 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	04/06/11 04:25 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	04/06/11 04:25 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:25 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 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
 N Parameter not NELAC certified
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
 Lab ID: 1104021-04
 Collection Date: 03/31/11 03:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Hexachlorobutadiene	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 04:25 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:25 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	04/06/11 04:25 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 04:25 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 04:25 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:25 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:25 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 04:25 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 04:25 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	04/06/11 04:25 PM
Surr: 1,2-Dichloroethane-d4	105	0	70 - 120		%REC	1	04/06/11 04:25 PM
Surr: 4-Bromofluorobenzene	99.9	0	75 - 120		%REC	1	04/06/11 04:25 PM
Surr: Dibromofluoromethane	102	0	85 - 115		%REC	1	04/06/11 04:25 PM
Surr: Toluene-d8	98.8	0	85 - 120		%REC	1	04/06/11 04:25 PM
Anions by IC method - Water		E300					Analyst: JBC
Chloride	14.7	0.300	1.00		mg/L	1	04/04/11 12:10 PM
Sulfate	49.4	1.00	3.00		mg/L	1	04/04/11 12:10 PM
Alkalinity		M2320 B					Analyst: JBC
Alkalinity, Bicarbonate (As CaCO3)	79.9	10.0	20.0		mg/L	1	04/04/11 10:33 AM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:33 AM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	04/04/11 10:33 AM
Alkalinity, Total (As CaCO3)	79.9	10.0	20.0		mg/L	1	04/04/11 10:33 AM

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

DHL Analytical

Date: 04/13/11

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-09-0311
 Lab ID: 1104021-04
 Collection Date: 03/31/11 03:00 PM
 Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
pH		M4500-H+ B					Analyst: JBC
pH	7.42	0	0		pH Units	1	04/04/11 09:38 AM
Total Organic Carbon		M5310C					Analyst: TGK
Total Organic Carbon	<0.300	0.300	1.00		mg/L	1	04/04/11 06:14 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-TB-373-0311
 Lab ID: 1104021-05
 Collection Date: 03/31/11 03:00 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	04/06/11 03:37 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:37 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:37 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:37 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	04/06/11 03:37 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	04/06/11 03:37 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	04/06/11 03:37 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150	R	mg/L	1	04/06/11 03:37 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 03:37 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM

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

CLIENT: Zia Engineering & Environmental
 Project: MPL #3 Long-term Groundwater Monitoring
 Project No:
 Lab Order: 1104021

Client Sample ID: 0065-MW-TB-373-0311
 Lab ID: 1104021-05
 Collection Date: 03/31/11 03:00 PM
 Matrix: Trip Blank

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Hexachlorobutadiene	<0.00100	0.00100	0.00300		mg/L	1	04/06/11 03:37 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:37 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	04/06/11 03:37 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	04/06/11 03:37 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	04/06/11 03:37 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:37 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:37 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	04/06/11 03:37 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	04/06/11 03:37 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	04/06/11 03:37 PM
Surr: 1,2-Dichloroethane-d4	104	0	70 - 120		%REC	1	04/06/11 03:37 PM
Surr: 4-Bromofluorobenzene	100	0	75 - 120		%REC	1	04/06/11 03:37 PM
Surr: Dibromofluoromethane	100	0	85 - 115		%REC	1	04/06/11 03:37 PM
Surr: Toluene-d8	98.0	0	85 - 120		%REC	1	04/06/11 03:37 PM

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



756 S. Tebbot Blvd. Ste. F-201
 Las Cruces, NM 88011
 575-632-1526
 575-632-1507 F

375

#1101021

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.		PROJECT NAME			NO. OF CONTAINERS	ANALYSIS REQUESTED								REMARKS
SAMPLER'S SIGNATURE		MPL#3 Long-term Groundwater Monitoring				VOC	GRV	TOC	SVOC	DRO	Total Metals	Diss. Metals	Actions	
DATE	TIME	SAMPLE ID	MATRIX	LAB NO.										
01	3-31-11	1300	0065-MW-011-0311	WATER	16	X	X	X	X	X	X	X		
01	3-31-11	1300	0065-MW-011-0311-ASD WATER		16	X	X	X	X	X	X	X		
02	3-31-11	1300	0065-MW-TB-375-0311	WATER	2	X								

PROJECT INFORMATION	SAMPLES RECEIVED	4/10	1. RECEIVED BY: (SIGNATURE) <i>[Signature]</i> (PRINTED NAME) GABRIEL GARCIA	2. RECEIVED BY: (SIGNATURE) <i>[Signature]</i> (PRINTED NAME) Jillie Lee	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER	TOTAL NO. OF CONTAINERS	4/10	RECEIVED BY: (SIGNATURE) <i>[Signature]</i> (PRINTED NAME) Jed up	RECEIVED BY: (SIGNATURE) <i>[Signature]</i> (PRINTED NAME) Jillie Lee	(COMPANY)
SHIPPING ID NO.	GOOD CONDITION/CILLED	3.1	(TIME/DATE) 3/31/11	(TIME/DATE) 4/11/11	(TIME/DATE)
VIA: FEDEX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS: Please See Attached Analyte List For Details		

PLEASE USE BALL POINT PEN

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

CHAIN OF CUSTODY RECORD

PROJECT NO.		PROJECT NAME			NO. OF CONTAINERS	ANALYSIS REQUESTED									REMARKS
SAMPLER'S SIGNATURE		MPLS Long-term Groundwater Monitoring				VOC	SFO	TOC	SVOC	DEP	Total Metals	Diss. Metals	Anions		
DATE	TIME	SAMPLE ID	MATRIX	LAB NO.											
03 3-31-11	1415	0065-M00-RB-001-0311	WATER		16	X	X	X	X	X	X	X	X		
PROJECT INFORMATION		SAMPLER RECEIVED		1. RECEIVED BY: (SIGNATURE)			2. RELINQUISHED BY: (SIGNATURE)			3. RECEIVED BY LAB: (SIGNATURE)					
PROJECT MANAGER		TOTAL NO. OF CONTAINERS		RECEIVED BY: (PRINTED NAME)			RECEIVED BY: (PRINTED NAME)			RECEIVED BY: (PRINTED NAME)					
SHIPPING ID NO.		CHAIN OF CUSTODY SEALS		RECEIVED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE)					
VIA:		GOOD CONDITION/CILLED		(TIME/DATE)			(TIME/DATE)			(TIME/DATE)					
FEDEX		CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:											
		3.4		Please See Attached Analyte List For Details											

PLEASE USE BALL POINT PEN

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



755 S. Tebbel Blvd. Ste. F-201
 Las Cruces, NM 88011
 575-632-1626
 575-632-1987

373

#1104021

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.		PROJECT NAME				NO. OF CONTAINERS	ANALYSIS REQUESTED										REMARKS
SAMPLE NO.		DATE					VOC	CR6	TCC	SVOC	PCB	Total Metals	Trace Metals	ANIONS			
04		3-31-11	1500	0065-MW-009-0311	WATER	16	X	X	X	X	X	X	X	X			
05		3-31-11	1500	0065-MW-7B-373-0311	WATER	2	X										
PROJECT INFORMATION		SAMPLES RECEIVED		410	1. RELINQUISHED BY: (SIG NATURE) <i>Suan Padilla</i>		2. RELINQUISHED BY: (SIG NATURE) <i>Davis</i>		3. RECEIVED BY LAB: (SIG NATURE)								
PROJECT MANAGER		TOTAL NO. OF CONTAINERS		410	(PRINTED NAME) <i>Suan Padilla</i>		(PRINTED NAME) <i>Davis</i>		(PRINTED NAME)								
SHIPPING ID NO.		CHAIN OF CUSTODY SEALS		410	RECEIVED BY: (SIG NATURE) <i>Davis</i>		RECEIVED BY: (SIG NATURE) <i>[Signature]</i>		(COMMON)								
VIA FEDEX		GOOD CONDITION CHILLED		34	(TIME/DATE) 3/31/11		(TIME/DATE) 4/1/11 1620		(TIME/DATE)								
		CONFIRMS TO RECORD		<i>[Signature]</i>	SPECIAL INSTRUCTIONS / COMMENTS: Please See Attached Analyte List For Details												

PLEASE USE BALL POINT PEN

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