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US EPA RECORDS CENTER REGION 5

548211

Lake Calumet Cluster Site

DATA REVIEW

Chicago, Illinois

Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides, Polychlorinated Biphenyls (PCBs), Metals, and Miscellaneous General Chemistry Analyses

SDGs #500-123839-1, 500-123839-2, 500-123929-1, 500-123929-2, 500-123998-1, and 500-123998-2

Analyses Performed By:
TestAmerica Laboratories, Inc.
Chicago, Illinois

Report #27268R
Review Level: Tier III
Project: CI001805.0002.00005

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Groups (SDGs) #500-123839-1, 500-123839-2, 500-123929-1, 500-123929-2, 500-123998-1, and 500-123998-2 for samples collected in association with the Lake Calumet Cluster Site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data as reported by the laboratory 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 chains of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
						VOC	SVOC	Pest/ PCB	MET	MISC	Dslvd Gases
5001238391/ 5001238392	MW-10-GW-02142017	500-123839-1	Water	02/14/2017		X	X	X	X	X	X
	MW-09-GW-02142017	500-123839-2	Water	02/14/2017		X	X	X	X	X	X
	MW-08-GW-02142017	500-123839-3	Water	02/14/2017		X	X	X	X	X	X
	DUP-2-02142017	500-123839-4	Water	02/14/2017	MW-08-GW-02142017	X	X	X	X	X	X
5001239291\ 5001239292	MW-07-GW-02142017	500-123929-1	Water	02/14/2017		X	X	X	X	X	X
	MW-06-GW-02152017	500-123929-2	Water	02/15/2017		X	X	X	X	X	X
	MW-05-GW-02152017	500-123929-3	Water	02/15/2017		X	X	X	X	X	X
	MW-04-GW-02152017	500-123929-4	Water	02/15/2017		X	X	X	X	X	X
5001239981/ 5001239982	MW-03-GW-02152017	217480001	Water	02/15/2017		X	X	X	X	X	X
	MW-02-GW-02152017	217480002	Water	02/15/2017		X	X	X	X	X	X
	MW-01-GW-02162017	217480003	Water	02/16/2017		X	X	X	X	X	X
	MW-13-GW-02162017	217480004	Water	02/16/2017		X	X	X	X	X	X
	MW-11-GW-02162017	217480005	Water	02/16/2017		X	X	X	X	X	X

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
						VOC	SVOC	Pest/ PCB	MET	MISC	Dslvd Gases
	DUP-1-02162017	217480006	Water	02/16/2017	MW-01-GW-02162017						

Dslvd = dissolved

Notes:

1. Misc - Miscellaneous parameters include sulfate, sulfide, total organic carbon (TOC), total suspended solids (TSS), ammonia, nitrate and nitrite analyses.
2. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample locations DUP-2-02142017 (SDG #5001238391 and 5001238392); MW-04-GW-02152017 (SDG #5001239291 for metals and TOC analysis only).

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 Quality Assurance (QA) or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 8260B, 8270D, 8081B, 8082A, and Method AM20GAx (Dissolved gases). Data were reviewed in accordance with *USEPA National Functional Guidelines for Organic Data Review* (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.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - UB Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected; the analyte may or may not be present in the sample.

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 8260B	Water	14 days from collection to analysis (preserved)	Cool to < 6 °C; pH < 2 with HCl

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.

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

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and system performance and column resolution were acceptable. All analyses were performed within 12 hours of the associated tune analysis.

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration Verification (ICV)

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration Verification (CCV)

Each target compound associated with the continuing calibration standard must exhibit a RRF value greater than control limit (0.05) and a percent difference (%D) from the initial calibration within the control limit (20%).

All compounds associated with the calibrations were within the specified control limits, except for the compounds presented in the following table.

SDG	Samples	Initial/ Continuing	Compound	Criteria
500-123839-1	MW-10-GW-02142017 MW-09-GW-02142017 MW-08-GW-02142017 DUP-2-02142017	CCV	Acetone	-23.6%
			Methyl Ethyl Ketone	-20.9%
500-123929-1	MW-04-GW-02152017 MW-05-GW-02152017 MW-06-GW-02152017 MW-07-GW-02142017	CCV	Carbon disulfide	-20.2
500-123998-1	MW-01-GW-02162017 MW-13-GW-02162017 DUP-1-02162017	CCV	Dichlorodifluoromethane	-23.8
			Chloroethane	-32.0%
	MW-03-GW-02152017 MW-02-GW-02152017 MW-11-GW-02162017	CCV	Acetone	-34.3%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibrations	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibrations	%RSD > 15% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibrations	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

5. 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.

Samples associated with surrogates exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Surrogate	Recovery
SDG 500-123998-1 DUP-1-02162017	4-Bromofluorobenzene	AC
	Dibromofluoromethane	< 10%
	1,2-Dichloroethane-d4	AC
	Toluene-d8	AC

Notes:

AC = Acceptable

The laboratory noted the following: "One surrogate recovery for the following sample was outside control limits: DUP-1-02162017 (500-123998-6). Evidence of matrix interference is present (basic pH); therefore, re-analysis was not performed".

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

Control Limit	Sample Result	Qualification
> UL (Upper Control Limit)	Non-detect	No Action
	Detect	J
< LL (Lower Control Limit) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
D - Surrogates diluted below the calibration curve	Non-detect	UJ[1]
	Detect	J[1]

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within the control limits.

7. 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 samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSDs exhibited acceptable recoveries and RPDs.

8. Laboratory Control Sample (LCS) Analysis

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

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

9. Field Duplicate Sample Analysis

The field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SDG #500-123839-1 MW-08-GW-02142017/ DUP-2-02142017	Acetone	5.7	5.0 U	AC
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	Acetone	55.0	59.0	7.0%
	Benzene	30	30	0.0%
	1,2-Dichlorobenzene	1.8	1.7	5.7%
	1,4-Dichlorobenzene	3.6	3.6	AC
	2-Butanone (MEK)	46.0	45.0	2.2%
	Vinyl chloride	0.48 J	0.45 J	AC
	Toluene	11.0	11.0	0.0%
	Chlorobenzene	5.8	5.7	1.7%
	Cyclohexane	1.6	1.5	AC
	Methylcyclohexane	1.8	1.9	AC
	Total Xylenes	23.0	24.0	4.3%
	Ethylbenzene	24.0	25.0	4.1%
	Isopropylbenzene	14.0	13.0	7.4

AC = acceptable

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

10. Compound Identification

A positive identification of a target compound is made when the relative retention time (RRT) is within ±0.06 RRT units of the compound's RRT in the associated calibration standard and the mass spectrum of the compound matches the compound's mass spectrum in the associated calibration standard within the method-specified criteria.

All identified compounds met the specified criteria.

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
SDG #500-123998-1 MW-03-GW-02152017	Chlorobenzene	--	480 D	--
MW-13-GW-02162017	Toluene	--	2600 D	--
	Xylenes, Total	--	8400 D	--

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

11. 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
Laboratory Control Sample (LCS) Accuracy (%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	
Laboratory Duplicate Sample RPD		X		X	
Field Duplicate Sample RPD		X		X	
Surrogate Spike %R		X	X		
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

DISSOLVED GASES ANALYSES

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
AM20GAX	Water	14 days from collection to analysis	Cool to <6 °C; pH > 10

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.

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

3. Calibration

Satisfactory instrument calibration is established to Ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a correlation coefficient greater than 0.995.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified 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 recoveries within the laboratory-established

acceptance limits. The relative percent difference (RPD) between the MS and MSD results must be within the laboratory-established acceptance limits.

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

The MS/MSD analysis was not performed on a sample from within these SDGs.

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

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

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

6. Field Duplicate Sample Analysis

The field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SDG #500-123839-2 MW-08-GW-02142017/ DUP-2-02142017	Methane	15000	15000	0.0%
	Carbon Dioxide	220	230	4.4%
	Oxygen	2.5	2.9	14.8%
	Nitrogen	8.8	10	AC
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	Methane	20000	21000	4.9%
	Nitrogen	10.0	10.0	0.0%
	Oxygen	3.4	3.4	0.0%

AC = Acceptable

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

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 DISSOLVED GASES

DISSOLVED GASES: AM20GAx	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Gas Chromatography/Thermal Conductivity Detector (GC/TCD)					
Tier II Validation					
Holding times/Temperature/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method/Calibration blanks		X		X	
B. Equipment blanks					X
C. Trip blanks					X
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) (%R)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike Sample (MS) (%R)		X		X	
Matrix Spike Duplicate Sample (MSD) (%R)		X		X	
MS/MSD Precision (RPD)		X		X	
Laboratory Duplicate Sample (RPD)		X		X	
Field Duplicate Sample (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration correlation coefficients		X		X	
Continuing calibration RRFs					X
Continuing calibration %Ds		X		X	
Compound identification and quantitation		X		X	
A. Chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D 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 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to < 6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

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

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

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

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and system performance and column resolution were acceptable. All analyses were performed within 12 hours of the associated tune analysis.

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/ Continuing	Compound	Criteria
SDG 500-123929-1 MW-04-GW-02152017 MW-05-GW-02152017 MW-06-GW-02152017 MW-07-GW-02142017	ICV %RSD	Benzaldehyde	-28.4%
	CCV %D	Hexachlorocyclopentadiene	-26.0%
		Carbazole	-20.8%
SDG 500-123998-1 MW-13-GW-02162017 MW-11-GW-02162017 DUP-1-02162017	CCV %D	Benzaldehyde	-30.9%
		Pentachlorophenol	-44.5%
		Carbazole	-22.2%
SDG 500-123998-1 MW-03-GW-02152017 MW-02-GW-02152017	CCV %D	Hexachlorocyclopentadiene	-26.0%
		Carbazole	-20.8%
SDG 500-123998-1 MW-01-GW-02162017	CCV %D	Benzaldehyde	-40.2%
		Hexachlorocyclopentadiene	-31.6%
		Pentachlorophenol	-20.8%
		3-Nitroaniline	22.1%
		Dibenz(a,h)anthracene	20.8%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:
1 RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

5. 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.

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

Sample Locations	Surrogate	Recovery
SDG #500-123929-1 MW-06-GW-02152017	Phenol-d6	AC
	2-Fluorophenol	AC
	2,4,6-Tribromophenol	AC
	Nitrobenzene-d5	<LL but > 10%
	2-Fluorobiphenyl	AC
	Terphenyl-d14	AC

Notes:
LL = Lower control limit
AC = Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Control Limit	Sample Result	Qualification
Surrogates diluted below the calibration curve due to the high concentration of a target compounds	Non-detect	J[1]
	Detect	

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the SVOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

Sample locations associated with internal standards exhibiting responses outside of the control limits are presented in the following table.

Sample Locations	Internal Standard	Response
SDG 500-123929-1 MW-07-GW-02142017 MW-06-GW-02152017	1,4-Dichlorobenzene-d4	AC
	Naphthalene-d8	AC
	Acenaphthene-d10	AC
	Phenanthrene-d10	AC
	Chrysene-d12	AC
	Perylene-d12	< 25%
SDG 500-123998-1 MW-13-GW-02162017	1,4-Dichlorobenzene-d4	AC
	Naphthalene-d8	AC
	Acenaphthene-d10	AC
	Phenanthrene-d10	AC
	Chrysene-d12	AC
	Perylene-d12	< LL but > 25%

Note:

AC = Acceptable

The criteria used to evaluate the internal standard responses are presented in the following table. In the case of an internal standard deviation, the compounds quantitated under the deviant internal standard 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 > 25%	Non-detect	UJ
	Detect	J

Control limit	Sample Result	Qualification
< 25%	Non-detect	R
	Detect	J

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

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

Note: The MS/MSD recovery control limits do not apply for MS/MSDs performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

The MS/MSD analysis was not performed on a sample associated with these SDGs.

8. 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 spiked compounds used in the LCS/LCSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The relative percent difference (RPD) between the LCS and LCSD results must be within the laboratory-established acceptance limits.

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

Sample Locations	Compound	LCS Recovery	LCSD Recovery
SDG #5001238391 MW-10-GW-02142017 MW-09-GW-02142017 MW-08-GW-02142017 DUP-2-02142017	2-Chlorophenol	AC	<LL but >10%
	2,4-Dichlorophenol		<LL but >10%
	4,6-Dinitro-2-methylphenol		<LL but >10%
	2-Nitrophenol		<LL but >10%
	Pentachlorophenol		<LL but >10%
	2,4,5-Trichlorophenol		<LL but >10%
	2,4,6-Trichlorophenol		<LL but >10%
SDG 5001239291 MW-04-GW-02152017 MW-05-GW-02152017 MW-06-GW-02152017 MW-07-GW-02142017	Carbazole	AC	>UL

Sample Locations	Compound	LCS Recovery	LCSD Recovery
SDG 5001239291 MW-03-GW-02152017 MW-02-GW-02152017 MW-01-GW-02162017 MW-11-GW-02162017 DUP-1-02162017	Carbazole	AC	>UL
SDG 5001239291 MW-13-GW-02162017	4-Bromophenyl phenyl ether	<LL but >10%	AC

AC = acceptable

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD 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

Samples associated with LCS/LCSDs exhibiting RPDs greater than the control limit are presented in the following table.

Sample Locations	Compound
SDG #500-123839-1 MW-10-GW-02142017 MW-09-GW-02142017 MW-08-GW-02142017 DUP-2-02142017	2-Chlorophenol
	2,4-Dichlorophenol
	4,6-Dinitro-2-methylphenol
	2,4-Dinitrophenol
	Hexachlorobutadiene
	Hexachloroethane
	3-Nitroaniline
	2-Nitrophenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol
	2,4,5-Trichlorophenol

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

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

9. Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SDG #500-123839-1 MW-08-GW-02142017/ DUP-2-02142017	3 & 4 Methylphenol	1.5 U	0.33 J	AC
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	2,4-Dimethylphenol	6.7 J	5.5 J	AC
	2-Methylnaphthalene	5.5	4.3	AC
	2-Methylphenol	1.5	1.4 J	AC
	4-Methyl-2-Pentanone	99	99	0.0%
	4-Methylphenol	6.6	6.3	4.7%
	Acenaphthene	8.1	8.1	0.0%
	Carbazole	6.4	4.3	AC
	Anthracene	0.26 J	U	AC
	Di-n-butyl phthalate	U	0.75 J	AC
	Dibenzofuran	1.4 J	1.3 J	AC
	Fluorene	2.6	2.4	AC
	Naphthalene	130	120	8.0%
	p-Chloroaniline	13	7.4 U	0.0%
	Phenanthrene	1.3	1.2	AC

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Phenol	72	96	28.6%
	3 & 4 Methylphenol	6.6	6.3	AC

AC Acceptable

The field duplicate samples exhibited acceptable results.

10. Compound Identification

A positive identification of a target compound is made when the relative retention time (RRT) is within ±0.06 RRT units of the compound's RRT in the associated calibration standard and the mass spectrum of the compound matches the compound's mass spectrum in the associated calibration standard within the method-specified criteria.

All identified compounds met the specified criteria.

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
SDG #500-123929-1 MW-07-GW-02142017	Bis(2-ethylhexyl) phthalate	--	170 D	170 D
	2,4-Dimethylphenol	--	340 D	340 D
SDG #500-123929-1 MW-06-GW-02152017	2,4-Dimethylphenol	--	93 D	93 D
SDG #500-123998-1 MW-03-GW-02152017	Carbazole	--	71 D	71 D
	2-Methylnaphthalene	--	150 D	150 D
	Naphthalene	--	870 D	870 D
SDG #500-123998-1 MW-02-GW-02152017	2-Methylnaphthalene	--	100 D	100 D
	Naphthalene	--	73 D	73 D
SDG #500-123998-1 MW-01-GW-02162017	Naphthalene	--	130 D	130 D
	Phenol	--	72 D	72 D
SDG #500-123998-1 DUP-1-02162017	Naphthalene	--	120 D	120 D
	Phenol	--	96 D	96 D
SDG #500-123998-1 MW-13-GW-02162017	Naphthalene	--	190 D	190 D

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

11. 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 8270D	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
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	
Laboratory Duplicate Sample RPD		X		X	
Field Duplicate Sample RPD		X		X	
Surrogate Spike Recoveries		X	X		
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard response		X	X		
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Quantitation transcriptions/calculations		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

PESTICIDES 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 8081B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to < 6 °C

The analyses that exceeded the holding are presented in the following table.2-14

Sample Locations	Holding Time	Criteria
SDG 500-123929-1 MW-07-GW-02142017 (RE)	8 days (extraction completed)	<7 Days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8081 were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

Note: Sample MW-07-GW-02142017 exhibited surrogate recoveries less than the control limit and less than 10 percent. The sample was re-extracted slightly outside holding time as indicated in table above. Therefore, the re-extracted and re-analyzed sample is recommended for reporting and qualified as estimate due to holding time deviation.

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. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99.

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%).

All compounds associated with the initial and continuing calibrations were within the specified control limits.

5. 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. Pesticide analysis requires that at least one of the two pesticide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

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

Sample Locations	Surrogate	Recovery
SDG 500-123929-1	Tetrachloro-m-xylene	< LL but > 10%
MW-07-GW-02142017	Decachlorobiphenyl	<10%
SDG 500-123929-1	Tetrachloro-m-xylene	AC
MW-07-GW-02142017 (RE)	Decachlorobiphenyl	< LL but > 10%
SDG 500-123929-1	Tetrachloro-m-xylene	AC
MW-06-GW-02152017	Decachlorobiphenyl	< LL but > 10%
SDG 500-123929-1	Tetrachloro-m-xylene	< LL but > 10%
MW-04-GW-02152017	Decachlorobiphenyl	AC

Notes:
Acceptable (AC)

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction 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
One surrogate exhibiting recovery outside the control limits but > 10%	Non-detect	No Action
	Detect	
Surrogates diluted below the calibration curve due to the high concentration of a target compound.	Non-detect	J[1]
	Detect	

Note:

Note: Sample MW-07-GW-02142017 exhibited surrogate recoveries less than the control limit and less than 10 percent. The sample was re-extracted slightly outside holding time as indicated in table above. Therefore, the re-extracted and re-analyzed sample is recommended for reporting and qualified as estimate due to holding time deviation.

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

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

Note: The MS/MSD recovery control limits do not apply for MS/MSDs performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

The MS/MSD analysis was not performed on a sample from within these SDGs.

7. 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 spiked compounds used in the LCS/LCSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The RPD between the LCS and LCSD results must be within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analyses exhibited recoveries and RPDs within the control limits.

8. Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for the field duplicate samples are summarized in the following table.

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SDG 500-123839-1 MW-08-GW-02142017/ DUP-2-02142017	All compounds	0.036 U	0.037 U	AC
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	All compounds	0.037 U	0.038 U	AC

AC Acceptable

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

9. Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 40%.

Target compounds were not detected in any of the samples.

10. 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 PESTICIDES

PESTICIDES: SW-846 8081B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Gas Chromatography (GC/ECD)					
Tier II Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					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
Laboratory Duplicate Sample RPD	X				X
Field Duplicate Sample RPD		X		X	
Surrogate Spike Recoveries		X	X		
Column %D $\leq$ 40% (If dual column is performed for reporting - not confirmation)	X				X
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation		X		X	
A. Quantitation Reports		X		X	
B. RT of sample compounds within the established RT windows		X		X	
C. Identification/confirmation		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD – relative standard deviation
%R - percent recovery
RPD - relative percent difference
%D – difference.

POLYCHLORINATED BIPHENYLS (PCBs) 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 8082A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

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

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

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

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%).

All Aroclors associated with the calibrations were within the specified control limits.

5. 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. PCB

analysis requires that one of the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

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

Sample Locations	Surrogate	Recovery
SDG 500-123929-1	Tetrachloro-m-xylene	< LL but > 10%
MW-07-GW-02142017	Decachlorobiphenyl	< LL but > 10%
SDG 500-123929-1	Tetrachloro-m-xylene	AC
MW-06-GW-02152017	Decachlorobiphenyl	< LL but > 10%

Notes:
AC = Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction 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
One surrogate exhibiting recovery outside the control limits but > 10%	Non-detect	No Action
	Detect	
Surrogates diluted below the calibration curve due to the high concentration of a target compound.	Non-detect	J[1]
	Detect	

Note:

Note: Sample MW-07-GW-02142017 exhibited surrogate recoveries less than the control limit and less than 10 percent. The sample was re-extracted slightly outside holding time as indicated in table above. Therefore, the re-extracted and re-analyzed sample is recommended for reporting and qualified as estimate due to holding time deviation.

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

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

Note: The MS/MSD recovery control limits do not apply for MS/MSDs performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

The MS/MSD analysis was not performed on a sample from within these SDGs.

7. 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 spiked compounds used in the LCS/LCSD analysis must exhibit recoveries within the laboratory-established acceptance limits. The RPD between the LCS and LCSD results must be within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analyses exhibited recoveries and RPDs within the control limits. However, sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
SDG 500-123929-1 MW-04-GW-02152017 MW-05-GW-02152017 MW-06-GW-02152017 MW-07-GW-02142017	PCB-1260

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

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

8. Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID / Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
SDG 500-123929-1 MW-08-GW-02142017/ DUP-2-02142017	All Aroclors	0.36 U	0.37 U	AC

Sample ID / Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
SDG #500-123998-1				
MW-01-GW-02162017/ DUP-1-02162017	All Aroclors	0.37 U	0.38 U	AC

AC Acceptable

The field duplicate samples exhibited acceptable results.

9. Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 40%.

All detected Aroclors exhibited acceptable %Ds between the primary and confirmation columns.

10. 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 PCBS

PCBs: SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Gas Chromatography (GC/ECD)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks					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
Laboratory Duplicate Sample RPD	X				X
Field Duplicate Sample RPD		X		X	
Surrogate Spike Recoveries		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation		X		X	
A. Quantitation Reports		X		X	
B. RT of sample compounds within the established RT windows		X		X	
C. Pattern identification		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		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 Methods 6010C, 7470A, 9034, 9038, and 9060A, and Standard Methods (SM) 2540D, 4500-NH3-G, 4500-NO2-B, and 4500-NO3-F. Data were reviewed in accordance with *USEPA National Functional Guidelines for Inorganic Data Review* (October 2004).

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.
  - J The reported value was obtained from a reading less than the reporting limit (RL), but greater than or equal to the method detection limit (MDL).
- Quantitation (Q) Qualifiers
  - E The reported value is estimated due to the presence of interference.
  - N Spiked sample recovery is not within the control limits.
  - * Duplicate analysis is not within the 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 reporting 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 6010C	Water	180 days from collection to analysis	Cool to < 6 °C; pH < 2 with HNO_3
SW-846 7470A	Water	28 days from collection to analysis	Cool to < 6 °C; pH < 2 with HNO_3

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 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. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration

The initial calibration must exhibit a correlation coefficient greater than 0.995. A technical review of the data applies limits to all analytes with no exceptions.

3.2 Continuing Calibration

All target analytes associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (10%).

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within the control limits.

All initial and continuing calibration verification standards were within the control limits.

3.3 Reporting limit (RL) Check Standard

The RL check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The RL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), or potassium (K). The RL check standard must exhibit recoveries between 70-130% (50-150% for antimony (Sb), lead (Pb), and thallium (Tl)).

All RL standard recoveries were within control limits.

3.4 ICP Interference Check Sample (ICS)

The ICS verifies the laboratory's interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

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

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

4.1 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 samples 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 flag will be removed.

The MS/MSD analysis was not performed on a sample from within these SDGs.

4.2 Laboratory Duplicate Sample Analysis

The laboratory duplicate sample relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to five times the RL. A control limit of 20% for water 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 five times the RL, a control limit of one times the RL is applied to the difference between the results for water matrices.

The laboratory duplicate sample analysis was not performed All analytes associated with MS/MSD recoveries were within control limits with the exception of the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
SDG 500-123929-1 MW-04-GW-02152017	Selenium	AC (75%)	70%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

5. Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied to the difference between the results for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
SDG 500-123839-1 MW-08-GW-02142017/ DUP-2-02142017	Barium (dissolved)	0.65	0.65	0.0%
	Barium (total)	0.67	0.68	1.5%
	Cadmium (total)	0.00094 J	0.0011 J	AC
	Calcium (total)	120	120	0.0%
	Calcium (dissolved)	120	120	0.0%
	Copper (total)	0.0022 J	0.010 U	AC
	Iron (total)	11.0	11.0	0.0%
	Iron (dissolved)	11.0	11.0	0.0%
	Magnesium (dissolved)	87.0	88.0	1.1%
	Magnesium (total)	91.0	92.0	1.1%
	Manganese (dissolved)	0.18	0.18	0.0%
	Manganese (total)	0.18	0.19	5.4%
	Potassium (dissolved)	35.0	35.0	0.0%
	Potassium (total)	36.0	37.0	2.7%
	Sodium (dissolved)	240	240	0.0%
	Sodium (total)	240	250	4.1%

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
	Zinc (total)	0.020 U	0.017 J	AC
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	Aluminum (total)	0.21	0.22	AC
	Aluminum (dissolved)	0.34	0.33	3.0%
	Antimony (dissolved)	0.0068 J	0.020 U	AC
	Arsenic (dissolved)	0.0038 J	0.0066 J	AC
	Arsenic (total)	0.0046 J	0.0048 J	AC
	Barium (total)	0.45	0.47	4.3%
	Barium (dissolved)	0.46	0.45	2.2%
	Calcium (dissolved)	510	500	2.0%
	Calcium (total)	510	530	3.8%
	Iron (dissolved)	0.20 U	0.12 J	AC
	Lead (total)	0.0050 U	0.0025 J	AC
	Lead (dissolved)	0.0027 J	0.0025 J	AC
	Magnesium (dissolved)	1.7	1.7	AC
	Nickel (dissolved)	0.016	0.015	AC
	Nickel (total)	0.016	0.016	AC
	Potassium (total)	50	50	0.0%
	Potassium (dissolved)	51	50	2.0%
	Sodium (dissolved)	210	210	0.0%
	Sodium (total)	210	220	4.7%

Notes:

AC = Acceptable

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

6. 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 recoveries between the control limits of 80% and 120%. The relative percent difference (RPD) between the LCS and LCSD results must be no greater than the established acceptance limit of 20%.

All analytes associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

7. Serial Dilution (SD) Analysis

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

All analytes associated with the serial dilution analyses exhibited %Ds within the control limits except for those presented in the following table.

Sample Locations	Analytes	Serial Dilution (%D)
SDG 500-123839-1 DUP-2-02142017	Barium (total)	24%
	Calcium (total)	27%
	Iron (total)	29%
	Magnesium (total)	23%
	Manganese (total)	27%
	Potassium (total)	23%
	Sodium (total)	24%
SDG 500-123929-1 MW-04-GW-02152017	Calcium (dissolved)	17%
	Magnesium (dissolved)	15%
	Manganese (dissolved)	17%
	Potassium (dissolved)	14%
	Sodium (dissolved)	16%

The criteria used to evaluate SD recoveries are presented in the following table. In the case of SD exceedance, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
SD %D > 10%	Non-detect	UJ
	Detect	J

8. Assessment of Dissolved versus Total Results

The results for dissolved metal analytes should be less than 120% of the associated total metal result for those analytes that are at least five times the reporting limit (RL).

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

9. 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 6010C and 7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks					X
Laboratory Control Sample (LCS)		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	
Laboratory Duplicate Sample RPD		X		X	
Field Duplicate Sample RPD		X		X	
ICP Serial Dilution %D		X	X		
Total vs. Dissolved		X		X	
Tier III Validation					
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
RL Standard Recovery		X		X	
ICP Interference Check		X		X	
ICP-MS Internal Standards					X
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%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
Ammonia-N by SM 4500-NH3-G	Water	28 days from collection to analysis	Cool to < 6 °C; pH of < 2
Nitrite-N by SM 4500-NO2-B	Water	48 hours from collection to analysis	Cool to < 6 °C
Nitrate+Nitrite as N by SM 4500-NO3-F	Water	28 days from collection to analysis	Cool to < 6 °C; pH of < 2
Sulfate by SW-846 9038A	Water	28 days from collection to analysis	Cool to < 6 °C.
Sulfide by SW-846 9034	Water	7 days from collection to analysis	Cool to < 6 °C.
Total Organic Carbon (TOC) by SW-846 9060A	Water	28 days from collection to analysis	Cool to < 6 °C; pH of < 2
Total Suspended Solids (TSS) by SM 2540D	Water	7 days from collection to analysis	Cool to < 6 °C

The analyses that exceeded the holding time are presented in the following table; all other holding times were met.

Samples	Analysis	Holding Time	Criteria
SDG 500-123839-1 MW-10-GW-02142017 MW-09-GW-02142017 MW-08-GW-02142017 DUP-2-02142017	Nitrite-N by SM 4500-NO2-B	> 48 Hours but < 96 Hours	< 48 Hours

Note: Due to the tendency of nitrite converting into nitrate, nitrate results for samples analyzed greater than 48 hours after collection should be considered as nitrate+nitrite. The nitrite results for the samples which were analyzed for nitrate after 48 hours (but within 28 days) were non-detects. Therefore, the nitrate results do not require qualification.

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 is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

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

Samples	Analyte	Sample Result	Qualification
SDG 500-123839-1 MW-08-GW-02142017 DUP-2-02142017 **SDG 500-123929-1** MW-05-GW-02152017 **SDG 500-123998-1** MW-02-GW-02152017	Sulfate	Detected sample results < RL and < BAL	"UB" at the RL
SDG 500-123839-1 MW-09-GW-0214201 **SDG 500-123929-1** MW-06-GW-02152017 **SDG 500-123998-1** MW-03-GW-02152017 MW-11-GW-02162017		Detected sample results > RL and < BAL	"UB" at detected sample concentration

RL = reporting limit

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within the control limits.

All calibration standard recoveries were within the control limit.

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

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

4.1 MS/MSD Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. All metal analytes must exhibit recoveries within the established acceptance limits of 75% to 125%. The relative percent difference (RPD) between the MS and MSD results must be no greater than the established acceptance limit of 20%. The MS/MSD control limits do not apply for MS/MSDs performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD spiking concentration by a factor of four or greater. In instance where this is true, the data will not be qualified and any laboratory qualifiers will be removed. Sample results associated with MS/MSD exceedances where the parent samples are not site-specific are not qualified.

All analytes associated with MS/MSD recoveries were within control limits with the exception of the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
SDG 500-123929-1 MW-04-GW-02152017	TOC	62%	60%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

4.2 Laboratory Duplicate Sample Analysis

The laboratory duplicate sample RPD criterion is applied when parent and duplicate sample concentrations are at least five times the RL. A control limit of 20% for water 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 five times the RL, a control limit of one times the RL is applied to the difference between the results for water matrices.

MS/MSD analysis was performed in addition of the laboratory duplicate sample analysis. The MS/MSD recoveries and laboratory duplicate exhibited acceptable RPD.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water 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 five times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
SDG 500-123839-1 MW-08-GW-02142017/ DUP-2-02142017	Total Organic Carbon	15	15	0.0%
	Total Suspended Solids	24	26	8.0%
	Ammonia Nitrogen	36	37	2.7%

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
SDG #500-123998-1 MW-01-GW-02162017/ DUP-1-02162017	Ammonia Nitrogen	49	49	0.0
	Total Organic Carbon 2	31.0	30.0	3.3
	Total Suspended Solids	29.0	24.0	18.9
	Sulfide	0.98 J	3.5	NC

NC = Non-compliant

The analyte sulfide associated with samples locations MW-01-GW-02162017 and DUP-1-02162017 exhibited a field duplicate RPD greater than the control limit. The associated sample results from sample locations for the listed analyte were qualified as estimated.

6. Laboratory Control Sample (LCS) Analysis

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

The LCS analyses exhibited recoveries within the control limits.

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 GENERAL CHEMISTRY

General Chemistry: EPA 353.2, SW-846 9034, 9038, 9060A, SM 2540D, 4500-NH3-G, 4500-NO2-B, and 4500-NO3-F	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
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	
Laboratory Duplicate Sample RPD		X		X	
Field Duplicate Sample RPD		X	X		
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data		X		X	
Transcription/calculation errors present		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

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

VALIDATION PERFORMED BY: Todd Church

SIGNATURE:

DATE: March 15, 2017

PEER REVIEW: Dennis Capria

DATE: March 17, 2017

CHAIN OF CUSTODY

CORRECTED SAMPLE ANALYSIS DATA SHEETS

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-10-GW-02142017

Date Collected: 02/14/17 08:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<5.0	J	5.0	1.7	ug/L			02/16/17 19:33	1
Benzene	<0.50		0.50	0.15	ug/L			02/16/17 19:33	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/16/17 19:33	1
Bromoform	<1.0		1.0	0.48	ug/L			02/16/17 19:33	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/16/17 19:33	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/16/17 19:33	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/16/17 19:33	1
Chlorobenzene	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/16/17 19:33	1
Chloroform	<2.0		2.0	0.37	ug/L			02/16/17 19:33	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/16/17 19:33	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/16/17 19:33	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/16/17 19:33	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/16/17 19:33	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/16/17 19:33	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/16/17 19:33	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
1,2-Dichlorobenzene	<1.0		1.0	0.33	ug/L			02/16/17 19:33	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/16/17 19:33	1
1,4-Dichlorobenzene	<1.0		1.0	0.36	ug/L			02/16/17 19:33	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/16/17 19:33	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/16/17 19:33	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/16/17 19:33	1
Ethylbenzene	<0.50		0.50	0.18	ug/L			02/16/17 19:33	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/16/17 19:33	1
Isopropylbenzene	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/16/17 19:33	1
Methylcyclohexane	<1.0		1.0	0.32	ug/L			02/16/17 19:33	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/16/17 19:33	1
Methyl Ethyl Ketone	<5.0	J	5.0	2.1	ug/L			02/16/17 19:33	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/16/17 19:33	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
Styrene	<1.0		1.0	0.39	ug/L			02/16/17 19:33	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/16/17 19:33	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/16/17 19:33	1
Toluene	<0.50		0.50	0.15	ug/L			02/16/17 19:33	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/16/17 19:33	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/16/17 19:33	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/16/17 19:33	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/16/17 19:33	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/16/17 19:33	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/16/17 19:33	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/16/17 19:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/16/17 19:33	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/16/17 19:33	1
Xylenes, Total	<1.0		1.0	0.22	ug/L			02/16/17 19:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-10-GW-02142017

Date Collected: 02/14/17 08:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*71 - 120*		*02/16/17 19:33*	*1*
Dibromofluoromethane	*94*		*70 - 120*		*02/16/17 19:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 127*		*02/16/17 19:33*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*02/16/17 19:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 17:13	1
Acenaphthylene	<0.73		0.73	0.19	ug/L		02/15/17 08:59	02/15/17 17:13	1
Acetophenone	<3.6		3.6	0.48	ug/L		02/15/17 08:59	02/15/17 17:13	1
Anthracene	<0.73		0.73	0.24	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzo[a]anthracene	<0.15		0.15	0.041	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzo[a]pyrene	<0.15		0.15	0.072	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzo[g,h,i]perylene	<0.73		0.73	0.27	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/15/17 08:59	02/15/17 17:13	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 17:13	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 17:13	1
Bis(2-ethylhexyl) phthalate	**1.3**	**J**	7.3	1.2	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Bromophenyl phenyl ether	<3.6		3.6	0.39	ug/L		02/15/17 08:59	02/15/17 17:13	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/15/17 08:59	02/15/17 17:13	1
Carbazole	<3.6		3.6	0.26	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Chloro-3-methylphenol	<7.3		7.3	1.7	ug/L		02/15/17 08:59	02/15/17 17:13	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/15/17 08:59	02/15/17 17:13	1
2-Chlorophenol	<3.6	* J	3.6	0.41	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Chlorophenyl phenyl ether	<3.6		3.6	0.46	ug/L		02/15/17 08:59	02/15/17 17:13	1
Chrysene	<0.15		0.15	0.050	ug/L		02/15/17 08:59	02/15/17 17:13	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/15/17 08:59	02/15/17 17:13	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/15/17 08:59	02/15/17 17:13	1
3,3'-Dichlorobenzidine	<3.6		3.6	1.2	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4-Dichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 17:13	1
Diethyl phthalate	<1.5		1.5	0.26	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4-Dimethylphenol	<7.3		7.3	1.3	ug/L		02/15/17 08:59	02/15/17 17:13	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/15/17 08:59	02/15/17 17:13	1
Di-n-butyl phthalate	<3.6		3.6	0.53	ug/L		02/15/17 08:59	02/15/17 17:13	1
4,6-Dinitro-2-methylphenol	<15	* J	15	4.3	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4-Dinitrophenol	<15	* J	15	6.3	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/15/17 08:59	02/15/17 17:13	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/15/17 08:59	02/15/17 17:13	1
Fluoranthene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 17:13	1
Fluorene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 17:13	1
Hexachlorobenzene	<0.36		0.36	0.058	ug/L		02/15/17 08:59	02/15/17 17:13	1
Hexachlorobutadiene	<3.6	* J	3.6	0.38	ug/L		02/15/17 08:59	02/15/17 17:13	1
Hexachlorocyclopentadiene	<15		15	4.6	ug/L		02/15/17 08:59	02/15/17 17:13	1
Hexachloroethane	<3.6	* J	3.6	0.44	ug/L		02/15/17 08:59	02/15/17 17:13	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.054	ug/L		02/15/17 08:59	02/15/17 17:13	1
Isophorone	<1.5		1.5	0.27	ug/L		02/15/17 08:59	02/15/17 17:13	1
2-Methylnaphthalene	<1.5		1.5	0.047	ug/L		02/15/17 08:59	02/15/17 17:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-10-GW-02142017

Date Collected: 02/14/17 08:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.22	ug/L		02/15/17 08:59	02/15/17 17:13	1
3 & 4 Methylphenol	<1.5		1.5	0.33	ug/L		02/15/17 08:59	02/15/17 17:13	1
Naphthalene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 17:13	1
2-Nitroaniline	<3.6		3.6	0.94	ug/L		02/15/17 08:59	02/15/17 17:13	1
3-Nitroaniline	<7.3	* J	7.3	1.3	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/15/17 08:59	02/15/17 17:13	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 17:13	1
2-Nitrophenol	<7.3	* J	7.3	1.8	ug/L		02/15/17 08:59	02/15/17 17:13	1
4-Nitrophenol	<15	* J	15	5.4	ug/L		02/15/17 08:59	02/15/17 17:13	1
N-Nitrosodi-n-propylamine	<0.36		0.36	0.11	ug/L		02/15/17 08:59	02/15/17 17:13	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 17:13	1
Pentachlorophenol	<15	* J	15	2.9	ug/L		02/15/17 08:59	02/15/17 17:13	1
Phenanthrene	<0.73		0.73	0.22	ug/L		02/15/17 08:59	02/15/17 17:13	1
Phenol	<3.6	* J	3.6	0.49	ug/L		02/15/17 08:59	02/15/17 17:13	1
Pyrene	<0.73		0.73	0.31	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4,5-Trichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 17:13	1
2,4,6-Trichlorophenol	<3.6	* J	3.6	0.52	ug/L		02/15/17 08:59	02/15/17 17:13	1
Benzaldehyde	<29		29	11	ug/L		02/15/17 08:59	02/15/17 17:13	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/15/17 08:59	02/15/17 17:13	1
Atrazine	<3.6		3.6	0.46	ug/L		02/15/17 08:59	02/15/17 17:13	1
1,1'-Biphenyl	<3.6		3.6	0.26	ug/L		02/15/17 08:59	02/15/17 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*30 - 123*	*02/15/17 08:59*	*02/15/17 17:13*	*1*
2-Fluorophenol (Surr)	*72*		*30 - 110*	*02/15/17 08:59*	*02/15/17 17:13*	*1*
Nitrobenzene-d5 (Surr)	*89*		*33 - 139*	*02/15/17 08:59*	*02/15/17 17:13*	*1*
Phenol-d5 (Surr)	*60*		*20 - 100*	*02/15/17 08:59*	*02/15/17 17:13*	*1*
Terphenyl-d14 (Surr)	*91*		*42 - 150*	*02/15/17 08:59*	*02/15/17 17:13*	*1*
2,4,6-Tribromophenol (Surr)	*97*		*30 - 150*	*02/15/17 08:59*	*02/15/17 17:13*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/15/17 07:39	02/21/17 12:13	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/15/17 07:39	02/21/17 12:13	1
alpha-Chlordane	<0.037		0.037	0.0040	ug/L		02/15/17 07:39	02/21/17 12:13	1
beta-BHC	<0.037		0.037	0.0093	ug/L		02/15/17 07:39	02/21/17 12:13	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:13	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/15/17 07:39	02/21/17 12:13	1
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/15/17 07:39	02/21/17 12:13	1
delta-BHC	<0.037		0.037	0.0094	ug/L		02/15/17 07:39	02/21/17 12:13	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endrin	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endrin aldehyde	<0.037		0.037	0.0075	ug/L		02/15/17 07:39	02/21/17 12:13	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/15/17 07:39	02/21/17 12:13	1
gamma-BHC (Lindane)	<0.037		0.037	0.0051	ug/L		02/15/17 07:39	02/21/17 12:13	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/15/17 07:39	02/21/17 12:13	1

Client Sample ID: MW-10-GW-02142017

Lab Sample ID: 500-123839-1
Matrix: Water

Date Collected: 02/14/17 08:00
Date Received: 02/14/17 16:40

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:13	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 12:13	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/15/17 07:39	02/21/17 12:13	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/21/17 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*74*		*30 - 143*	*02/15/17 07:39*	*02/21/17 12:13*	*1*
Tetrachloro-m-xylene	*56*		*30 - 120*	*02/15/17 07:39*	*02/21/17 12:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.061	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 09:50	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/15/17 07:39	02/16/17 09:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*58*		*30 - 127*	*02/15/17 07:39*	*02/16/17 09:50*	*1*
DCB Decachlorobiphenyl	*55*		*30 - 150*	*02/15/17 07:39*	*02/16/17 09:50*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 11:47	1
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 11:47	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:47	1
Barium	**0.093**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 11:47	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 11:47	1
Cadmium	**0.0014**	J	0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 11:47	1
Calcium	**180**	J	0.20	0.059	mg/L		02/15/17 08:20	02/20/17 11:47	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 11:47	1
Cobalt	**0.0011**	J	0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 11:47	1
Copper	**0.0088**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 11:47	1
Iron	**12**	J	0.20	0.10	mg/L		02/15/17 08:20	02/20/17 11:47	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 11:47	1
Magnesium	**77**	J	0.10	0.041	mg/L		02/15/17 08:20	02/20/17 11:47	1
Manganese	**0.99**	J	0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:47	1
Nickel	**0.011**		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 11:47	1
Potassium	**34**	J	0.50	0.16	mg/L		02/15/17 08:20	02/20/17 11:47	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 11:47	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 11:47	1
Sodium	**64**	J	1.0	0.43	mg/L		02/15/17 08:20	02/20/17 11:47	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:47	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 11:47	1
Zinc	**0.074**		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 11:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 11:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-10-GW-02142017

Date Collected: 02/14/17 08:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-1
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 11:50	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:50	1
Barium	**0.093**		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 11:50	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 11:50	1
Cadmium	**0.0011**	**J**	0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 11:50	1
Calcium	**180**		0.20	0.059	mg/L		02/15/17 08:20	02/20/17 11:50	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 11:50	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 11:50	1
Copper	**0.0052**	**J**	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 11:50	1
Iron	**11**		0.20	0.10	mg/L		02/15/17 08:20	02/20/17 11:50	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 11:50	1
Magnesium	**78**		0.10	0.041	mg/L		02/15/17 08:20	02/20/17 11:50	1
Manganese	**1.0**		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:50	1
Nickel	**0.010**		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 11:50	1
Potassium	**35**		0.50	0.16	mg/L		02/15/17 08:20	02/20/17 11:50	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 11:50	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 11:50	1
Sodium	**65**		1.0	0.43	mg/L		02/15/17 08:20	02/20/17 11:50	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 11:50	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 11:50	1
Zinc	**0.073**		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 11:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 05:23	1
Sulfate	**530**	~~**B**~~	100	29	mg/L			02/15/17 06:52	20
Total Organic Carbon - Duplicates	**12**		1.0	0.27	mg/L			02/16/17 22:11	1
Nitrogen, Nitrate	**1.3**		0.10	0.035	mg/L			02/19/17 20:18	1
Total Suspended Solids	**30**		5.0	2.5	mg/L			02/15/17 11:22	1
Ammonia	**1.7**		0.20	0.10	mg/L		02/14/17 21:30	02/15/17 00:16	1
Nitrogen, Nitrite	**0.016**	**J**	0.020	0.0088	mg/L			02/15/17 14:18	1
Nitrogen, Nitrate Nitrite	**1.3**		0.10	0.035	mg/L			02/17/17 21:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-09-GW-02142017

Date Collected: 02/14/17 09:40
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<5.0	J	5.0	1.7	ug/L			02/16/17 20:00	1
Benzene	**1.5**		0.50	0.15	ug/L			02/16/17 20:00	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/16/17 20:00	1
Bromoform	<1.0		1.0	0.48	ug/L			02/16/17 20:00	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/16/17 20:00	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/16/17 20:00	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/16/17 20:00	1
Chlorobenzene	**14**		1.0	0.39	ug/L			02/16/17 20:00	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/16/17 20:00	1
Chloroform	<2.0		2.0	0.37	ug/L			02/16/17 20:00	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/16/17 20:00	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/16/17 20:00	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/16/17 20:00	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/16/17 20:00	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/16/17 20:00	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/16/17 20:00	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/16/17 20:00	1
1,2-Dichlorobenzene	<1.0		1.0	0.33	ug/L			02/16/17 20:00	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/16/17 20:00	1
1,4-Dichlorobenzene	**1.4**		1.0	0.36	ug/L			02/16/17 20:00	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/16/17 20:00	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/16/17 20:00	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/16/17 20:00	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/16/17 20:00	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/16/17 20:00	1
Ethylbenzene	<0.50		0.50	0.18	ug/L			02/16/17 20:00	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/16/17 20:00	1
Isopropylbenzene	**3.0**		1.0	0.39	ug/L			02/16/17 20:00	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/16/17 20:00	1
Methylcyclohexane	**1.2**		1.0	0.32	ug/L			02/16/17 20:00	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/16/17 20:00	1
Methyl Ethyl Ketone	<5.0	J	5.0	2.1	ug/L			02/16/17 20:00	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/16/17 20:00	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/16/17 20:00	1
Styrene	<1.0		1.0	0.39	ug/L			02/16/17 20:00	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/16/17 20:00	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/16/17 20:00	1
Toluene	<0.50		0.50	0.15	ug/L			02/16/17 20:00	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/16/17 20:00	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/16/17 20:00	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/16/17 20:00	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/16/17 20:00	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/16/17 20:00	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/16/17 20:00	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/16/17 20:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/16/17 20:00	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/16/17 20:00	1
Xylenes, Total	<1.0		1.0	0.22	ug/L			02/16/17 20:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-09-GW-02142017

Date Collected: 02/14/17 09:40
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*71 - 120*		*02/16/17 20:00*	*1*
Dibromofluoromethane	*95*		*70 - 120*		*02/16/17 20:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*71 - 127*		*02/16/17 20:00*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*02/16/17 20:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.1**		0.74	0.23	ug/L		02/15/17 08:59	02/15/17 17:40	1
Acenaphthylene	<0.74		0.74	0.20	ug/L		02/15/17 08:59	02/15/17 17:40	1
Acetophenone	<3.7		3.7	0.49	ug/L		02/15/17 08:59	02/15/17 17:40	1
Anthracene	<0.74		0.74	0.25	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzo[a]anthracene	<0.15		0.15	0.042	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzo[a]pyrene	<0.15		0.15	0.073	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzo[g,h,i]perylene	<0.74		0.74	0.28	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/15/17 08:59	02/15/17 17:40	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 17:40	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/15/17 08:59	02/15/17 17:40	1
Bis(2-ethylhexyl) phthalate	<7.4		7.4	1.3	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/15/17 08:59	02/15/17 17:40	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/15/17 08:59	02/15/17 17:40	1
Carbazole	<3.7		3.7	0.26	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Chloroaniline	<7.4		7.4	1.5	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Chloro-3-methylphenol	<7.4		7.4	1.7	ug/L		02/15/17 08:59	02/15/17 17:40	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/15/17 08:59	02/15/17 17:40	1
2-Chlorophenol	<3.7	J	3.7	0.41	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/15/17 08:59	02/15/17 17:40	1
Chrysene	<0.15		0.15	0.050	ug/L		02/15/17 08:59	02/15/17 17:40	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/15/17 08:59	02/15/17 17:40	1
Dibenzofuran	**0.21**	**J**	1.5	0.19	ug/L		02/15/17 08:59	02/15/17 17:40	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4-Dichlorophenol	<7.4	J	7.4	1.9	ug/L		02/15/17 08:59	02/15/17 17:40	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4-Dimethylphenol	<7.4		7.4	1.3	ug/L		02/15/17 08:59	02/15/17 17:40	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/15/17 08:59	02/15/17 17:40	1
Di-n-butyl phthalate	<3.7		3.7	0.54	ug/L		02/15/17 08:59	02/15/17 17:40	1
4,6-Dinitro-2-methylphenol	<15	J	15	4.4	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4-Dinitrophenol	<15	J	15	6.3	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4-Dinitrotoluene	<0.74		0.74	0.18	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,6-Dinitrotoluene	<0.74		0.74	0.054	ug/L		02/15/17 08:59	02/15/17 17:40	1
Di-n-octyl phthalate	<7.4		7.4	0.77	ug/L		02/15/17 08:59	02/15/17 17:40	1
Fluoranthene	<0.74		0.74	0.33	ug/L		02/15/17 08:59	02/15/17 17:40	1
Fluorene	**0.42**	**J**	0.74	0.18	ug/L		02/15/17 08:59	02/15/17 17:40	1
Hexachlorobenzene	<0.37		0.37	0.059	ug/L		02/15/17 08:59	02/15/17 17:40	1
Hexachlorobutadiene	<3.7	J	3.7	0.38	ug/L		02/15/17 08:59	02/15/17 17:40	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/15/17 08:59	02/15/17 17:40	1
Hexachloroethane	<3.7	J	3.7	0.44	ug/L		02/15/17 08:59	02/15/17 17:40	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/15/17 08:59	02/15/17 17:40	1
Isophorone	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 17:40	1
2-Methylnaphthalene	**2.5**		1.5	0.048	ug/L		02/15/17 08:59	02/15/17 17:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-09-GW-02142017

Date Collected: 02/14/17 09:40
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.23	ug/L		02/15/17 08:59	02/15/17 17:40	1
3 & 4 Methylphenol	<1.5		1.5	0.33	ug/L		02/15/17 08:59	02/15/17 17:40	1
Naphthalene	**0.29**	**J**	0.74	0.23	ug/L		02/15/17 08:59	02/15/17 17:40	1
2-Nitroaniline	<3.7		3.7	0.95	ug/L		02/15/17 08:59	02/15/17 17:40	1
3-Nitroaniline	<7.4	J	7.4	1.3	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Nitroaniline	<7.4		7.4	1.2	ug/L		02/15/17 08:59	02/15/17 17:40	1
Nitrobenzene	<0.74		0.74	0.33	ug/L		02/15/17 08:59	02/15/17 17:40	1
2-Nitrophenol	<7.4	J	7.4	1.8	ug/L		02/15/17 08:59	02/15/17 17:40	1
4-Nitrophenol	<15	J	15	5.5	ug/L		02/15/17 08:59	02/15/17 17:40	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/15/17 08:59	02/15/17 17:40	1
N-Nitrosodiphenylamine	<0.74		0.74	0.27	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 17:40	1
Pentachlorophenol	<15	J	15	2.9	ug/L		02/15/17 08:59	02/15/17 17:40	1
Phenanthrene	**0.37**	**J**	0.74	0.22	ug/L		02/15/17 08:59	02/15/17 17:40	1
Phenol	<3.7	J	3.7	0.50	ug/L		02/15/17 08:59	02/15/17 17:40	1
Pyrene	<0.74		0.74	0.31	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4,5-Trichlorophenol	<7.4	J	7.4	1.9	ug/L		02/15/17 08:59	02/15/17 17:40	1
2,4,6-Trichlorophenol	<3.7	J	3.7	0.53	ug/L		02/15/17 08:59	02/15/17 17:40	1
Benzaldehyde	<30		30	11	ug/L		02/15/17 08:59	02/15/17 17:40	1
Caprolactam	<7.4		7.4	1.1	ug/L		02/15/17 08:59	02/15/17 17:40	1
Atrazine	<3.7		3.7	0.46	ug/L		02/15/17 08:59	02/15/17 17:40	1
1,1'-Biphenyl	<3.7		3.7	0.27	ug/L		02/15/17 08:59	02/15/17 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*30 - 123*	*02/15/17 08:59*	*02/15/17 17:40*	*1*
2-Fluorophenol (Surr)	*52*		*30 - 110*	*02/15/17 08:59*	*02/15/17 17:40*	*1*
Nitrobenzene-d5 (Surr)	*68*		*33 - 139*	*02/15/17 08:59*	*02/15/17 17:40*	*1*
Phenol-d5 (Surr)	*47*		*20 - 100*	*02/15/17 08:59*	*02/15/17 17:40*	*1*
Terphenyl-d14 (Surr)	*86*		*42 - 150*	*02/15/17 08:59*	*02/15/17 17:40*	*1*
2,4,6-Tribromophenol (Surr)	*88*		*30 - 150*	*02/15/17 08:59*	*02/15/17 17:40*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0048	ug/L		02/15/17 07:39	02/21/17 12:33	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/15/17 07:39	02/21/17 12:33	1
alpha-Chlordane	<0.037		0.037	0.0040	ug/L		02/15/17 07:39	02/21/17 12:33	1
beta-BHC	<0.037		0.037	0.0093	ug/L		02/15/17 07:39	02/21/17 12:33	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:33	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/15/17 07:39	02/21/17 12:33	1
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/15/17 07:39	02/21/17 12:33	1
delta-BHC	<0.037		0.037	0.0094	ug/L		02/15/17 07:39	02/21/17 12:33	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endosulfan I	<0.037		0.037	0.0037	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endrin	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endrin aldehyde	<0.037		0.037	0.0075	ug/L		02/15/17 07:39	02/21/17 12:33	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/15/17 07:39	02/21/17 12:33	1
gamma-BHC (Lindane)	<0.037		0.037	0.0051	ug/L		02/15/17 07:39	02/21/17 12:33	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/15/17 07:39	02/21/17 12:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-09-GW-02142017

Date Collected: 02/14/17 09:40
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-2

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 12:33	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 12:33	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/15/17 07:39	02/21/17 12:33	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/21/17 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*30 - 143*	*02/15/17 07:39*	*02/21/17 12:33*	*1*
Tetrachloro-m-xylene	*46*		*30 - 120*	*02/15/17 07:39*	*02/21/17 12:33*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.061	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:06	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/15/17 07:39	02/16/17 10:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*30 - 127*	*02/15/17 07:39*	*02/16/17 10:06*	*1*
DCB Decachlorobiphenyl	*57*		*30 - 150*	*02/15/17 07:39*	*02/16/17 10:06*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:00	1
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:00	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:00	1
Barium	**0.82**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:00	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:00	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:00	1
Calcium	**120**	J	0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:00	1
Chromium	**0.0040**	J	0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:00	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:00	1
Copper	<0.010		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:00	1
Iron	**26**	J	0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:00	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:00	1
Magnesium	**81**	J	0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:00	1
Manganese	**0.16**	J	0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:00	1
Nickel	**0.0046**	J	0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:00	1
Potassium	**77**	J	0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:00	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:00	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:00	1
Sodium	**200**	J	1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:00	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:00	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:00	1
Zinc	<0.020		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-09-GW-02142017

Lab Sample ID: 500-123839-2

Date Collected: 02/14/17 09:40
Date Received: 02/14/17 16:40

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:04	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:04	1
Barium	**0.83**		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:04	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:04	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:04	1
Calcium	**120**		0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:04	1
Chromium	**0.0030**	**J**	0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:04	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:04	1
Copper	<0.010		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:04	1
Iron	**26**		0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:04	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:04	1
Magnesium	**83**		0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:04	1
Manganese	**0.16**		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:04	1
Nickel	**0.0041**	**J**	0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:04	1
Potassium	**78**		0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:04	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:04	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:04	1
Sodium	**200**		1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:04	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:04	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:04	1
Zinc	<0.020		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 05:26	1
Sulfate	**10**	~~B~~ UB	5.0	1.5	mg/L			02/15/17 06:53	1
Total Organic Carbon - Duplicates	**26**		1.0	0.27	mg/L			02/16/17 22:28	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:18	1
Total Suspended Solids	**45**		5.0	2.5	mg/L			02/15/17 11:24	1
Ammonia	**73**		5.0	2.5	mg/L		02/14/17 21:30	02/15/17 01:01	25
Nitrogen, Nitrite	<0.020	J	0.020	0.0088	mg/L			02/15/17 14:19	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-08-GW-02142017

Date Collected: 02/14/17 11:30
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**5.7**	J	5.0	1.7	ug/L			02/16/17 20:27	1
Benzene	<0.50		0.50	0.15	ug/L			02/16/17 20:27	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/16/17 20:27	1
Bromoform	<1.0		1.0	0.48	ug/L			02/16/17 20:27	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/16/17 20:27	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/16/17 20:27	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/16/17 20:27	1
Chlorobenzene	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/16/17 20:27	1
Chloroform	<2.0		2.0	0.37	ug/L			02/16/17 20:27	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/16/17 20:27	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/16/17 20:27	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/16/17 20:27	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/16/17 20:27	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/16/17 20:27	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/16/17 20:27	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
1,2-Dichlorobenzene	<1.0		1.0	0.33	ug/L			02/16/17 20:27	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/16/17 20:27	1
1,4-Dichlorobenzene	<1.0		1.0	0.36	ug/L			02/16/17 20:27	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/16/17 20:27	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/16/17 20:27	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/16/17 20:27	1
Ethylbenzene	<0.50		0.50	0.18	ug/L			02/16/17 20:27	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/16/17 20:27	1
Isopropylbenzene	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/16/17 20:27	1
Methylcyclohexane	<1.0		1.0	0.32	ug/L			02/16/17 20:27	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/16/17 20:27	1
Methyl Ethyl Ketone	<5.0	J	5.0	2.1	ug/L			02/16/17 20:27	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/16/17 20:27	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
Styrene	<1.0		1.0	0.39	ug/L			02/16/17 20:27	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/16/17 20:27	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/16/17 20:27	1
Toluene	<0.50		0.50	0.15	ug/L			02/16/17 20:27	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/16/17 20:27	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/16/17 20:27	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/16/17 20:27	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/16/17 20:27	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/16/17 20:27	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/16/17 20:27	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/16/17 20:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/16/17 20:27	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/16/17 20:27	1
Xylenes, Total	<1.0		1.0	0.22	ug/L			02/16/17 20:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-08-GW-02142017

Date Collected: 02/14/17 11:30
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-3

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*71 - 120*		*02/16/17 20:27*	*1*
Dibromofluoromethane	*95*		*70 - 120*		*02/16/17 20:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 127*		*02/16/17 20:27*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*02/16/17 20:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 18:07	1
Acenaphthylene	<0.73		0.73	0.20	ug/L		02/15/17 08:59	02/15/17 18:07	1
Acetophenone	<3.7		3.7	0.49	ug/L		02/15/17 08:59	02/15/17 18:07	1
Anthracene	<0.73		0.73	0.24	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzo[a]anthracene	<0.15		0.15	0.041	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzo[a]pyrene	<0.15		0.15	0.072	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzo[g,h,i]perylene	<0.73		0.73	0.27	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/15/17 08:59	02/15/17 18:07	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 18:07	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 18:07	1
Bis(2-ethylhexyl) phthalate	<7.3		7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/15/17 08:59	02/15/17 18:07	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/15/17 08:59	02/15/17 18:07	1
Carbazole	<3.7		3.7	0.26	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Chloro-3-methylphenol	<7.3		7.3	1.7	ug/L		02/15/17 08:59	02/15/17 18:07	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/15/17 08:59	02/15/17 18:07	1
2-Chlorophenol	<3.7	* J	3.7	0.41	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/15/17 08:59	02/15/17 18:07	1
Chrysene	<0.15		0.15	0.050	ug/L		02/15/17 08:59	02/15/17 18:07	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/15/17 08:59	02/15/17 18:07	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/15/17 08:59	02/15/17 18:07	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4-Dichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 18:07	1
Diethyl phthalate	<1.5		1.5	0.26	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4-Dimethylphenol	<7.3		7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/15/17 08:59	02/15/17 18:07	1
Di-n-butyl phthalate	<3.7		3.7	0.53	ug/L		02/15/17 08:59	02/15/17 18:07	1
4,6-Dinitro-2-methylphenol	<15	* J	15	4.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4-Dinitrophenol	<15	* J	15	6.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/15/17 08:59	02/15/17 18:07	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/15/17 08:59	02/15/17 18:07	1
Fluoranthene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 18:07	1
Fluorene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 18:07	1
Hexachlorobenzene	<0.37		0.37	0.058	ug/L		02/15/17 08:59	02/15/17 18:07	1
Hexachlorobutadiene	<3.7	* J	3.7	0.38	ug/L		02/15/17 08:59	02/15/17 18:07	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/15/17 08:59	02/15/17 18:07	1
Hexachloroethane	<3.7	* J	3.7	0.44	ug/L		02/15/17 08:59	02/15/17 18:07	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/15/17 08:59	02/15/17 18:07	1
Isophorone	<1.5		1.5	0.27	ug/L		02/15/17 08:59	02/15/17 18:07	1
2-Methylnaphthalene	<1.5		1.5	0.048	ug/L		02/15/17 08:59	02/15/17 18:07	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-08-GW-02142017

Date Collected: 02/14/17 11:30
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.22	ug/L		02/15/17 08:59	02/15/17 18:07	1
3 & 4 Methylphenol	<1.5		1.5	0.33	ug/L		02/15/17 08:59	02/15/17 18:07	1
Naphthalene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 18:07	1
2-Nitroaniline	<3.7		3.7	0.94	ug/L		02/15/17 08:59	02/15/17 18:07	1
3-Nitroaniline	<7.3	* J	7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/15/17 08:59	02/15/17 18:07	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 18:07	1
2-Nitrophenol	<7.3	* J	7.3	1.8	ug/L		02/15/17 08:59	02/15/17 18:07	1
4-Nitrophenol	<15	* J	15	5.4	ug/L		02/15/17 08:59	02/15/17 18:07	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/15/17 08:59	02/15/17 18:07	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 18:07	1
Pentachlorophenol	<15	* J	15	2.9	ug/L		02/15/17 08:59	02/15/17 18:07	1
Phenanthrene	<0.73		0.73	0.22	ug/L		02/15/17 08:59	02/15/17 18:07	1
Phenol	<3.7	* J	3.7	0.49	ug/L		02/15/17 08:59	02/15/17 18:07	1
Pyrene	<0.73		0.73	0.31	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4,5-Trichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 18:07	1
2,4,6-Trichlorophenol	<3.7	* J	3.7	0.52	ug/L		02/15/17 08:59	02/15/17 18:07	1
Benzaldehyde	<29		29	11	ug/L		02/15/17 08:59	02/15/17 18:07	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/15/17 08:59	02/15/17 18:07	1
Atrazine	<3.7		3.7	0.46	ug/L		02/15/17 08:59	02/15/17 18:07	1
1,1'-Biphenyl	<3.7		3.7	0.27	ug/L		02/15/17 08:59	02/15/17 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*30 - 123*	*02/15/17 08:59*	*02/15/17 18:07*	*1*
2-Fluorophenol (Surr)	*50*		*30 - 110*	*02/15/17 08:59*	*02/15/17 18:07*	*1*
Nitrobenzene-d5 (Surr)	*61*		*33 - 139*	*02/15/17 08:59*	*02/15/17 18:07*	*1*
Phenol-d5 (Surr)	*42*		*20 - 100*	*02/15/17 08:59*	*02/15/17 18:07*	*1*
Terphenyl-d14 (Surr)	*70*		*42 - 150*	*02/15/17 08:59*	*02/15/17 18:07*	*1*
2,4,6-Tribromophenol (Surr)	*79*		*30 - 150*	*02/15/17 08:59*	*02/15/17 18:07*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.036		0.036	0.0048	ug/L		02/15/17 07:39	02/21/17 12:52	1
alpha-BHC	<0.036		0.036	0.0024	ug/L		02/15/17 07:39	02/21/17 12:52	1
alpha-Chlordane	<0.036		0.036	0.0040	ug/L		02/15/17 07:39	02/21/17 12:52	1
beta-BHC	<0.036		0.036	0.0093	ug/L		02/15/17 07:39	02/21/17 12:52	1
4,4'-DDD	<0.036		0.036	0.012	ug/L		02/15/17 07:39	02/21/17 12:52	1
4,4'-DDE	<0.036		0.036	0.0035	ug/L		02/15/17 07:39	02/21/17 12:52	1
4,4'-DDT	<0.036		0.036	0.0029	ug/L		02/15/17 07:39	02/21/17 12:52	1
delta-BHC	<0.036		0.036	0.0094	ug/L		02/15/17 07:39	02/21/17 12:52	1
Dieldrin	<0.036		0.036	0.012	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endosulfan I	<0.036		0.036	0.0037	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endosulfan II	<0.036		0.036	0.0025	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endosulfan sulfate	<0.036		0.036	0.011	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endrin	<0.036		0.036	0.013	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endrin aldehyde	<0.036		0.036	0.0075	ug/L		02/15/17 07:39	02/21/17 12:52	1
Endrin ketone	<0.036		0.036	0.015	ug/L		02/15/17 07:39	02/21/17 12:52	1
gamma-BHC (Lindane)	<0.036		0.036	0.0051	ug/L		02/15/17 07:39	02/21/17 12:52	1
gamma-Chlordane	<0.036		0.036	0.0066	ug/L		02/15/17 07:39	02/21/17 12:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-08-GW-02142017

Lab Sample ID: 500-123839-3

Date Collected: 02/14/17 11:30
Matrix: Water
Date Received: 02/14/17 16:40

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.036		0.036	0.012	ug/L		02/15/17 07:39	02/21/17 12:52	1
Heptachlor epoxide	<0.036		0.036	0.013	ug/L		02/15/17 07:39	02/21/17 12:52	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/15/17 07:39	02/21/17 12:52	1
Toxaphene	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/21/17 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*30 - 143*	*02/15/17 07:39*	*02/21/17 12:52*	*1*
Tetrachloro-m-xylene	*45*		*30 - 120*	*02/15/17 07:39*	*02/21/17 12:52*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.36		0.36	0.061	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1221	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1232	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1242	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1248	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1254	<0.36		0.36	0.18	ug/L		02/15/17 07:39	02/16/17 10:21	1
PCB-1260	<0.36		0.36	0.064	ug/L		02/15/17 07:39	02/16/17 10:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*30 - 127*	*02/15/17 07:39*	*02/16/17 10:21*	*1*
DCB Decachlorobiphenyl	*74*		*30 - 150*	*02/15/17 07:39*	*02/16/17 10:21*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:09	1
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:09	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:09	1
Barium	**0.67**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:09	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:09	1
Cadmium	**0.00094**	J	0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:09	1
Calcium	**120**	J	0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:09	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:09	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:09	1
Copper	**0.0022**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:09	1
Iron	**11**	J	0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:09	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:09	1
Magnesium	**91**	J	0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:09	1
Manganese	**0.18**	J	0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:09	1
Nickel	<0.010		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:09	1
Potassium	**36**	J	0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:09	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:09	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:09	1
Sodium	**240**	J	1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:09	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:09	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:09	1
Zinc	<0.020		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: MW-08-GW-02142017

Date Collected: 02/14/17 11:30
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-3

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:16	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:16	1
Barium	**0.65**		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:16	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:16	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:16	1
Calcium	**120**		0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:16	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:16	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:16	1
Copper	<0.010		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:16	1
Iron	**11**		0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:16	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:16	1
Magnesium	**87**		0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:16	1
Manganese	**0.18**		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:16	1
Nickel	<0.010		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:16	1
Potassium	**35**		0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:16	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:16	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:16	1
Sodium	**240**		1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:16	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:16	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:16	1
Zinc	<0.020		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:52	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00012**	**J**	0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 05:28	1
Sulfate	5.0 **2.4**	~~J B~~ UB	5.0	1.5	mg/L			02/15/17 07:02	1
Total Organic Carbon - Duplicates	**15**		1.0	0.27	mg/L			02/16/17 22:44	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:18	1
Total Suspended Solids	**24**		5.0	2.5	mg/L			02/15/17 11:26	1
Ammonia	**36**		2.0	1.0	mg/L		02/14/17 21:30	02/15/17 01:04	10
Nitrogen, Nitrite	<0.020	J	0.020	0.0088	mg/L			02/15/17 14:20	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: Dup-2-02142017

Date Collected: 02/14/17 00:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<5.0	J	5.0	1.7	ug/L			02/16/17 20:54	1
Benzene	<0.50		0.50	0.15	ug/L			02/16/17 20:54	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/16/17 20:54	1
Bromoform	<1.0		1.0	0.48	ug/L			02/16/17 20:54	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/16/17 20:54	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/16/17 20:54	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/16/17 20:54	1
Chlorobenzene	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/16/17 20:54	1
Chloroform	<2.0		2.0	0.37	ug/L			02/16/17 20:54	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/16/17 20:54	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/16/17 20:54	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/16/17 20:54	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/16/17 20:54	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/16/17 20:54	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/16/17 20:54	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
1,2-Dichlorobenzene	<1.0		1.0	0.33	ug/L			02/16/17 20:54	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/16/17 20:54	1
1,4-Dichlorobenzene	<1.0		1.0	0.36	ug/L			02/16/17 20:54	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/16/17 20:54	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/16/17 20:54	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/16/17 20:54	1
Ethylbenzene	<0.50		0.50	0.18	ug/L			02/16/17 20:54	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/16/17 20:54	1
Isopropylbenzene	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/16/17 20:54	1
Methylcyclohexane	<1.0		1.0	0.32	ug/L			02/16/17 20:54	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/16/17 20:54	1
Methyl Ethyl Ketone	<5.0	J	5.0	2.1	ug/L			02/16/17 20:54	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/16/17 20:54	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
Styrene	<1.0		1.0	0.39	ug/L			02/16/17 20:54	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/16/17 20:54	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/16/17 20:54	1
Toluene	<0.50		0.50	0.15	ug/L			02/16/17 20:54	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/16/17 20:54	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/16/17 20:54	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/16/17 20:54	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/16/17 20:54	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/16/17 20:54	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/16/17 20:54	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/16/17 20:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/16/17 20:54	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/16/17 20:54	1
Xylenes, Total	<1.0		1.0	0.22	ug/L			02/16/17 20:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: Dup-2-02142017

Date Collected: 02/14/17 00:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*71 - 120*		*02/16/17 20:54*	*1*
Dibromofluoromethane	*94*		*70 - 120*		*02/16/17 20:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*71 - 127*		*02/16/17 20:54*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*02/16/17 20:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 18:34	1
Acenaphthylene	<0.73		0.73	0.20	ug/L		02/15/17 08:59	02/15/17 18:34	1
Acetophenone	<3.7		3.7	0.49	ug/L		02/15/17 08:59	02/15/17 18:34	1
Anthracene	<0.73		0.73	0.24	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzo[a]anthracene	<0.15		0.15	0.042	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzo[a]pyrene	<0.15		0.15	0.073	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzo[g,h,i]perylene	<0.73		0.73	0.28	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/15/17 08:59	02/15/17 18:34	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 18:34	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/15/17 08:59	02/15/17 18:34	1
Bis(2-ethylhexyl) phthalate	<7.3		7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/15/17 08:59	02/15/17 18:34	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/15/17 08:59	02/15/17 18:34	1
Carbazole	<3.7		3.7	0.26	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Chloro-3-methylphenol	<7.3		7.3	1.7	ug/L		02/15/17 08:59	02/15/17 18:34	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/15/17 08:59	02/15/17 18:34	1
2-Chlorophenol	<3.7	* J	3.7	0.41	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/15/17 08:59	02/15/17 18:34	1
Chrysene	<0.15		0.15	0.050	ug/L		02/15/17 08:59	02/15/17 18:34	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/15/17 08:59	02/15/17 18:34	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/15/17 08:59	02/15/17 18:34	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4-Dichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 18:34	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4-Dimethylphenol	<7.3		7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/15/17 08:59	02/15/17 18:34	1
Di-n-butyl phthalate	<3.7		3.7	0.54	ug/L		02/15/17 08:59	02/15/17 18:34	1
4,6-Dinitro-2-methylphenol	<15	* J	15	4.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4-Dinitrophenol	<15	* J	15	6.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/15/17 08:59	02/15/17 18:34	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/15/17 08:59	02/15/17 18:34	1
Fluoranthene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 18:34	1
Fluorene	<0.73		0.73	0.18	ug/L		02/15/17 08:59	02/15/17 18:34	1
Hexachlorobenzene	<0.37		0.37	0.058	ug/L		02/15/17 08:59	02/15/17 18:34	1
Hexachlorobutadiene	<3.7	* J	3.7	0.38	ug/L		02/15/17 08:59	02/15/17 18:34	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/15/17 08:59	02/15/17 18:34	1
Hexachloroethane	<3.7	* J	3.7	0.44	ug/L		02/15/17 08:59	02/15/17 18:34	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/15/17 08:59	02/15/17 18:34	1
Isophorone	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 18:34	1
2-Methylnaphthalene	<1.5		1.5	0.048	ug/L		02/15/17 08:59	02/15/17 18:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: Dup-2-02142017

Date Collected: 02/14/17 00:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.22	ug/L		02/15/17 08:59	02/15/17 18:34	1
3 & 4 Methylphenol	**0.33**	**J**	1.5	0.33	ug/L		02/15/17 08:59	02/15/17 18:34	1
Naphthalene	<0.73		0.73	0.23	ug/L		02/15/17 08:59	02/15/17 18:34	1
2-Nitroaniline	<3.7		3.7	0.94	ug/L		02/15/17 08:59	02/15/17 18:34	1
3-Nitroaniline	<7.3	* J	7.3	1.3	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/15/17 08:59	02/15/17 18:34	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/15/17 08:59	02/15/17 18:34	1
2-Nitrophenol	<7.3	* J	7.3	1.8	ug/L		02/15/17 08:59	02/15/17 18:34	1
4-Nitrophenol	<15	* J	15	5.4	ug/L		02/15/17 08:59	02/15/17 18:34	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/15/17 08:59	02/15/17 18:34	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/15/17 08:59	02/15/17 18:34	1
Pentachlorophenol	<15	* J	15	2.9	ug/L		02/15/17 08:59	02/15/17 18:34	1
Phenanthrene	<0.73		0.73	0.22	ug/L		02/15/17 08:59	02/15/17 18:34	1
Phenol	<3.7	* J	3.7	0.49	ug/L		02/15/17 08:59	02/15/17 18:34	1
Pyrene	<0.73		0.73	0.31	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4,5-Trichlorophenol	<7.3	* J	7.3	1.9	ug/L		02/15/17 08:59	02/15/17 18:34	1
2,4,6-Trichlorophenol	<3.7	* J	3.7	0.53	ug/L		02/15/17 08:59	02/15/17 18:34	1
Benzaldehyde	<29		29	11	ug/L		02/15/17 08:59	02/15/17 18:34	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/15/17 08:59	02/15/17 18:34	1
Atrazine	<3.7		3.7	0.46	ug/L		02/15/17 08:59	02/15/17 18:34	1
1,1'-Biphenyl	<3.7		3.7	0.27	ug/L		02/15/17 08:59	02/15/17 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*30 - 123*	*02/15/17 08:59*	*02/15/17 18:34*	*1*
2-Fluorophenol (Surr)	*38*		*30 - 110*	*02/15/17 08:59*	*02/15/17 18:34*	*1*
Nitrobenzene-d5 (Surr)	*51*		*33 - 139*	*02/15/17 08:59*	*02/15/17 18:34*	*1*
Phenol-d5 (Surr)	*36*		*20 - 100*	*02/15/17 08:59*	*02/15/17 18:34*	*1*
Terphenyl-d14 (Surr)	*81*		*42 - 150*	*02/15/17 08:59*	*02/15/17 18:34*	*1*
2,4,6-Tribromophenol (Surr)	*85*		*30 - 150*	*02/15/17 08:59*	*02/15/17 18:34*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0048	ug/L		02/15/17 07:39	02/21/17 13:11	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/15/17 07:39	02/21/17 13:11	1
alpha-Chlordane	<0.037		0.037	0.0040	ug/L		02/15/17 07:39	02/21/17 13:11	1
beta-BHC	<0.037		0.037	0.0093	ug/L		02/15/17 07:39	02/21/17 13:11	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 13:11	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/15/17 07:39	02/21/17 13:11	1
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/15/17 07:39	02/21/17 13:11	1
delta-BHC	<0.037		0.037	0.0094	ug/L		02/15/17 07:39	02/21/17 13:11	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endosulfan I	<0.037		0.037	0.0037	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endrin	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endrin aldehyde	<0.037		0.037	0.0075	ug/L		02/15/17 07:39	02/21/17 13:11	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/15/17 07:39	02/21/17 13:11	1
gamma-BHC (Lindane)	<0.037		0.037	0.0051	ug/L		02/15/17 07:39	02/21/17 13:11	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/15/17 07:39	02/21/17 13:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: Dup-2-02142017

Date Collected: 02/14/17 00:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-4

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.037		0.037	0.012	ug/L		02/15/17 07:39	02/21/17 13:11	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/15/17 07:39	02/21/17 13:11	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/15/17 07:39	02/21/17 13:11	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/21/17 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*80*		*30 - 143*	*02/15/17 07:39*	*02/21/17 13:11*	*1*
Tetrachloro-m-xylene	*37*		*30 - 120*	*02/15/17 07:39*	*02/21/17 13:11*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.061	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/15/17 07:39	02/16/17 10:36	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/15/17 07:39	02/16/17 10:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*47*		*30 - 127*	*02/15/17 07:39*	*02/16/17 10:36*	*1*
DCB Decachlorobiphenyl	*79*		*30 - 150*	*02/15/17 07:39*	*02/16/17 10:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:20	1
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:20	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:20	1
Barium	**0.68**	J	0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:20	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:20	1
Cadmium	**0.0011**	J	0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:20	1
Calcium	**120**	J	0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:20	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:20	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:20	1
Copper	<0.010		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:20	1
Iron	**11**	J	0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:20	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:20	1
Magnesium	**92**	J	0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:20	1
Manganese	**0.19**	J	0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:20	1
Nickel	<0.010		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:20	1
Potassium	**37**	J	0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:20	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:20	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:20	1
Sodium	**250**	J	1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:20	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:20	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:20	1
Zinc	**0.017**	J	0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/15/17 08:20	02/20/17 12:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123839-1

Client Sample ID: Dup-2-02142017

Date Collected: 02/14/17 00:00
Date Received: 02/14/17 16:40

Lab Sample ID: 500-123839-4

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/15/17 08:20	02/20/17 12:24	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:24	1
Barium	**0.65**		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:24	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/15/17 08:20	02/20/17 12:24	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/15/17 08:20	02/20/17 12:24	1
Calcium	**120**		0.20	0.059	mg/L		02/15/17 08:20	02/20/17 12:24	1
Chromium	<0.010		0.010	0.0024	mg/L		02/15/17 08:20	02/20/17 12:24	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/15/17 08:20	02/20/17 12:24	1
Copper	<0.010		0.010	0.0022	mg/L		02/15/17 08:20	02/20/17 12:24	1
Iron	**11**		0.20	0.10	mg/L		02/15/17 08:20	02/20/17 12:24	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/15/17 08:20	02/20/17 12:24	1
Magnesium	**88**		0.10	0.041	mg/L		02/15/17 08:20	02/20/17 12:24	1
Manganese	**0.18**		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:24	1
Nickel	<0.010		0.010	0.0037	mg/L		02/15/17 08:20	02/20/17 12:24	1
Potassium	**35**		0.50	0.16	mg/L		02/15/17 08:20	02/20/17 12:24	1
Selenium	<0.010		0.010	0.0051	mg/L		02/15/17 08:20	02/20/17 12:24	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/15/17 08:20	02/20/17 12:24	1
Sodium	**240**		1.0	0.43	mg/L		02/15/17 08:20	02/20/17 12:24	1
Thallium	<0.010		0.010	0.0034	mg/L		02/15/17 08:20	02/20/17 12:24	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/15/17 08:20	02/20/17 12:24	1
Zinc	<0.020		0.020	0.0090	mg/L		02/15/17 08:20	02/20/17 12:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:55	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/15/17 13:00	02/16/17 08:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 05:31	1
Sulfate	5.0 **1.7**	J ~~B~~ UB	5.0	1.5	mg/L			02/20/17 09:22	1
Total Organic Carbon - Duplicates	**15**		1.0	0.27	mg/L			02/16/17 23:01	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:18	1
Total Suspended Solids	**26**		5.0	2.5	mg/L			02/15/17 11:27	1
Ammonia	**37**		2.0	1.0	mg/L		02/14/17 21:30	02/15/17 01:07	10
Nitrogen, Nitrite	<0.020	J	0.020	0.0088	mg/L			02/15/17 14:20	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:40	1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Pace Analytical Energy Services LLC
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Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21740 500-123839-2

Lab ID: **217400001** Date Received: 2/16/2017 14:15 Matrix: Water

Sample ID: **MW-10-GW-02142017** Date Collected: 2/14/2017 08:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**32**	ug/l	0.50	0.027	1	2/24/2017 12:53	MM	n
Carbon Dioxide	**46**	mg/l	5.0	0.24	1	2/24/2017 12:53	MM	n
Oxygen	**3.8**	mg/l	0.50	0.13	1	2/24/2017 12:53	MM	n
Nitrogen	**24**	mg/l	2.0	0.24	1	2/24/2017 12:53	MM	n

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ANALYTICAL RESULTS

Workorder: 21740 500-123839-2

Lab ID: **217400002** Date Received: 2/16/2017 14:15 Matrix: Water

Sample ID: **MW-09-GW-02142017** Date Collected: 2/14/2017 09:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**13000**	ug/l	0.50	0.027	1	2/24/2017 13:08	MM	n
Carbon Dioxide	**450**	mg/l	5.0	0.24	1	2/24/2017 13:08	MM	n
Oxygen	**1.8**	mg/l	0.50	0.13	1	2/24/2017 13:08	MM	n
Nitrogen	**9.4**	mg/l	2.0	0.24	1	2/24/2017 13:08	MM	n

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ANALYTICAL RESULTS

Workorder: 21740 500-123839-2

Lab ID: **217400003** Date Received: 2/16/2017 14:15 Matrix: Water

Sample ID: **MW-08-GW-02142017** Date Collected: 2/14/2017 11:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**15000**	ug/l	0.50	0.027	1	2/24/2017 13:22	MM	n
Carbon Dioxide	**220**	mg/l	5.0	0.24	1	2/24/2017 13:22	MM	n
Oxygen	**2.5**	mg/l	0.50	0.13	1	2/24/2017 13:22	MM	n
Nitrogen	**8.8**	mg/l	2.0	0.24	1	2/24/2017 13:22	MM	n

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ANALYTICAL RESULTS

Workorder: 21740 500-123839-2

Lab ID: **217400004** Date Received: 2/16/2017 14:15 Matrix: Water
Sample ID: **DUP-2-02142017** Date Collected: 2/14/2017 00:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**15000**	ug/l	0.50	0.027	1	2/24/2017 13:35	MM	n
Carbon Dioxide	**230**	mg/l	5.0	0.24	1	2/24/2017 13:35	MM	n
Oxygen	**2.9**	mg/l	0.50	0.13	1	2/24/2017 13:35	MM	n
Nitrogen	**10**	mg/l	2.0	0.24	1	2/24/2017 13:35	MM	n

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 21740 500-123839-2

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-123839

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 4.8, 0.5

(optional)

Report To
Contact: Jack Kratzmeyer
Company: Arcadis
Address: 200 S. Michigan Ave
Address: Ste 2000
Phone: 312-575-3700
Fax:
E-Mail: Jack.Kratzmeyer@arcadis.com PO#/Reference#

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:

Client: Arcadis
Client Project #: CI001805.0002.0005
Project Name: LCCS
Project Location/State: Chicago, IL
Lab Project #:
Sampler: B. Thurnhoffer
Lab PM: Therese Hargraves

Preservative Key: 500-123839 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	SVOCs, PCBs, Pesticides (8)	total metals (3)	Dissolved metals (3)	Ammonia, NH_3/NO_2 (6)	Sulfate (5)	TOC (2)	TSS, SO_4, NO_2 (8)	VOC (1)	Dissolved Gases (9)	Comments
1		MW-10-GW-02142017	2/14	0800	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Dissolved
2		MW-09-GW-02142017	2/14	0940	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Metals
3		MW-08-GW-02142017	2/14	1130	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	field filtered
4		Dup-2-02142017	2/14	—	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Ben Thurnhoffer	Arcadis	2-14-2017	1600	[signature]	TA	2/14/17	1600
[signature]	TA	2/14/17	1640	[signature]	TA CHI	02/14/17	1640

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

2/27/2017

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**27**		5.0	1.7	ug/L			02/21/17 01:55	1
Benzene	**14**		0.50	0.15	ug/L			02/21/17 01:55	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/21/17 01:55	1
Bromoform	<1.0		1.0	0.48	ug/L			02/21/17 01:55	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/21/17 01:55	1
Carbon disulfide	<2.0	J	2.0	0.45	ug/L			02/21/17 01:55	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/21/17 01:55	1
Chlorobenzene	**0.86**	**J**	1.0	0.39	ug/L			02/21/17 01:55	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/21/17 01:55	1
Chloroform	<2.0		2.0	0.37	ug/L			02/21/17 01:55	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/21/17 01:55	1
cis-1,2-Dichloroethene	**4.1**		1.0	0.41	ug/L			02/21/17 01:55	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/21/17 01:55	1
Cyclohexane	**0.55**	**J**	1.0	0.49	ug/L			02/21/17 01:55	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/21/17 01:55	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/21/17 01:55	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/21/17 01:55	1
1,2-Dichlorobenzene	**5.9**		1.0	0.33	ug/L			02/21/17 01:55	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/21/17 01:55	1
1,4-Dichlorobenzene	**14**		1.0	0.36	ug/L			02/21/17 01:55	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/21/17 01:55	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/21/17 01:55	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/21/17 01:55	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/21/17 01:55	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/21/17 01:55	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/21/17 01:55	1
Isopropylbenzene	**11**		1.0	0.39	ug/L			02/21/17 01:55	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/21/17 01:55	1
Methylcyclohexane	**0.98**	**J**	1.0	0.32	ug/L			02/21/17 01:55	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/21/17 01:55	1
Methyl Ethyl Ketone	**8.1**		5.0	2.1	ug/L			02/21/17 01:55	1
methyl isobutyl ketone	**45**		5.0	2.2	ug/L			02/21/17 01:55	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/21/17 01:55	1
Styrene	<1.0		1.0	0.39	ug/L			02/21/17 01:55	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/21/17 01:55	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/21/17 01:55	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/21/17 01:55	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/21/17 01:55	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/21/17 01:55	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/21/17 01:55	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/21/17 01:55	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/21/17 01:55	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/21/17 01:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/21/17 01:55	1
Vinyl chloride	**8.4**		0.50	0.20	ug/L			02/21/17 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*71 - 120*		*02/21/17 01:55*	*1*
Dibromofluoromethane	*96*		*70 - 120*		*02/21/17 01:55*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*71 - 127*		*02/21/17 01:55*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*02/21/17 01:55*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**180**		5.0	1.8	ug/L			02/21/17 02:20	10
Toluene	**380**		5.0	1.5	ug/L			02/21/17 02:20	10
Xylenes, Total	**910**		10	2.2	ug/L			02/21/17 02:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*71 - 120*		*02/21/17 02:20*	*10*
Dibromofluoromethane	*98*		*70 - 120*		*02/21/17 02:20*	*10*
1,2-Dichloroethane-d4 (Surr)	*112*		*71 - 127*		*02/21/17 02:20*	*10*
Toluene-d8 (Surr)	*95*		*75 - 120*		*02/21/17 02:20*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**4.3**		0.73	0.22	ug/L		02/20/17 07:25	02/21/17 23:26	1
Acenaphthylene	<0.73		0.73	0.19	ug/L		02/20/17 07:25	02/21/17 23:26	1
Acetophenone	<3.6		3.6	0.48	ug/L		02/20/17 07:25	02/21/17 23:26	1
Anthracene	**2.6**		0.73	0.24	ug/L		02/20/17 07:25	02/21/17 23:26	1
Benzo[a]anthracene	**1.5**		0.15	0.041	ug/L		02/20/17 07:25	02/21/17 23:26	1
Benzo[a]pyrene R	~~<0.15~~	~~*~~	~~0.15~~	~~0.072~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:26~~	1
Benzo[b]fluoranthene	**1.3**	~~*~~ J	0.15	0.059	ug/L		02/20/17 07:25	02/21/17 23:26	1
Benzo[g,h,i]perylene R	~~<0.73~~	~~*~~	~~0.73~~	~~0.27~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:26~~	1
Benzo[k]fluoranthene	**0.56**	~~*~~ J	0.15	0.046	ug/L		02/20/17 07:25	02/21/17 23:26	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/21/17 23:26	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Bromophenyl phenyl ether	<3.6		3.6	0.39	ug/L		02/20/17 07:25	02/21/17 23:26	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/20/17 07:25	02/21/17 23:26	1
Carbazole	<3.6	~~*~~ J	3.6	0.26	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Chloro-3-methylphenol	**41**		7.3	1.7	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Chlorophenol	<3.6		3.6	0.41	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Chlorophenyl phenyl ether	<3.6		3.6	0.46	ug/L		02/20/17 07:25	02/21/17 23:26	1
Chrysene	**1.6**		0.15	0.049	ug/L		02/20/17 07:25	02/21/17 23:26	1
Dibenz(a,h)anthracene R	~~<0.22~~	~~*~~	~~0.22~~	~~0.037~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:26~~	~~1~~
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/20/17 07:25	02/21/17 23:26	1
3,3'-Dichlorobenzidine	<3.6		3.6	1.2	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,4-Dichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/21/17 23:26	1
Diethyl phthalate	<1.5		1.5	0.26	ug/L		02/20/17 07:25	02/21/17 23:26	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/21/17 23:26	1
Di-n-butyl phthalate	<3.6		3.6	0.53	ug/L		02/20/17 07:25	02/21/17 23:26	1
4,6-Dinitro-2-methylphenol	<15		15	4.3	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,4-Dinitrophenol	<15		15	6.2	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/20/17 07:25	02/21/17 23:26	1
Di-n-octyl phthalate	<7.3		7.3	0.76	ug/L		02/20/17 07:25	02/21/17 23:26	1
Fluoranthene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/21/17 23:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**3.1**		0.73	0.18	ug/L		02/20/17 07:25	02/21/17 23:26	1
Hexachlorobenzene	<0.36		0.36	0.058	ug/L		02/20/17 07:25	02/21/17 23:26	1
Hexachlorobutadiene	<3.6		3.6	0.37	ug/L		02/20/17 07:25	02/21/17 23:26	1
Hexachlorocyclopentadiene	<15	J	15	4.6	ug/L		02/20/17 07:25	02/21/17 23:26	1
Hexachloroethane	<3.6		3.6	0.43	ug/L		02/20/17 07:25	02/21/17 23:26	1
Indeno[1,2,3-cd]pyrene R	~~<0.15~~	~~*~~	~~0.15~~	~~0.054~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:26~~	1
Isophorone	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Methylnaphthalene	**5.0**		1.5	0.047	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Methylphenol	**49**		1.5	0.22	ug/L		02/20/17 07:25	02/21/17 23:26	1
3 & 4 Methylphenol	**9.5**		1.5	0.33	ug/L		02/20/17 07:25	02/21/17 23:26	1
Naphthalene	**33**		0.73	0.22	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Nitroaniline	<3.6		3.6	0.94	ug/L		02/20/17 07:25	02/21/17 23:26	1
3-Nitroaniline	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/20/17 07:25	02/21/17 23:26	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/21/17 23:26	1
2-Nitrophenol	<7.3		7.3	1.8	ug/L		02/20/17 07:25	02/21/17 23:26	1
4-Nitrophenol	<15		15	5.4	ug/L		02/20/17 07:25	02/21/17 23:26	1
N-Nitrosodi-n-propylamine	<0.36		0.36	0.11	ug/L		02/20/17 07:25	02/21/17 23:26	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/21/17 23:26	1
Pentachlorophenol	<15		15	2.9	ug/L		02/20/17 07:25	02/21/17 23:26	1
Phenanthrene	**10**		0.73	0.22	ug/L		02/20/17 07:25	02/21/17 23:26	1
Phenol	<3.6		3.6	0.49	ug/L		02/20/17 07:25	02/21/17 23:26	1
Pyrene	**10**		0.73	0.31	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,4,5-Trichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/21/17 23:26	1
2,4,6-Trichlorophenol	<3.6		3.6	0.52	ug/L		02/20/17 07:25	02/21/17 23:26	1
Benzaldehyde	**40**	~~*~~ J	29	11	ug/L		02/20/17 07:25	02/21/17 23:26	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/20/17 07:25	02/21/17 23:26	1
Atrazine	<3.6		3.6	0.45	ug/L		02/20/17 07:25	02/21/17 23:26	1
1,1'-Biphenyl	**2.2**	J	3.6	0.26	ug/L		02/20/17 07:25	02/21/17 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*30 - 123*	*02/20/17 07:25*	*02/21/17 23:26*	*1*
2-Fluorophenol (Surr)	*61*		*30 - 110*	*02/20/17 07:25*	*02/21/17 23:26*	*1*
Nitrobenzene-d5 (Surr)	*43*		*33 - 139*	*02/20/17 07:25*	*02/21/17 23:26*	*1*
Phenol-d5 (Surr)	*73*		*20 - 100*	*02/20/17 07:25*	*02/21/17 23:26*	*1*
Terphenyl-d14 (Surr)	*131*		*42 - 150*	*02/20/17 07:25*	*02/21/17 23:26*	*1*
2,4,6-Tribromophenol (Surr)	*119*		*30 - 150*	*02/20/17 07:25*	*02/21/17 23:26*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**170**	D	73	12	ug/L		02/20/17 07:25	02/22/17 18:29	10
2,4-Dimethylphenol	**340**	D	73	13	ug/L		02/20/17 07:25	02/22/17 18:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*30 - 123*	*02/20/17 07:25*	*02/22/17 18:29*	*10*
2-Fluorophenol (Surr)	*81*		*30 - 110*	*02/20/17 07:25*	*02/22/17 18:29*	*10*
Nitrobenzene-d5 (Surr)	*59*		*33 - 139*	*02/20/17 07:25*	*02/22/17 18:29*	*10*
Phenol-d5 (Surr)	*88*		*20 - 100*	*02/20/17 07:25*	*02/22/17 18:29*	*10*
Terphenyl-d14 (Surr)	*79*		*42 - 150*	*02/20/17 07:25*	*02/22/17 18:29*	*10*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*61*		*30 - 150*	*02/20/17 07:25*	*02/22/17 18:29*	*10*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.18		0.18	0.024	ug/L		02/16/17 09:00	02/21/17 16:04	5
alpha-BHC	<0.18		0.18	0.012	ug/L		02/16/17 09:00	02/21/17 16:04	5
alpha-Chlordane	<0.18		0.18	0.020	ug/L		02/16/17 09:00	02/21/17 16:04	5
beta-BHC	<0.18		0.18	0.047	ug/L		02/16/17 09:00	02/21/17 16:04	5
4,4'-DDD	<0.18		0.18	0.061	ug/L		02/16/17 09:00	02/21/17 16:04	5
4,4'-DDE	<0.18		0.18	0.017	ug/L		02/16/17 09:00	02/21/17 16:04	5
4,4'-DDT	<0.18		0.18	0.015	ug/L		02/16/17 09:00	02/21/17 16:04	5
delta-BHC	<0.18		0.18	0.047	ug/L		02/16/17 09:00	02/21/17 16:04	5
Dieldrin	<0.18		0.18	0.059	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endosulfan I	<0.18		0.18	0.019	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endosulfan II	<0.18		0.18	0.013	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endosulfan sulfate	<0.18		0.18	0.054	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endrin	<0.18		0.18	0.065	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endrin aldehyde	<0.18		0.18	0.038	ug/L		02/16/17 09:00	02/21/17 16:04	5
Endrin ketone	<0.18		0.18	0.078	ug/L		02/16/17 09:00	02/21/17 16:04	5
gamma-BHC (Lindane)	<0.18		0.18	0.026	ug/L		02/16/17 09:00	02/21/17 16:04	5
gamma-Chlordane	<0.18		0.18	0.033	ug/L		02/16/17 09:00	02/21/17 16:04	5
Heptachlor	<0.18		0.18	0.062	ug/L		02/16/17 09:00	02/21/17 16:04	5
Heptachlor epoxide	<0.18		0.18	0.063	ug/L		02/16/17 09:00	02/21/17 16:04	5
Methoxychlor	<0.37		0.37	0.11	ug/L		02/16/17 09:00	02/21/17 16:04	5
Toxaphene	<1.8		1.8	0.92	ug/L		02/16/17 09:00	02/21/17 16:04	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*7*	*X*	*30 - 143*	*02/16/17 09:00*	*02/21/17 16:04*	*5*
Tetrachloro-m-xylene	*16*	*X*	*30 - 120*	*02/16/17 09:00*	*02/21/17 16:04*	*5*

Method: 8081B - Organochlorine Pesticides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.18	~~H~~ J	0.18	0.025	ug/L		02/22/17 17:59	02/23/17 13:12	5
alpha-BHC	<0.18	~~H~~	0.18	0.012	ug/L		02/22/17 17:59	02/23/17 13:12	5
alpha-Chlordane	<0.18	~~H~~	0.18	0.020	ug/L		02/22/17 17:59	02/23/17 13:12	5
beta-BHC	<0.18	~~H~~	0.18	0.047	ug/L		02/22/17 17:59	02/23/17 13:12	5
4,4'-DDD	<0.18	~~H~~	0.18	0.061	ug/L		02/22/17 17:59	02/23/17 13:12	5
4,4'-DDE	<0.18	~~H~~	0.18	0.018	ug/L		02/22/17 17:59	02/23/17 13:12	5
4,4'-DDT	<0.18	~~H~~	0.18	0.015	ug/L		02/22/17 17:59	02/23/17 13:12	5
delta-BHC	<0.18	~~H~~	0.18	0.048	ug/L		02/22/17 17:59	02/23/17 13:12	5
Dieldrin	<0.18	~~H~~	0.18	0.060	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endosulfan I	<0.18	~~H~~	0.18	0.019	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endosulfan II	<0.18	~~H~~	0.18	0.013	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endosulfan sulfate	<0.18	~~H~~	0.18	0.054	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endrin	<0.18	~~H~~	0.18	0.066	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endrin aldehyde	<0.18	~~H~~	0.18	0.038	ug/L		02/22/17 17:59	02/23/17 13:12	5
Endrin ketone	<0.18	~~H~~	0.18	0.079	ug/L		02/22/17 17:59	02/23/17 13:12	5
gamma-BHC (Lindane)	<0.18	~~H~~	0.18	0.026	ug/L		02/22/17 17:59	02/23/17 13:12	5
gamma-Chlordane	<0.18	~~H~~	0.18	0.033	ug/L		02/22/17 17:59	02/23/17 13:12	5
Heptachlor	<0.18	~~H~~	0.18	0.062	ug/L		02/22/17 17:59	02/23/17 13:12	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide	<0.18	~~H~~ J	0.18	0.064	ug/L		02/22/17 17:59	02/23/17 13:12	5
Methoxychlor	<0.37	~~H~~	0.37	0.11	ug/L		02/22/17 17:59	02/23/17 13:12	5
Toxaphene	<1.8	~~H~~	1.8	0.92	ug/L		02/22/17 17:59	02/23/17 13:12	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*10*	*X*	*30 - 143*	*02/22/17 17:59*	*02/23/17 13:12*	*5*
Tetrachloro-m-xylene	*34*		*30 - 120*	*02/22/17 17:59*	*02/23/17 13:12*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37	J	0.37	0.062	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1016	<0.37		0.37	0.062	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1242	**2.3**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1242	**3.1**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1254	**1.6**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1254	**2.7**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/16/17 09:00	02/24/17 12:55	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/16/17 09:00	02/24/17 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*15*	*X*	*30 - 127*	*02/16/17 09:00*	*02/24/17 12:55*	*1*
Tetrachloro-m-xylene	*19*	*X*	*30 - 127*	*02/16/17 09:00*	*02/24/17 12:55*	*1*
DCB Decachlorobiphenyl	*10*	*X*	*30 - 150*	*02/16/17 09:00*	*02/24/17 12:55*	*1*
DCB Decachlorobiphenyl	*14*	*X*	*30 - 150*	*02/16/17 09:00*	*02/24/17 12:55*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.3**		0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:04	1
Antimony	**0.013**	**J**	0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:04	1
Arsenic	**0.039**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:04	1
Barium	**0.51**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:04	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:04	1
Cadmium	**0.0052**		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:04	1
Calcium	**9.6**		0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:04	1
Chromium	**0.36**		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:04	1
Cobalt	**0.039**		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:04	1
Copper	**0.057**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:04	1
Iron	**3.9**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:04	1
Lead	**0.50**		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:04	1
Magnesium	**25**		0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:04	1
Manganese	**0.015**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:04	1
Nickel	**0.14**		0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:04	1
Potassium	**570**		0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:04	1
Selenium	**0.0093**	**J**	0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-07-GW-02142017

Date Collected: 02/14/17 15:25
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-1

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:04	1
Sodium	**3500**		10	4.3	mg/L		02/16/17 07:48	02/21/17 13:03	10
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:04	1
Vanadium	**0.055**		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:04	1
Zinc	**0.67**		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:04	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.77**		0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:08	1
Antimony	**0.0085**	J	0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:08	1
Arsenic	**0.032**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:08	1
Barium	**0.46**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:08	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:08	1
Cadmium	**0.0027**		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:08	1
Calcium	**9.1**	J	0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:08	1
Chromium	**0.33**		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:08	1
Cobalt	**0.038**		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:08	1
Copper	**0.026**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:08	1
Iron	**3.4**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:08	1
Lead	**0.18**		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:08	1
Magnesium	**25**	J	0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:08	1
Manganese	**0.013**	J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:08	1
Nickel	**0.13**		0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:08	1
Potassium	**570**	J	0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:08	1
Selenium	**0.0070**	J	0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:08	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:08	1
Sodium	**3600**	J	10	4.3	mg/L		02/16/17 07:48	02/21/17 13:08	10
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:08	1
Vanadium	**0.048**		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:08	1
Zinc	**0.32**		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00086**		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00036**		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**8.0**		1.0	0.18	mg/L			02/21/17 07:26	1
Sulfate	<50		50	15	mg/L			02/20/17 09:17	10
Total Organic Carbon - Duplicates	**540**	~~B~~	40	11	mg/L			02/20/17 00:59	40
Nitrogen, Nitrate	**0.059**	J	0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**13**		5.0	2.5	mg/L			02/16/17 10:19	1
Ammonia	**740**		40	20	mg/L		02/16/17 18:50	02/16/17 23:54	10
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/16/17 10:28	1
Nitrogen, Nitrate Nitrite	**0.059**	J	0.10	0.035	mg/L			02/17/17 21:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**43**		5.0	1.7	ug/L			02/21/17 02:45	1
Benzene	**6.6**		0.50	0.15	ug/L			02/21/17 02:45	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/21/17 02:45	1
Bromoform	<1.0		1.0	0.48	ug/L			02/21/17 02:45	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/21/17 02:45	1
Carbon disulfide	**1.6**	**J**	2.0	0.45	ug/L			02/21/17 02:45	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/21/17 02:45	1
Chlorobenzene	**0.62**	**J**	1.0	0.39	ug/L			02/21/17 02:45	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/21/17 02:45	1
Chloroform	<2.0		2.0	0.37	ug/L			02/21/17 02:45	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/21/17 02:45	1
cis-1,2-Dichloroethene	**3.6**		1.0	0.41	ug/L			02/21/17 02:45	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/21/17 02:45	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/21/17 02:45	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/21/17 02:45	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/21/17 02:45	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/21/17 02:45	1
1,2-Dichlorobenzene	**2.3**		1.0	0.33	ug/L			02/21/17 02:45	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/21/17 02:45	1
1,4-Dichlorobenzene	**13**		1.0	0.36	ug/L			02/21/17 02:45	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/21/17 02:45	1
1,1-Dichloroethane	**0.45**	**J**	1.0	0.41	ug/L			02/21/17 02:45	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/21/17 02:45	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/21/17 02:45	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/21/17 02:45	1
Ethylbenzene	**55**		0.50	0.18	ug/L			02/21/17 02:45	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/21/17 02:45	1
Isopropylbenzene	**4.0**		1.0	0.39	ug/L			02/21/17 02:45	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/21/17 02:45	1
Methylcyclohexane	**0.76**	**J**	1.0	0.32	ug/L			02/21/17 02:45	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/21/17 02:45	1
Methyl Ethyl Ketone	**14**		5.0	2.1	ug/L			02/21/17 02:45	1
methyl isobutyl ketone	**25**		5.0	2.2	ug/L			02/21/17 02:45	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/21/17 02:45	1
Styrene	<1.0		1.0	0.39	ug/L			02/21/17 02:45	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/21/17 02:45	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/21/17 02:45	1
Toluene	**130**		0.50	0.15	ug/L			02/21/17 02:45	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/21/17 02:45	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/21/17 02:45	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/21/17 02:45	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/21/17 02:45	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/21/17 02:45	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/21/17 02:45	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/21/17 02:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/21/17 02:45	1
Vinyl chloride	**3.4**		0.50	0.20	ug/L			02/21/17 02:45	1
Xylenes, Total	**230**		1.0	0.22	ug/L			02/21/17 02:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*71 - 120*		*02/21/17 02:45*	*1*
Dibromofluoromethane	*100*		*70 - 120*		*02/21/17 02:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*71 - 127*		*02/21/17 02:45*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*02/21/17 02:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.50**	**J**	0.73	0.23	ug/L		02/20/17 07:25	02/21/17 23:55	1
Acenaphthylene	<0.73		0.73	0.20	ug/L		02/20/17 07:25	02/21/17 23:55	1
Acetophenone	<3.7		3.7	0.49	ug/L		02/20/17 07:25	02/21/17 23:55	1
Anthracene	**0.30**	**J**	0.73	0.24	ug/L		02/20/17 07:25	02/21/17 23:55	1
Benzo[a]anthracene	<0.15		0.15	0.041	ug/L		02/20/17 07:25	02/21/17 23:55	1
Benzo[a]pyrene R	~~<0.15~~	~~*~~	~~0.15~~	~~0.072~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Benzo[b]fluoranthene	~~<0.15~~	~~*~~	~~0.15~~	~~0.059~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Benzo[g,h,i]perylene R	~~<0.73~~	~~*~~	~~0.73~~	~~0.27~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Benzo[k]fluoranthene R	~~<0.15~~	~~*~~	~~0.15~~	~~0.047~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/21/17 23:55	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/21/17 23:55	1
Bis(2-ethylhexyl) phthalate	**41**		7.3	1.3	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/20/17 07:25	02/21/17 23:55	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/20/17 07:25	02/21/17 23:55	1
Carbazole	<3.7	~~*~~ J	3.7	0.26	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Chloro-3-methylphenol	**12**		7.3	1.7	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Chloronaphthalene	**3.1**		1.5	0.17	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Chlorophenol	<3.7		3.7	0.41	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/20/17 07:25	02/21/17 23:55	1
Chrysene	<0.15		0.15	0.050	ug/L		02/20/17 07:25	02/21/17 23:55	1
Dibenz(a,h)anthracene R	~~<0.22~~	~~*~~	~~0.22~~	~~0.037~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/20/17 07:25	02/21/17 23:55	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,4-Dichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/21/17 23:55	1
Diethyl phthalate	<1.5		1.5	0.26	ug/L		02/20/17 07:25	02/21/17 23:55	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/21/17 23:55	1
Di-n-butyl phthalate	**1.4**	**J**	3.7	0.53	ug/L		02/20/17 07:25	02/21/17 23:55	1
4,6-Dinitro-2-methylphenol	<15		15	4.3	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,4-Dinitrophenol	<15		15	6.3	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/20/17 07:25	02/21/17 23:55	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/20/17 07:25	02/21/17 23:55	1
Fluoranthene	**0.43**	**J**	0.73	0.33	ug/L		02/20/17 07:25	02/21/17 23:55	1
Fluorene	**0.39**	**J**	0.73	0.18	ug/L		02/20/17 07:25	02/21/17 23:55	1
Hexachlorobenzene	<0.37		0.37	0.058	ug/L		02/20/17 07:25	02/21/17 23:55	1
Hexachlorobutadiene	<3.7		3.7	0.38	ug/L		02/20/17 07:25	02/21/17 23:55	1
Hexachlorocyclopentadiene	<15	J	15	4.7	ug/L		02/20/17 07:25	02/21/17 23:55	1
Hexachloroethane	<3.7		3.7	0.44	ug/L		02/20/17 07:25	02/21/17 23:55	1
Indeno[1,2,3-cd]pyrene R	~~<0.15~~	~~*~~	~~0.15~~	~~0.055~~	~~ug/L~~		~~02/20/17 07:25~~	~~02/21/17 23:55~~	~~1~~
Isophorone	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Methylnaphthalene	**2.0**		1.5	0.048	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Methylphenol	**18**		1.5	0.22	ug/L		02/20/17 07:25	02/21/17 23:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	**5.0**		1.5	0.33	ug/L		02/20/17 07:25	02/21/17 23:55	1
Naphthalene	**23**		0.73	0.23	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Nitroaniline	<3.7		3.7	0.94	ug/L		02/20/17 07:25	02/21/17 23:55	1
3-Nitroaniline	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/20/17 07:25	02/21/17 23:55	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/21/17 23:55	1
2-Nitrophenol	<7.3		7.3	1.8	ug/L		02/20/17 07:25	02/21/17 23:55	1
4-Nitrophenol	<15		15	5.4	ug/L		02/20/17 07:25	02/21/17 23:55	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/20/17 07:25	02/21/17 23:55	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/21/17 23:55	1
Pentachlorophenol	<15		15	2.9	ug/L		02/20/17 07:25	02/21/17 23:55	1
Phenanthrene	**1.0**		0.73	0.22	ug/L		02/20/17 07:25	02/21/17 23:55	1
Phenol	<3.7		3.7	0.49	ug/L		02/20/17 07:25	02/21/17 23:55	1
Pyrene	**0.59**	**J**	0.73	0.31	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,4,5-Trichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/21/17 23:55	1
2,4,6-Trichlorophenol	<3.7		3.7	0.52	ug/L		02/20/17 07:25	02/21/17 23:55	1
Benzaldehyde	**20**	**J**	29	11	ug/L		02/20/17 07:25	02/21/17 23:55	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/20/17 07:25	02/21/17 23:55	1
Atrazine	<3.7		3.7	0.46	ug/L		02/20/17 07:25	02/21/17 23:55	1
1,1'-Biphenyl	**1.5**	**J**	3.7	0.27	ug/L		02/20/17 07:25	02/21/17 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*30 - 123*	*02/20/17 07:25*	*02/21/17 23:55*	*1*
2-Fluorophenol (Surr)	*64*		*30 - 110*	*02/20/17 07:25*	*02/21/17 23:55*	*1*
Nitrobenzene-d5 (Surr)	*32*	*X*	*33 - 139*	*02/20/17 07:25*	*02/21/17 23:55*	*1*
Phenol-d5 (Surr)	*69*		*20 - 100*	*02/20/17 07:25*	*02/21/17 23:55*	*1*
Terphenyl-d14 (Surr)	*100*		*42 - 150*	*02/20/17 07:25*	*02/21/17 23:55*	*1*
2,4,6-Tribromophenol (Surr)	*96*		*30 - 150*	*02/20/17 07:25*	*02/21/17 23:55*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	**93**	D	37	6.6	ug/L		02/20/17 07:25	02/22/17 18:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*43*		*30 - 123*	*02/20/17 07:25*	*02/22/17 18:58*	*5*
2-Fluorophenol (Surr)	*68*		*30 - 110*	*02/20/17 07:25*	*02/22/17 18:58*	*5*
Nitrobenzene-d5 (Surr)	*47*		*33 - 139*	*02/20/17 07:25*	*02/22/17 18:58*	*5*
Phenol-d5 (Surr)	*74*		*20 - 100*	*02/20/17 07:25*	*02/22/17 18:58*	*5*
Terphenyl-d14 (Surr)	*92*		*42 - 150*	*02/20/17 07:25*	*02/22/17 18:58*	*5*
2,4,6-Tribromophenol (Surr)	*69*		*30 - 150*	*02/20/17 07:25*	*02/22/17 18:58*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/16/17 09:00	02/21/17 15:06	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/16/17 09:00	02/21/17 15:06	1
alpha-Chlordane	<0.037		0.037	0.0041	ug/L		02/16/17 09:00	02/21/17 15:06	1
beta-BHC	<0.037		0.037	0.0094	ug/L		02/16/17 09:00	02/21/17 15:06	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:06	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/16/17 09:00	02/21/17 15:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-2

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/16/17 09:00	02/21/17 15:06	1
delta-BHC	<0.037		0.037	0.0095	ug/L		02/16/17 09:00	02/21/17 15:06	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endrin	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endrin aldehyde	<0.037		0.037	0.0076	ug/L		02/16/17 09:00	02/21/17 15:06	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/16/17 09:00	02/21/17 15:06	1
gamma-BHC (Lindane)	<0.037		0.037	0.0052	ug/L		02/16/17 09:00	02/21/17 15:06	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/16/17 09:00	02/21/17 15:06	1
Heptachlor	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:06	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:06	1
Methoxychlor	<0.074		0.074	0.021	ug/L		02/16/17 09:00	02/21/17 15:06	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/21/17 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*26*	*X*	*30 - 143*	*02/16/17 09:00*	*02/21/17 15:06*	*1*
Tetrachloro-m-xylene	*58*		*30 - 120*	*02/16/17 09:00*	*02/21/17 15:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.062	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1016	<0.37		0.37	0.062	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1242	**2.1**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1242	**2.6**		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/16/17 09:00	02/24/17 13:10	1
PCB-1260	<0.37	J	0.37	0.064	ug/L		02/16/17 09:00	02/24/17 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*35*		*30 - 127*	*02/16/17 09:00*	*02/24/17 13:10*	*1*
Tetrachloro-m-xylene	*42*		*30 - 127*	*02/16/17 09:00*	*02/24/17 13:10*	*1*
DCB Decachlorobiphenyl	*18*	*X*	*30 - 150*	*02/16/17 09:00*	*02/24/17 13:10*	*1*
DCB Decachlorobiphenyl	*26*	*X*	*30 - 150*	*02/16/17 09:00*	*02/24/17 13:10*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.29**		0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:13	1
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:13	1
Arsenic	**0.021**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:13	1
Barium	**0.26**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:13	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-2

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0015	J	0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:13	1
Calcium	15		0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:13	1
Chromium	0.11		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:13	1
Cobalt	0.025		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:13	1
Copper	0.0096	J	0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:13	1
Iron	0.98		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:13	1
Lead	0.11		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:13	1
Magnesium	31		0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:13	1
Manganese	0.0079	J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:13	1
Nickel	0.10		0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:13	1
Potassium	520		0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:13	1
Selenium	0.0081	J	0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:13	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:13	1
Sodium	3300		10	4.3	mg/L		02/16/17 07:48	02/21/17 13:12	10
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:13	1
Vanadium	0.032		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:13	1
Zinc	0.11		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:13	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.14	J	0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:18	1
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:18	1
Arsenic	0.020		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:18	1
Barium	0.26		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:18	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:18	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:18	1
Calcium	15	J	0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:18	1
Chromium	0.10		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:18	1
Cobalt	0.025		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:18	1
Copper	<0.010		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:18	1
Iron	0.59		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:18	1
Lead	0.0080		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:18	1
Magnesium	31	J	0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:18	1
Manganese	0.0071	J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:18	1
Nickel	0.10		0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:18	1
Potassium	520	J	0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:18	1
Selenium	<0.010		0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:18	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:18	1
Sodium	3500	J	10	4.3	mg/L		02/16/17 07:48	02/21/17 13:17	10
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:18	1
Vanadium	0.029		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:18	1
Zinc	0.023		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:26	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-06-GW-02152017

Lab Sample ID: 500-123929-2

Date Collected: 02/15/17 08:00
Date Received: 02/15/17 16:47

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**7.2**		1.0	0.18	mg/L			02/21/17 07:29	1
Sulfate	**21**	~~B~~ UB	10	2.9	mg/L			02/20/17 09:18	2
Total Organic Carbon - Duplicates	**310**	~~B~~	20	5.3	mg/L			02/20/17 01:16	20
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**4.0**	**J**	5.0	2.5	mg/L			02/16/17 10:20	1
Ammonia	**530**		40	20	mg/L		02/16/17 18:50	02/16/17 23:57	10
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/16/17 10:28	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-05-GW-02152017

Lab Sample ID: 500-123929-3

Date Collected: 02/15/17 09:40
Matrix: Water
Date Received: 02/15/17 16:47

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**8.5**		5.0	1.7	ug/L			02/21/17 03:10	1
Benzene	**0.24**	J	0.50	0.15	ug/L			02/21/17 03:10	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/21/17 03:10	1
Bromoform	<1.0		1.0	0.48	ug/L			02/21/17 03:10	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/21/17 03:10	1
Carbon disulfide	<2.0	J	2.0	0.45	ug/L			02/21/17 03:10	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/21/17 03:10	1
Chlorobenzene	**2.9**		1.0	0.39	ug/L			02/21/17 03:10	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/21/17 03:10	1
Chloroform	<2.0		2.0	0.37	ug/L			02/21/17 03:10	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/21/17 03:10	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/21/17 03:10	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/21/17 03:10	1
Cyclohexane	**2.2**		1.0	0.49	ug/L			02/21/17 03:10	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/21/17 03:10	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/21/17 03:10	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/21/17 03:10	1
1,2-Dichlorobenzene	<1.0		1.0	0.33	ug/L			02/21/17 03:10	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/21/17 03:10	1
1,4-Dichlorobenzene	**1.4**		1.0	0.36	ug/L			02/21/17 03:10	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/21/17 03:10	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/21/17 03:10	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/21/17 03:10	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/21/17 03:10	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/21/17 03:10	1
Ethylbenzene	<0.50		0.50	0.18	ug/L			02/21/17 03:10	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/21/17 03:10	1
Isopropylbenzene	**36**		1.0	0.39	ug/L			02/21/17 03:10	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/21/17 03:10	1
Methylcyclohexane	**0.55**	J	1.0	0.32	ug/L			02/21/17 03:10	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/21/17 03:10	1
Methyl Ethyl Ketone	<5.0		5.0	2.1	ug/L			02/21/17 03:10	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/21/17 03:10	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/21/17 03:10	1
Styrene	<1.0		1.0	0.39	ug/L			02/21/17 03:10	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/21/17 03:10	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/21/17 03:10	1
Toluene	<0.50		0.50	0.15	ug/L			02/21/17 03:10	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/21/17 03:10	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/21/17 03:10	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/21/17 03:10	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/21/17 03:10	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/21/17 03:10	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/21/17 03:10	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/21/17 03:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/21/17 03:10	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/21/17 03:10	1
Xylenes, Total	**0.90**	J	1.0	0.22	ug/L			02/21/17 03:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-05-GW-02152017

Date Collected: 02/15/17 09:40
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-3

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*71 - 120*		*02/21/17 03:10*	*1*
Dibromofluoromethane	*97*		*70 - 120*		*02/21/17 03:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*71 - 127*		*02/21/17 03:10*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*02/21/17 03:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.32**	**J**	0.75	0.23	ug/L		02/20/17 07:25	02/22/17 00:24	1
Acenaphthylene	<0.75		0.75	0.20	ug/L		02/20/17 07:25	02/22/17 00:24	1
Acetophenone	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 00:24	1
Anthracene	<0.75		0.75	0.25	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzo[a]anthracene	<0.15		0.15	0.043	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzo[a]pyrene	<0.15		0.15	0.074	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzo[b]fluoranthene	<0.15		0.15	0.061	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzo[g,h,i]perylene	<0.75		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzo[k]fluoranthene	<0.15		0.15	0.048	ug/L		02/20/17 07:25	02/22/17 00:24	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/22/17 00:24	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/20/17 07:25	02/22/17 00:24	1
Bis(2-ethylhexyl) phthalate	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L		02/20/17 07:25	02/22/17 00:24	1
Butyl benzyl phthalate	<1.5		1.5	0.36	ug/L		02/20/17 07:25	02/22/17 00:24	1
Carbazole	<3.8		3.8	0.27	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Chloroaniline	<7.5		7.5	1.5	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Chloro-3-methylphenol	<7.5		7.5	1.7	ug/L		02/20/17 07:25	02/22/17 00:24	1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L		02/20/17 07:25	02/22/17 00:24	1
2-Chlorophenol	<3.8		3.8	0.42	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.48	ug/L		02/20/17 07:25	02/22/17 00:24	1
Chrysene	<0.15		0.15	0.051	ug/L		02/20/17 07:25	02/22/17 00:24	1
Dibenz(a,h)anthracene	<0.23		0.23	0.038	ug/L		02/20/17 07:25	02/22/17 00:24	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		02/20/17 07:25	02/22/17 00:24	1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4-Dichlorophenol	<7.5		7.5	2.0	ug/L		02/20/17 07:25	02/22/17 00:24	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4-Dimethylphenol	<7.5		7.5	1.4	ug/L		02/20/17 07:25	02/22/17 00:24	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		02/20/17 07:25	02/22/17 00:24	1
Di-n-butyl phthalate	<3.8		3.8	0.55	ug/L		02/20/17 07:25	02/22/17 00:24	1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4-Dinitrophenol	<15		15	6.5	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4-Dinitrotoluene	<0.75		0.75	0.18	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,6-Dinitrotoluene	<0.75		0.75	0.055	ug/L		02/20/17 07:25	02/22/17 00:24	1
Di-n-octyl phthalate	<7.5		7.5	0.79	ug/L		02/20/17 07:25	02/22/17 00:24	1
Fluoranthene	<0.75		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 00:24	1
Fluorene	**0.20**	**J**	0.75	0.18	ug/L		02/20/17 07:25	02/22/17 00:24	1
Hexachlorobenzene	<0.38		0.38	0.060	ug/L		02/20/17 07:25	02/22/17 00:24	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		02/20/17 07:25	02/22/17 00:24	1
Hexachlorocyclopentadiene	<15	J	15	4.8	ug/L		02/20/17 07:25	02/22/17 00:24	1
Hexachloroethane	<3.8		3.8	0.45	ug/L		02/20/17 07:25	02/22/17 00:24	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.056	ug/L		02/20/17 07:25	02/22/17 00:24	1
Isophorone	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/22/17 00:24	1
2-Methylnaphthalene	**0.40**	**J**	1.5	0.049	ug/L		02/20/17 07:25	02/22/17 00:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-05-GW-02152017

Lab Sample ID: 500-123929-3

Date Collected: 02/15/17 09:40
Date Received: 02/15/17 16:47

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/22/17 00:24	1
3 & 4 Methylphenol	<1.5		1.5	0.34	ug/L		02/20/17 07:25	02/22/17 00:24	1
Naphthalene	<0.75		0.75	0.23	ug/L		02/20/17 07:25	02/22/17 00:24	1
2-Nitroaniline	<3.8		3.8	0.97	ug/L		02/20/17 07:25	02/22/17 00:24	1
3-Nitroaniline	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Nitroaniline	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 00:24	1
Nitrobenzene	<0.75		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 00:24	1
2-Nitrophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 00:24	1
4-Nitrophenol	<15		15	5.6	ug/L		02/20/17 07:25	02/22/17 00:24	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		02/20/17 07:25	02/22/17 00:24	1
N-Nitrosodiphenylamine	**0.98**		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L		02/20/17 07:25	02/22/17 00:24	1
Pentachlorophenol	<15		15	3.0	ug/L		02/20/17 07:25	02/22/17 00:24	1
Phenanthrene	<0.75		0.75	0.23	ug/L		02/20/17 07:25	02/22/17 00:24	1
Phenol	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 00:24	1
Pyrene	<0.75		0.75	0.32	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4,5-Trichlorophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 00:24	1
2,4,6-Trichlorophenol	<3.8		3.8	0.54	ug/L		02/20/17 07:25	02/22/17 00:24	1
Benzaldehyde	<30	J	30	11	ug/L		02/20/17 07:25	02/22/17 00:24	1
Caprolactam	<7.5		7.5	1.1	ug/L		02/20/17 07:25	02/22/17 00:24	1
Atrazine	<3.8		3.8	0.47	ug/L		02/20/17 07:25	02/22/17 00:24	1
1,1'-Biphenyl	<3.8		3.8	0.27	ug/L		02/20/17 07:25	02/22/17 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*30 - 123*	*02/20/17 07:25*	*02/22/17 00:24*	*1*
2-Fluorophenol (Surr)	*65*		*30 - 110*	*02/20/17 07:25*	*02/22/17 00:24*	*1*
Nitrobenzene-d5 (Surr)	*63*		*33 - 139*	*02/20/17 07:25*	*02/22/17 00:24*	*1*
Phenol-d5 (Surr)	*52*		*20 - 100*	*02/20/17 07:25*	*02/22/17 00:24*	*1*
Terphenyl-d14 (Surr)	*96*		*42 - 150*	*02/20/17 07:25*	*02/22/17 00:24*	*1*
2,4,6-Tribromophenol (Surr)	*99*		*30 - 150*	*02/20/17 07:25*	*02/22/17 00:24*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/16/17 09:00	02/21/17 15:26	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/16/17 09:00	02/21/17 15:26	1
alpha-Chlordane	<0.037		0.037	0.0040	ug/L		02/16/17 09:00	02/21/17 15:26	1
beta-BHC	<0.037		0.037	0.0093	ug/L		02/16/17 09:00	02/21/17 15:26	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:26	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/16/17 09:00	02/21/17 15:26	1
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/16/17 09:00	02/21/17 15:26	1
delta-BHC	<0.037		0.037	0.0094	ug/L		02/16/17 09:00	02/21/17 15:26	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endrin	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endrin aldehyde	<0.037		0.037	0.0075	ug/L		02/16/17 09:00	02/21/17 15:26	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/16/17 09:00	02/21/17 15:26	1
gamma-BHC (Lindane)	<0.037		0.037	0.0051	ug/L		02/16/17 09:00	02/21/17 15:26	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/16/17 09:00	02/21/17 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-05-GW-02152017

Date Collected: 02/15/17 09:40
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-3

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:26	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:26	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/16/17 09:00	02/21/17 15:26	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/21/17 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*70*		*30 - 143*	*02/16/17 09:00*	*02/21/17 15:26*	*1*
Tetrachloro-m-xylene	*41*		*30 - 120*	*02/16/17 09:00*	*02/21/17 15:26*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.061	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:26	1
PCB-1260	<0.37	J	0.37	0.064	ug/L		02/16/17 09:00	02/24/17 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*30 - 127*	*02/16/17 09:00*	*02/24/17 13:26*	*1*
DCB Decachlorobiphenyl	*90*		*30 - 150*	*02/16/17 09:00*	*02/24/17 13:26*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:22	1
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:22	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:22	1
Barium	**0.86**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:22	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:22	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:22	1
Calcium	**76**		0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:22	1
Chromium	<0.010		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:22	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:22	1
Copper	<0.010		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:22	1
Iron	**20**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:22	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:22	1
Magnesium	**90**		0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:22	1
Manganese	**0.053**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:22	1
Nickel	**0.0046**	J	0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:22	1
Potassium	**43**		0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:22	1
Selenium	<0.010		0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:22	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:22	1
Sodium	**150**		1.0	0.43	mg/L		02/16/17 07:48	02/20/17 19:22	1
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:22	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:22	1
Zinc	**0.0093**	J	0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:22	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-05-GW-02152017

Date Collected: 02/15/17 09:40
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-3

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:26	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:26	1
Barium	**0.83**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:26	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:26	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:26	1
Calcium	**73**	J	0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:26	1
Chromium	<0.010		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:26	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:26	1
Copper	<0.010		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:26	1
Iron	**19**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:26	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:26	1
Magnesium	**88**	J	0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:26	1
Manganese	**0.051**	J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:26	1
Nickel	<0.010		0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:26	1
Potassium	**42**	J	0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:26	1
Selenium	<0.010		0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:26	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:26	1
Sodium	**150**	J	1.0	0.43	mg/L		02/16/17 07:48	02/20/17 19:26	1
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:26	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:26	1
Zinc	<0.020		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:29	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 07:32	1
Sulfate 5.0	~~2.9~~	~~J B~~ UB	5.0	1.5	mg/L			02/23/17 03:32	1
Total Organic Carbon - Duplicates	**18**	~~B~~	1.0	0.27	mg/L			02/20/17 01:33	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**56**		5.0	2.5	mg/L			02/16/17 10:22	1
Ammonia	**50**		4.0	2.0	mg/L		02/16/17 18:50	02/16/17 22:40	20
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/16/17 10:29	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-04-GW-02152017

Date Collected: 02/15/17 11:35
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**31**		5.0	1.7	ug/L			02/21/17 03:35	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/21/17 03:35	1
Bromoform	<1.0		1.0	0.48	ug/L			02/21/17 03:35	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/21/17 03:35	1
Carbon disulfide	**2.2**	J	2.0	0.45	ug/L			02/21/17 03:35	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/21/17 03:35	1
Chlorobenzene	**2.0**		1.0	0.39	ug/L			02/21/17 03:35	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/21/17 03:35	1
Chloroform	**0.65**	J	2.0	0.37	ug/L			02/21/17 03:35	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/21/17 03:35	1
cis-1,2-Dichloroethene	**11**		1.0	0.41	ug/L			02/21/17 03:35	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/21/17 03:35	1
Cyclohexane	**1.9**		1.0	0.49	ug/L			02/21/17 03:35	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/21/17 03:35	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/21/17 03:35	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/21/17 03:35	1
1,2-Dichlorobenzene	**0.56**	J	1.0	0.33	ug/L			02/21/17 03:35	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/21/17 03:35	1
1,4-Dichlorobenzene	<1.0		1.0	0.36	ug/L			02/21/17 03:35	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/21/17 03:35	1
1,1-Dichloroethane	**18**		1.0	0.41	ug/L			02/21/17 03:35	1
1,2-Dichloroethane	**58**		1.0	0.39	ug/L			02/21/17 03:35	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/21/17 03:35	1
1,2-Dichloropropane	**1.7**		1.0	0.43	ug/L			02/21/17 03:35	1
Ethylbenzene	**13**		0.50	0.18	ug/L			02/21/17 03:35	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/21/17 03:35	1
Isopropylbenzene	**0.92**	J	1.0	0.39	ug/L			02/21/17 03:35	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/21/17 03:35	1
Methylcyclohexane	<1.0		1.0	0.32	ug/L			02/21/17 03:35	1
Methylene Chloride	**6.9**		5.0	1.6	ug/L			02/21/17 03:35	1
Methyl Ethyl Ketone	**9.7**		5.0	2.1	ug/L			02/21/17 03:35	1
methyl isobutyl ketone	**20**		5.0	2.2	ug/L			02/21/17 03:35	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/21/17 03:35	1
Styrene	<1.0		1.0	0.39	ug/L			02/21/17 03:35	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/21/17 03:35	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/21/17 03:35	1
Toluene	**28**		0.50	0.15	ug/L			02/21/17 03:35	1
trans-1,2-Dichloroethene	**1.1**		1.0	0.35	ug/L			02/21/17 03:35	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/21/17 03:35	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/21/17 03:35	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/21/17 03:35	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/21/17 03:35	1
Trichloroethene	**2.4**		0.50	0.16	ug/L			02/21/17 03:35	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/21/17 03:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/21/17 03:35	1
Vinyl chloride	**3.8**		0.50	0.20	ug/L			02/21/17 03:35	1
Xylenes, Total	**17**		1.0	0.22	ug/L			02/21/17 03:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-04-GW-02152017

Date Collected: 02/15/17 11:35
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*71 - 120*		*02/21/17 03:35*	*1*
Dibromofluoromethane	*97*		*70 - 120*		*02/21/17 03:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*71 - 127*		*02/21/17 03:35*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*02/21/17 03:35*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**530**		5.0	1.5	ug/L			02/21/17 04:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*71 - 120*		*02/21/17 04:00*	*10*
Dibromofluoromethane	*96*		*70 - 120*		*02/21/17 04:00*	*10*
1,2-Dichloroethane-d4 (Surr)	*115*		*71 - 127*		*02/21/17 04:00*	*10*
Toluene-d8 (Surr)	*96*		*75 - 120*		*02/21/17 04:00*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.73		0.73	0.23	ug/L		02/20/17 07:25	02/22/17 00:53	1
Acenaphthylene	<0.73		0.73	0.20	ug/L		02/20/17 07:25	02/22/17 00:53	1
Acetophenone	**3.0**	**J**	3.7	0.49	ug/L		02/20/17 07:25	02/22/17 00:53	1
Anthracene	<0.73		0.73	0.24	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzo[a]anthracene	<0.15		0.15	0.041	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzo[a]pyrene	<0.15		0.15	0.072	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzo[g,h,i]perylene	<0.73		0.73	0.27	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/20/17 07:25	02/22/17 00:53	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/22/17 00:53	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/22/17 00:53	1
Bis(2-ethylhexyl) phthalate	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/20/17 07:25	02/22/17 00:53	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/20/17 07:25	02/22/17 00:53	1
Carbazole	<3.7		3.7	0.26	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Chloro-3-methylphenol	<7.3		7.3	1.7	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Chlorophenol	<3.7		3.7	0.41	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.46	ug/L		02/20/17 07:25	02/22/17 00:53	1
Chrysene	<0.15		0.15	0.050	ug/L		02/20/17 07:25	02/22/17 00:53	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/20/17 07:25	02/22/17 00:53	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/20/17 07:25	02/22/17 00:53	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4-Dichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/22/17 00:53	1
Diethyl phthalate	<1.5		1.5	0.26	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4-Dimethylphenol	**31**		7.3	1.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/22/17 00:53	1
Di-n-butyl phthalate	<3.7		3.7	0.53	ug/L		02/20/17 07:25	02/22/17 00:53	1
4,6-Dinitro-2-methylphenol	<15		15	4.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4-Dinitrophenol	<15		15	6.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/20/17 07:25	02/22/17 00:53	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/20/17 07:25	02/22/17 00:53	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-04-GW-02152017

Date Collected: 02/15/17 11:35
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/22/17 00:53	1
Fluorene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/22/17 00:53	1
Hexachlorobenzene	<0.37		0.37	0.058	ug/L		02/20/17 07:25	02/22/17 00:53	1
Hexachlorobutadiene	<3.7		3.7	0.38	ug/L		02/20/17 07:25	02/22/17 00:53	1
Hexachlorocyclopentadiene	<15	J	15	4.7	ug/L		02/20/17 07:25	02/22/17 00:53	1
Hexachloroethane	<3.7		3.7	0.44	ug/L		02/20/17 07:25	02/22/17 00:53	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/20/17 07:25	02/22/17 00:53	1
Isophorone	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Methylnaphthalene	<1.5		1.5	0.048	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Methylphenol	**7.7**		1.5	0.22	ug/L		02/20/17 07:25	02/22/17 00:53	1
3 & 4 Methylphenol	**11**		1.5	0.33	ug/L		02/20/17 07:25	02/22/17 00:53	1
Naphthalene	<0.73		0.73	0.23	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Nitroaniline	<3.7		3.7	0.94	ug/L		02/20/17 07:25	02/22/17 00:53	1
3-Nitroaniline	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/20/17 07:25	02/22/17 00:53	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/22/17 00:53	1
2-Nitrophenol	<7.3		7.3	1.8	ug/L		02/20/17 07:25	02/22/17 00:53	1
4-Nitrophenol	<15		15	5.4	ug/L		02/20/17 07:25	02/22/17 00:53	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/20/17 07:25	02/22/17 00:53	1
N-Nitrosodiphenylamine	<0.73		0.73	0.27	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/22/17 00:53	1
Pentachlorophenol	<15		15	2.9	ug/L		02/20/17 07:25	02/22/17 00:53	1
Phenanthrene	<0.73		0.73	0.22	ug/L		02/20/17 07:25	02/22/17 00:53	1
Phenol	**13**		3.7	0.49	ug/L		02/20/17 07:25	02/22/17 00:53	1
Pyrene	<0.73		0.73	0.31	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4,5-Trichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/22/17 00:53	1
2,4,6-Trichlorophenol	<3.7		3.7	0.52	ug/L		02/20/17 07:25	02/22/17 00:53	1
Benzaldehyde	<29	J	29	11	ug/L		02/20/17 07:25	02/22/17 00:53	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/20/17 07:25	02/22/17 00:53	1
Atrazine	<3.7		3.7	0.46	ug/L		02/20/17 07:25	02/22/17 00:53	1
1,1'-Biphenyl	<3.7		3.7	0.27	ug/L		02/20/17 07:25	02/22/17 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*39*		*30 - 123*	*02/20/17 07:25*	*02/22/17 00:53*	*1*
2-Fluorophenol (Surr)	*65*		*30 - 110*	*02/20/17 07:25*	*02/22/17 00:53*	*1*
Nitrobenzene-d5 (Surr)	*55*		*33 - 139*	*02/20/17 07:25*	*02/22/17 00:53*	*1*
Phenol-d5 (Surr)	*54*		*20 - 100*	*02/20/17 07:25*	*02/22/17 00:53*	*1*
Terphenyl-d14 (Surr)	*86*		*42 - 150*	*02/20/17 07:25*	*02/22/17 00:53*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*30 - 150*	*02/20/17 07:25*	*02/22/17 00:53*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/16/17 09:00	02/21/17 15:45	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/16/17 09:00	02/21/17 15:45	1
alpha-Chlordane	<0.037		0.037	0.0041	ug/L		02/16/17 09:00	02/21/17 15:45	1
beta-BHC	<0.037		0.037	0.0094	ug/L		02/16/17 09:00	02/21/17 15:45	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:45	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/16/17 09:00	02/21/17 15:45	1
4,4'-DDT	<0.037		0.037	0.0030	ug/L		02/16/17 09:00	02/21/17 15:45	1
delta-BHC	<0.037		0.037	0.0095	ug/L		02/16/17 09:00	02/21/17 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-04-GW-02152017

Lab Sample ID: 500-123929-4
Date Collected: 02/15/17 11:35
Matrix: Water
Date Received: 02/15/17 16:47

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endrin	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endrin aldehyde	<0.037		0.037	0.0076	ug/L		02/16/17 09:00	02/21/17 15:45	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/16/17 09:00	02/21/17 15:45	1
gamma-BHC (Lindane)	<0.037		0.037	0.0052	ug/L		02/16/17 09:00	02/21/17 15:45	1
gamma-Chlordane	<0.037		0.037	0.0067	ug/L		02/16/17 09:00	02/21/17 15:45	1
Heptachlor	<0.037		0.037	0.012	ug/L		02/16/17 09:00	02/21/17 15:45	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/16/17 09:00	02/21/17 15:45	1
Methoxychlor	<0.074		0.074	0.021	ug/L		02/16/17 09:00	02/21/17 15:45	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/21/17 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*53*		*30 - 143*	*02/16/17 09:00*	*02/21/17 15:45*	*1*
Tetrachloro-m-xylene	*28*	*X*	*30 - 120*	*02/16/17 09:00*	*02/21/17 15:45*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.062	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/16/17 09:00	02/24/17 13:41	1
PCB-1260	<0.37	J	0.37	0.065	ug/L		02/16/17 09:00	02/24/17 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*30 - 127*	*02/16/17 09:00*	*02/24/17 13:41*	*1*
DCB Decachlorobiphenyl	*89*		*30 - 150*	*02/16/17 09:00*	*02/24/17 13:41*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.094**	**J**	0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:29	1
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:29	1
Arsenic	**0.0073**	**J**	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:29	1
Barium	**0.033**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:29	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:29	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:29	1
Calcium	**160**		0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:29	1
Chromium	<0.010		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:29	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:29	1
Copper	<0.010		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:29	1
Iron	**2.5**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:29	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:29	1
Magnesium	**43**		0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:29	1
Manganese	**1.2**		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:29	1
Nickel	**0.0066**	**J**	0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:29	1
Potassium	**14**		0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:29	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123929-1

Client Sample ID: MW-04-GW-02152017

Date Collected: 02/15/17 11:35
Date Received: 02/15/17 16:47

Lab Sample ID: 500-123929-4

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.010		0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:29	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:29	1
Sodium	**380**		1.0	0.43	mg/L		02/16/17 07:48	02/20/17 19:29	1
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:29	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:29	1
Zinc	<0.020		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:29	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.064**	J	0.20	0.062	mg/L		02/16/17 07:48	02/20/17 19:34	1
Antimony	<0.020		0.020	0.0064	mg/L		02/16/17 07:48	02/20/17 19:34	1
Arsenic	**0.0094**	J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:34	1
Barium	**0.036**		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:34	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/16/17 07:48	02/20/17 19:34	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/16/17 07:48	02/20/17 19:34	1
Calcium	**180**	~~V~~ J	0.20	0.059	mg/L		02/16/17 07:48	02/20/17 19:34	1
Chromium	<0.010		0.010	0.0024	mg/L		02/16/17 07:48	02/20/17 19:34	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/16/17 07:48	02/20/17 19:34	1
Copper	<0.010		0.010	0.0022	mg/L		02/16/17 07:48	02/20/17 19:34	1
Iron	**2.7**		0.20	0.10	mg/L		02/16/17 07:48	02/20/17 19:34	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/16/17 07:48	02/20/17 19:34	1
Magnesium	**48**	~~V~~ J	0.10	0.041	mg/L		02/16/17 07:48	02/20/17 19:34	1
Manganese	**1.3**	~~V~~ J	0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:34	1
Nickel	**0.0056**	J	0.010	0.0037	mg/L		02/16/17 07:48	02/20/17 19:34	1
Potassium	**16**	~~V~~ J	0.50	0.16	mg/L		02/16/17 07:48	02/20/17 19:34	1
Selenium	<0.010	~~F1~~ J	0.010	0.0051	mg/L		02/16/17 07:48	02/20/17 19:34	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/16/17 07:48	02/20/17 19:34	1
Sodium	**420**	~~V~~ J	1.0	0.43	mg/L		02/16/17 07:48	02/20/17 19:34	1
Thallium	<0.010		0.010	0.0034	mg/L		02/16/17 07:48	02/20/17 19:34	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/16/17 07:48	02/20/17 19:34	1
Zinc	<0.020		0.020	0.0090	mg/L		02/16/17 07:48	02/20/17 19:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:31	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/16/17 12:45	02/17/17 09:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**1.0**		1.0	0.18	mg/L			02/21/17 07:34	1
Sulfate	**530**	~~B~~	100	29	mg/L			02/20/17 09:26	20
Total Organic Carbon - Duplicates	**15**	~~B F1~~ J	1.0	0.27	mg/L			02/20/17 01:49	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**7.5**		5.0	2.5	mg/L			02/16/17 10:23	1
Ammonia	**7.7**		0.40	0.20	mg/L		02/16/17 18:50	02/17/17 00:00	2
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/16/17 10:29	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/17/17 21:53	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
V	Serial Dilution exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Jack Kratzmeyer
Company: Arcadis
Address: 200 S. Michigan Ave
Address: Ste 2000
Phone: 312-575-3700
Fax:
E-Mail: Jack.Kratzmeyer@arcadis.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-123929
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 4.1, 2.9

Client: Arcadis
Client Project #: CI0C1805.0002.00005
Project Name: LCCS
Project Location/State: Chicago, IL
Lab Project #:
Sampler: B. Thurnhofer
Lab PM: Therese Hargraves

Preservative Key
1. HCL, Cool to 4°

500-123929 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	SVOC, PCB Pesticide (Preservative 8)	Total Metals (3)	Dissolved Metals (3)	Ammonia NO3/NO2 (6)	Sulfide (5)	TOC (2)	TSS, SO4 NO2 (8)	VOC (1)	Dissolved Gases (9)	Comments
1		MW-07-GW-02142017	2-14	1525	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Dissolved Metal
2		MW-06-GW-02152017	2-15	0800	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Samples were
3		MW-05-GW-02152017	2-15	0940	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	field filtered
4		MW-04-GW-02152017	2-15	1135	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
~~—~~		~~MW-03-GW-02152017~~	~~2-15~~	~~1320~~	~~18~~	~~W~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	MW-07, 06, 05
															AS	TOC & VOC
															02/15/17	preservative very
																reactive, some
																bubbles present

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Ben Thurnhofer	Arcadis	2-15-2017	1552	[signature]	TA	02/15/17	1552
[signature]	TA	2/15/17	1630	Luis Sandoz	TACHI	02/15/17	1630

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:
"MW-03-GW-02152017" wasn't sent in with other samples will send tomorrow. AS 02/15/17

2/28/2017
TAL-4124-500 (1209)

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21749 500-123929-2

Lab ID: **217490001** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-07-GW-02142017** Date Collected: 2/14/2017 15:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**21000**	ug/l	0.50	0.027	1	2/24/2017 15:13	MM	n
Carbon Dioxide	**62**	mg/l	5.0	0.24	1	2/24/2017 15:13	MM	n
Oxygen	**1.3**	mg/l	0.50	0.13	1	2/24/2017 15:13	MM	n
Nitrogen	**9.2**	mg/l	2.0	0.24	1	2/24/2017 15:13	MM	n

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Pittsburgh, PA 15238
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Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21749 500-123929-2

Lab ID: **217490002** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-06-GW-02152017** Date Collected: 2/15/2017 08:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**21000**	ug/l	0.50	0.027	1	2/24/2017 15:26	MM	n
Carbon Dioxide	**17**	mg/l	5.0	0.24	1	2/24/2017 15:26	MM	n
Oxygen	**1.8**	mg/l	0.50	0.13	1	2/24/2017 15:26	MM	n
Nitrogen	**11**	mg/l	2.0	0.24	1	2/24/2017 15:26	MM	n

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220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21749 500-123929-2

Lab ID: **217490003** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-05-GW-02152017** Date Collected: 2/15/2017 09:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**19000**	ug/l	0.50	0.027	1	2/24/2017 15:39	MM	n
Carbon Dioxide	**320**	mg/l	5.0	0.24	1	2/24/2017 15:39	MM	n
Oxygen	**1.5**	mg/l	0.50	0.13	1	2/24/2017 15:39	MM	n
Nitrogen	**6.9**	mg/l	2.0	0.24	1	2/24/2017 15:39	MM	n

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220 William Pitt Way
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ANALYTICAL RESULTS

Workorder: 21749 500-123929-2

Lab ID: **217490004** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-04-GW-02152017** Date Collected: 2/15/2017 11:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**17000**	ug/l	0.50	0.027	1	2/24/2017 15:52	MM	n
Carbon Dioxide	**200**	mg/l	5.0	0.24	1	2/24/2017 15:52	MM	n
Oxygen	**3.2**	mg/l	0.50	0.13	1	2/24/2017 15:52	MM	n
Nitrogen	**10**	mg/l	2.0	0.24	1	2/24/2017 15:52	MM	n

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Pittsburgh, PA 15238
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ANALYTICAL RESULTS QUALIFIERS

Workorder: 21749 500-123929-2

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Jack Kratzmeyer
Company: Arcadis
Address: 200 S. Michigan Ave
Address: Ste 2000
Phone: 312-575-3700
Fax:
E-Mail: Jack.Kratzmeyer@arcadis.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-123929
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 4.1, 2.9

Client: Arcadis
Client Project #: CI01805.0002.00005
Project Name: LCCS
Project Location/State: Chicago, IL
Lab Project #:
Sampler: B. Thurnhofer
Lab PM: Therese Hargraves

Preservative Key
1. HCL, Cool to 4°
[illegible] to 4°
[illegible]°
[illegible]°
[illegible] to 4°

500-123929 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	SVOCs, PCBs Pesticide	Total Metals	Dissolved Metals	Ammonia NO3/NO2	Sulfide	TOC	TSS, SO4 NO2	VOC	Dissolved Gases	Comments
		Preservative					8	3	3	6	5	2	8	1	9	
1		MW-07-GW-02142017	2-14	1525	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Dissolved Metal
2		MW-06-GW-02152017	2-15	0800	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Samples were
3		MW-05-GW-02152017	2-15	0940	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	field filtered
4		MW-04-GW-02152017	2-15	1135	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
~~—~~		~~MW-03-GW-02152017~~	~~2-15~~	~~1320~~	~~18~~	~~W~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	MW-07, 06, 05
															AS	TOC & VOC
															02/15/17	preservative very
																reactive, some
																bubbles present

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Ben Thurnhofer	Arcadis	2-15-2017	1552	[signature]	TA	2/15/17	1552
[signature]	TA	2/15/17	1630	Luis Sandoz	TACHI	02/15/17	1630

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:
"MW-03-GW-02152017" wasn't sent in with other samples will send tomorrow. AS 02/15/17

2/28/2017
TAL-4124-560 (1209)

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-03-GW-02152017

Date Collected: 02/15/17 13:20
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<25	J	25	8.7	ug/L			02/23/17 18:27	5
Benzene	**57**		2.5	0.73	ug/L			02/23/17 18:27	5
Bromodichloromethane	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
Bromoform	<5.0		5.0	2.4	ug/L			02/23/17 18:27	5
Bromomethane	<10		10	4.0	ug/L			02/23/17 18:27	5
Carbon disulfide	<10		10	2.2	ug/L			02/23/17 18:27	5
Carbon tetrachloride	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
Chlorobenzene	**2.7**	J	5.0	1.9	ug/L			02/23/17 18:27	5
Chloroethane	<5.0		5.0	2.5	ug/L			02/23/17 18:27	5
Chloroform	<10		10	1.9	ug/L			02/23/17 18:27	5
Chloromethane	<5.0		5.0	1.6	ug/L			02/23/17 18:27	5
cis-1,2-Dichloroethene	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
cis-1,3-Dichloropropene	<5.0		5.0	2.1	ug/L			02/23/17 18:27	5
Cyclohexane	<5.0		5.0	2.4	ug/L			02/23/17 18:27	5
Dibromochloromethane	<5.0		5.0	2.4	ug/L			02/23/17 18:27	5
1,2-Dibromo-3-Chloropropane	<25		25	10	ug/L			02/23/17 18:27	5
1,2-Dibromoethane	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
1,2-Dichlorobenzene	<5.0		5.0	1.7	ug/L			02/23/17 18:27	5
1,3-Dichlorobenzene	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
1,4-Dichlorobenzene	<5.0		5.0	1.8	ug/L			02/23/17 18:27	5
Dichlorodifluoromethane	<10		10	3.4	ug/L			02/23/17 18:27	5
1,1-Dichloroethane	<5.0		5.0	2.1	ug/L			02/23/17 18:27	5
1,2-Dichloroethane	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
1,1-Dichloroethene	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
1,2-Dichloropropane	<5.0		5.0	2.1	ug/L			02/23/17 18:27	5
Ethylbenzene	**13**		2.5	0.92	ug/L			02/23/17 18:27	5
2-Hexanone	<25		25	7.8	ug/L			02/23/17 18:27	5
Isopropylbenzene	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
Methyl acetate	<25		25	10	ug/L			02/23/17 18:27	5
Methylcyclohexane	<5.0		5.0	1.6	ug/L			02/23/17 18:27	5
Methylene Chloride	<25		25	8.2	ug/L			02/23/17 18:27	5
Methyl Ethyl Ketone	<25		25	11	ug/L			02/23/17 18:27	5
methyl isobutyl ketone	<25		25	11	ug/L			02/23/17 18:27	5
Methyl tert-butyl ether	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
Styrene	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
1,1,2,2-Tetrachloroethane	<5.0		5.0	2.0	ug/L			02/23/17 18:27	5
Tetrachloroethene	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
Toluene	**29**		2.5	0.76	ug/L			02/23/17 18:27	5
trans-1,2-Dichloroethene	<5.0		5.0	1.7	ug/L			02/23/17 18:27	5
trans-1,3-Dichloropropene	<5.0		5.0	1.8	ug/L			02/23/17 18:27	5
1,2,4-Trichlorobenzene	<5.0		5.0	1.7	ug/L			02/23/17 18:27	5
1,1,1-Trichloroethane	<5.0		5.0	1.9	ug/L			02/23/17 18:27	5
1,1,2-Trichloroethane	<5.0		5.0	1.8	ug/L			02/23/17 18:27	5
Trichloroethene	<2.5		2.5	0.82	ug/L			02/23/17 18:27	5
Trichlorofluoromethane	<5.0		5.0	2.1	ug/L			02/23/17 18:27	5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5.0		5.0	2.3	ug/L			02/23/17 18:27	5
Vinyl chloride	<2.5		2.5	1.0	ug/L			02/23/17 18:27	5
Xylenes, Total	**63**		5.0	1.1	ug/L			02/23/17 18:27	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-03-GW-02152017

Date Collected: 02/15/17 13:20
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*71 - 120*		*02/23/17 18:27*	*5*
Dibromofluoromethane	*93*		*70 - 120*		*02/23/17 18:27*	*5*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 127*		*02/23/17 18:27*	*5*
Toluene-d8 (Surr)	*99*		*75 - 120*		*02/23/17 18:27*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**20**		0.75	0.23	ug/L		02/20/17 07:25	02/22/17 01:52	1
Acenaphthylene	**1.9**		0.75	0.20	ug/L		02/20/17 07:25	02/22/17 01:52	1
Acetophenone	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 01:52	1
Anthracene	**7.6**		0.75	0.25	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzo[a]anthracene	**0.39**		0.15	0.043	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzo[a]pyrene	**0.23**		0.15	0.074	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzo[b]fluoranthene	**0.19**		0.15	0.061	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzo[g,h,i]perylene	<0.75		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzo[k]fluoranthene	<0.15		0.15	0.048	ug/L		02/20/17 07:25	02/22/17 01:52	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/22/17 01:52	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/20/17 07:25	02/22/17 01:52	1
Bis(2-ethylhexyl) phthalate	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L		02/20/17 07:25	02/22/17 01:52	1
Butyl benzyl phthalate	<1.5		1.5	0.36	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Chloroaniline	<7.5		7.5	1.5	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Chloro-3-methylphenol	<7.5		7.5	1.7	ug/L		02/20/17 07:25	02/22/17 01:52	1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L		02/20/17 07:25	02/22/17 01:52	1
2-Chlorophenol	<3.8		3.8	0.42	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.48	ug/L		02/20/17 07:25	02/22/17 01:52	1
Chrysene	**0.36**		0.15	0.051	ug/L		02/20/17 07:25	02/22/17 01:52	1
Dibenz(a,h)anthracene	<0.23		0.23	0.038	ug/L		02/20/17 07:25	02/22/17 01:52	1
Dibenzofuran	**27**		1.5	0.20	ug/L		02/20/17 07:25	02/22/17 01:52	1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4-Dichlorophenol	<7.5		7.5	2.0	ug/L		02/20/17 07:25	02/22/17 01:52	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4-Dimethylphenol	**17**		7.5	1.4	ug/L		02/20/17 07:25	02/22/17 01:52	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		02/20/17 07:25	02/22/17 01:52	1
Di-n-butyl phthalate	<3.8		3.8	0.55	ug/L		02/20/17 07:25	02/22/17 01:52	1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4-Dinitrophenol	<15		15	6.5	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4-Dinitrotoluene	<0.75		0.75	0.18	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,6-Dinitrotoluene	<0.75		0.75	0.055	ug/L		02/20/17 07:25	02/22/17 01:52	1
Di-n-octyl phthalate	<7.5		7.5	0.79	ug/L		02/20/17 07:25	02/22/17 01:52	1
Fluoranthene	**5.8**		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 01:52	1
Fluorene	**43**		0.75	0.18	ug/L		02/20/17 07:25	02/22/17 01:52	1
Hexachlorobenzene	<0.38		0.38	0.060	ug/L		02/20/17 07:25	02/22/17 01:52	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		02/20/17 07:25	02/22/17 01:52	1
Hexachlorocyclopentadiene	<15	J	15	4.8	ug/L		02/20/17 07:25	02/22/17 01:52	1
Hexachloroethane	<3.8		3.8	0.45	ug/L		02/20/17 07:25	02/22/17 01:52	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.056	ug/L		02/20/17 07:25	02/22/17 01:52	1
Isophorone	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/22/17 01:52	1
2-Methylphenol	**2.2**		1.5	0.23	ug/L		02/20/17 07:25	02/22/17 01:52	1
3 & 4 Methylphenol	**1.6**		1.5	0.34	ug/L		02/20/17 07:25	02/22/17 01:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-03-GW-02152017

Date Collected: 02/15/17 13:20
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	<3.8		3.8	0.97	ug/L		02/20/17 07:25	02/22/17 01:52	1
3-Nitroaniline	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Nitroaniline	<7.5		7.5	1.2	ug/L		02/20/17 07:25	02/22/17 01:52	1
Nitrobenzene	<0.75		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 01:52	1
2-Nitrophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 01:52	1
4-Nitrophenol	<15		15	5.6	ug/L		02/20/17 07:25	02/22/17 01:52	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		02/20/17 07:25	02/22/17 01:52	1
N-Nitrosodiphenylamine	<0.75		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L		02/20/17 07:25	02/22/17 01:52	1
Pentachlorophenol	<15		15	3.0	ug/L		02/20/17 07:25	02/22/17 01:52	1
Phenanthrene	**36**		0.75	0.23	ug/L		02/20/17 07:25	02/22/17 01:52	1
Phenol	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 01:52	1
Pyrene	**4.1**		0.75	0.32	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4,5-Trichlorophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 01:52	1
2,4,6-Trichlorophenol	<3.8		3.8	0.54	ug/L		02/20/17 07:25	02/22/17 01:52	1
Benzaldehyde	<30		30	11	ug/L		02/20/17 07:25	02/22/17 01:52	1
Caprolactam	<7.5		7.5	1.1	ug/L		02/20/17 07:25	02/22/17 01:52	1
Atrazine	<3.8		3.8	0.47	ug/L		02/20/17 07:25	02/22/17 01:52	1
1,1'-Biphenyl	**15**		3.8	0.27	ug/L		02/20/17 07:25	02/22/17 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*30 - 123*	*02/20/17 07:25*	*02/22/17 01:52*	*1*
2-Fluorophenol (Surr)	*66*		*30 - 110*	*02/20/17 07:25*	*02/22/17 01:52*	*1*
Nitrobenzene-d5 (Surr)	*70*		*33 - 139*	*02/20/17 07:25*	*02/22/17 01:52*	*1*
Phenol-d5 (Surr)	*50*		*20 - 100*	*02/20/17 07:25*	*02/22/17 01:52*	*1*
Terphenyl-d14 (Surr)	*96*		*42 - 150*	*02/20/17 07:25*	*02/22/17 01:52*	*1*
2,4,6-Tribromophenol (Surr)	*96*		*30 - 150*	*02/20/17 07:25*	*02/22/17 01:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbazole	**71**	* JD	38	2.7	ug/L		02/20/17 07:25	02/23/17 02:43	10
2-Methylnaphthalene	**150**	D	15	0.49	ug/L		02/20/17 07:25	02/23/17 02:43	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**870**	D	38	12	ug/L		02/20/17 07:25	02/24/17 15:27	50

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.038		0.038	0.0051	ug/L		02/17/17 21:00	02/20/17 23:16	1
alpha-BHC	<0.038		0.038	0.0025	ug/L		02/17/17 21:00	02/20/17 23:16	1
alpha-Chlordane	<0.038		0.038	0.0042	ug/L		02/17/17 21:00	02/20/17 23:16	1
beta-BHC	<0.038		0.038	0.0098	ug/L		02/17/17 21:00	02/20/17 23:16	1
4,4'-DDD	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:16	1
4,4'-DDE	<0.038		0.038	0.0036	ug/L		02/17/17 21:00	02/20/17 23:16	1
4,4'-DDT	<0.038		0.038	0.0031	ug/L		02/17/17 21:00	02/20/17 23:16	1
delta-BHC	<0.038		0.038	0.0099	ug/L		02/17/17 21:00	02/20/17 23:16	1
Dieldrin	<0.038		0.038	0.012	ug/L		02/17/17 21:00	02/20/17 23:16	1
Endosulfan I	<0.038		0.038	0.0039	ug/L		02/17/17 21:00	02/20/17 23:16	1
Endosulfan II	<0.038		0.038	0.0027	ug/L		02/17/17 21:00	02/20/17 23:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-03-GW-02152017

Date Collected: 02/15/17 13:20
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-1

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan sulfate	<0.038		0.038	0.011	ug/L		02/17/17 21:00	02/20/17 23:16	1
Endrin	<0.038		0.038	0.014	ug/L		02/17/17 21:00	02/20/17 23:16	1
Endrin aldehyde	<0.038		0.038	0.0079	ug/L		02/17/17 21:00	02/20/17 23:16	1
Endrin ketone	<0.038		0.038	0.016	ug/L		02/17/17 21:00	02/20/17 23:16	1
gamma-BHC (Lindane)	<0.038		0.038	0.0054	ug/L		02/17/17 21:00	02/20/17 23:16	1
gamma-Chlordane	<0.038		0.038	0.0069	ug/L		02/17/17 21:00	02/20/17 23:16	1
Heptachlor	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:16	1
Heptachlor epoxide	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:16	1
Methoxychlor	<0.077		0.077	0.022	ug/L		02/17/17 21:00	02/20/17 23:16	1
Toxaphene	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*30 - 143*	*02/17/17 21:00*	*02/20/17 23:16*	*1*
Tetrachloro-m-xylene	*105*		*30 - 120*	*02/17/17 21:00*	*02/20/17 23:16*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.38		0.38	0.064	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1221	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1232	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1242	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1248	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1254	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:02	1
PCB-1260	<0.38		0.38	0.067	ug/L		02/17/17 21:00	02/20/17 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*30 - 127*	*02/17/17 21:00*	*02/20/17 14:02*	*1*
DCB Decachlorobiphenyl	*62*		*30 - 150*	*02/17/17 21:00*	*02/20/17 14:02*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/22/17 18:40	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 20:35	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:35	1
Barium	**1.1**		0.010	0.0022	mg/L		02/17/17 08:13	02/22/17 18:40	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/22/17 18:40	1
Cadmium	**0.0011**	**J**	0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 20:35	1
Calcium	**94**		0.20	0.059	mg/L		02/17/17 08:13	02/22/17 18:40	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 20:35	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 20:35	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:35	1
Iron	**4.0**	~~**B**~~	0.20	0.10	mg/L		02/17/17 08:13	02/22/17 18:40	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 20:35	1
Magnesium	**94**		0.10	0.041	mg/L		02/17/17 08:13	02/22/17 18:40	1
Manganese	**0.10**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:35	1
Nickel	**0.0062**	**J**	0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 20:35	1
Potassium	**69**		0.50	0.16	mg/L		02/17/17 08:13	02/22/17 18:40	1
Selenium	**0.0055**	**J**	0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 20:35	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 20:35	1
Sodium	**300**		1.0	0.43	mg/L		02/17/17 08:13	02/22/17 18:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-03-GW-02152017

Date Collected: 02/15/17 13:20
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-1

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:35	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 20:35	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 20:35	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/22/17 18:44	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 20:39	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:39	1
Barium	**0.95**		0.010	0.0022	mg/L		02/17/17 08:13	02/22/17 18:44	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/22/17 18:44	1
Cadmium	**0.0011**	J	0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 20:39	1
Calcium	**86**		0.20	0.059	mg/L		02/17/17 08:13	02/22/17 18:44	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 20:39	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 20:39	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:39	1
Iron	**3.3**	~~B~~	0.20	0.10	mg/L		02/17/17 08:13	02/22/17 18:44	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 20:39	1
Magnesium	**84**		0.10	0.041	mg/L		02/17/17 08:13	02/22/17 18:44	1
Manganese	**0.091**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:39	1
Nickel	**0.0049**	J	0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 20:39	1
Potassium	**62**		0.50	0.16	mg/L		02/17/17 08:13	02/22/17 18:44	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 20:39	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 20:39	1
Sodium	**270**		1.0	0.43	mg/L		02/17/17 08:13	02/22/17 18:44	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:39	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 20:39	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 20:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:36	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 07:37	1
Sulfate	**5.0**	~~B~~ UB	5.0	1.5	mg/L			03/02/17 07:08	1
Total Organic Carbon - Duplicates	**22**		1.0	0.27	mg/L			02/17/17 00:38	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**11**		5.0	2.5	mg/L			02/17/17 13:08	1
Ammonia	**41**		2.0	1.0	mg/L		02/17/17 19:00	02/17/17 22:11	10
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:44	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**6.3**	J	5.0	1.7	ug/L			02/23/17 17:07	1
Benzene	**14**		0.50	0.15	ug/L			02/23/17 17:07	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/23/17 17:07	1
Bromoform	<1.0		1.0	0.48	ug/L			02/23/17 17:07	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/23/17 17:07	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/23/17 17:07	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/23/17 17:07	1
Chloroethane	**4.5**		1.0	0.51	ug/L			02/23/17 17:07	1
Chloroform	<2.0		2.0	0.37	ug/L			02/23/17 17:07	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/23/17 17:07	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/23/17 17:07	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/23/17 17:07	1
Cyclohexane	<1.0		1.0	0.49	ug/L			02/23/17 17:07	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/23/17 17:07	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/23/17 17:07	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/23/17 17:07	1
1,2-Dichlorobenzene	**6.2**		1.0	0.33	ug/L			02/23/17 17:07	1
1,3-Dichlorobenzene	**4.1**		1.0	0.40	ug/L			02/23/17 17:07	1
1,4-Dichlorobenzene	**11**		1.0	0.36	ug/L			02/23/17 17:07	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/23/17 17:07	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/23/17 17:07	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/23/17 17:07	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/23/17 17:07	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/23/17 17:07	1
Ethylbenzene	**1.4**		0.50	0.18	ug/L			02/23/17 17:07	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/23/17 17:07	1
Isopropylbenzene	**4.9**		1.0	0.39	ug/L			02/23/17 17:07	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/23/17 17:07	1
Methylcyclohexane	<1.0		1.0	0.32	ug/L			02/23/17 17:07	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/23/17 17:07	1
Methyl Ethyl Ketone	<5.0		5.0	2.1	ug/L			02/23/17 17:07	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/23/17 17:07	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/23/17 17:07	1
Styrene	<1.0		1.0	0.39	ug/L			02/23/17 17:07	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/23/17 17:07	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/23/17 17:07	1
Toluene	**0.84**		0.50	0.15	ug/L			02/23/17 17:07	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/23/17 17:07	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/23/17 17:07	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/23/17 17:07	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/23/17 17:07	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/23/17 17:07	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/23/17 17:07	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/23/17 17:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/23/17 17:07	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/23/17 17:07	1
Xylenes, Total	**3.9**		1.0	0.22	ug/L			02/23/17 17:07	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		71 - 120		02/23/17 17:07	1
Dibromofluoromethane	93		70 - 120		02/23/17 17:07	1
1,2-Dichloroethane-d4 (Surr)	101		71 - 127		02/23/17 17:07	1
Toluene-d8 (Surr)	98		75 - 120		02/23/17 17:07	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**480**	D	10	3.9	ug/L			02/23/17 17:34	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		71 - 120		02/23/17 17:34	10
Dibromofluoromethane	95		70 - 120		02/23/17 17:34	10
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		02/23/17 17:34	10
Toluene-d8 (Surr)	99		75 - 120		02/23/17 17:34	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.0**		0.75	0.23	ug/L		02/20/17 07:25	02/22/17 02:21	1
Acenaphthylene	<0.75		0.75	0.20	ug/L		02/20/17 07:25	02/22/17 02:21	1
Acetophenone	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 02:21	1
Anthracene	<0.75		0.75	0.25	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzo[a]anthracene	<0.15		0.15	0.043	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzo[a]pyrene	<0.15		0.15	0.074	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzo[b]fluoranthene	<0.15		0.15	0.061	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzo[g,h,i]perylene	<0.75		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzo[k]fluoranthene	<0.15		0.15	0.048	ug/L		02/20/17 07:25	02/22/17 02:21	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/22/17 02:21	1
Bis(2-chloroethyl)ether	**1.4**	J	1.5	0.22	ug/L		02/20/17 07:25	02/22/17 02:21	1
Bis(2-ethylhexyl) phthalate	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L		02/20/17 07:25	02/22/17 02:21	1
Butyl benzyl phthalate	<1.5		1.5	0.36	ug/L		02/20/17 07:25	02/22/17 02:21	1
Carbazole	<3.8	J	3.8	0.27	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Chloroaniline	<7.5		7.5	1.5	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Chloro-3-methylphenol	<7.5		7.5	1.7	ug/L		02/20/17 07:25	02/22/17 02:21	1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L		02/20/17 07:25	02/22/17 02:21	1
2-Chlorophenol	**4.9**		3.8	0.42	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.48	ug/L		02/20/17 07:25	02/22/17 02:21	1
Chrysene	<0.15		0.15	0.051	ug/L		02/20/17 07:25	02/22/17 02:21	1
Dibenz(a,h)anthracene	<0.23		0.23	0.038	ug/L		02/20/17 07:25	02/22/17 02:21	1
Dibenzofuran	<1.5		1.5	0.20	ug/L		02/20/17 07:25	02/22/17 02:21	1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4-Dichlorophenol	<7.5		7.5	2.0	ug/L		02/20/17 07:25	02/22/17 02:21	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4-Dimethylphenol	<7.5		7.5	1.4	ug/L		02/20/17 07:25	02/22/17 02:21	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		02/20/17 07:25	02/22/17 02:21	1
Di-n-butyl phthalate	<3.8		3.8	0.55	ug/L		02/20/17 07:25	02/22/17 02:21	1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4-Dinitrophenol	<15		15	6.5	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4-Dinitrotoluene	<0.75		0.75	0.18	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,6-Dinitrotoluene	<0.75		0.75	0.055	ug/L		02/20/17 07:25	02/22/17 02:21	1
Di-n-octyl phthalate	<7.5		7.5	0.79	ug/L		02/20/17 07:25	02/22/17 02:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.75		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 02:21	1
Fluorene	**0.67**	**J**	0.75	0.18	ug/L		02/20/17 07:25	02/22/17 02:21	1
Hexachlorobenzene	<0.38		0.38	0.060	ug/L		02/20/17 07:25	02/22/17 02:21	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		02/20/17 07:25	02/22/17 02:21	1
Hexachlorocyclopentadiene	<15	J	15	4.8	ug/L		02/20/17 07:25	02/22/17 02:21	1
Hexachloroethane	<3.8		3.8	0.45	ug/L		02/20/17 07:25	02/22/17 02:21	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.056	ug/L		02/20/17 07:25	02/22/17 02:21	1
Isophorone	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/22/17 02:21	1
2-Methylphenol	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/22/17 02:21	1
3 & 4 Methylphenol	<1.5		1.5	0.34	ug/L		02/20/17 07:25	02/22/17 02:21	1
2-Nitroaniline	<3.8		3.8	0.97	ug/L		02/20/17 07:25	02/22/17 02:21	1
3-Nitroaniline	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Nitroaniline	<7.5		7.5	1.3	ug/L		02/20/17 07:25	02/22/17 02:21	1
Nitrobenzene	<0.75		0.75	0.34	ug/L		02/20/17 07:25	02/22/17 02:21	1
2-Nitrophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 02:21	1
4-Nitrophenol	<15		15	5.6	ug/L		02/20/17 07:25	02/22/17 02:21	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		02/20/17 07:25	02/22/17 02:21	1
N-Nitrosodiphenylamine	**7.1**		0.75	0.28	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L		02/20/17 07:25	02/22/17 02:21	1
Pentachlorophenol	<15		15	3.0	ug/L		02/20/17 07:25	02/22/17 02:21	1
Phenanthrene	**0.32**	**J**	0.75	0.23	ug/L		02/20/17 07:25	02/22/17 02:21	1
Phenol	<3.8		3.8	0.50	ug/L		02/20/17 07:25	02/22/17 02:21	1
Pyrene	<0.75		0.75	0.32	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4,5-Trichlorophenol	<7.5		7.5	1.9	ug/L		02/20/17 07:25	02/22/17 02:21	1
2,4,6-Trichlorophenol	<3.8		3.8	0.54	ug/L		02/20/17 07:25	02/22/17 02:21	1
Benzaldehyde	<30		30	11	ug/L		02/20/17 07:25	02/22/17 02:21	1
Caprolactam	<7.5		7.5	1.1	ug/L		02/20/17 07:25	02/22/17 02:21	1
Atrazine	<3.8		3.8	0.47	ug/L		02/20/17 07:25	02/22/17 02:21	1
1,1'-Biphenyl	<3.8		3.8	0.27	ug/L		02/20/17 07:25	02/22/17 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*30 - 123*	*02/20/17 07:25*	*02/22/17 02:21*	*1*
2-Fluorophenol (Surr)	*63*		*30 - 110*	*02/20/17 07:25*	*02/22/17 02:21*	*1*
Nitrobenzene-d5 (Surr)	*62*		*33 - 139*	*02/20/17 07:25*	*02/22/17 02:21*	*1*
Phenol-d5 (Surr)	*54*		*20 - 100*	*02/20/17 07:25*	*02/22/17 02:21*	*1*
Terphenyl-d14 (Surr)	*99*		*42 - 150*	*02/20/17 07:25*	*02/22/17 02:21*	*1*
2,4,6-Tribromophenol (Surr)	*99*		*30 - 150*	*02/20/17 07:25*	*02/22/17 02:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**100**	D	7.5	0.24	ug/L		02/20/17 07:25	02/23/17 03:10	5
Naphthalene	**73**	D	3.8	1.2	ug/L		02/20/17 07:25	02/23/17 03:10	5

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.038		0.038	0.0051	ug/L		02/17/17 21:00	02/20/17 23:35	1
alpha-BHC	<0.038		0.038	0.0025	ug/L		02/17/17 21:00	02/20/17 23:35	1
alpha-Chlordane	<0.038		0.038	0.0042	ug/L		02/17/17 21:00	02/20/17 23:35	1
beta-BHC	<0.038		0.038	0.0098	ug/L		02/17/17 21:00	02/20/17 23:35	1
4,4'-DDD	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Lab Sample ID: 500-123998-2
Matrix: Water

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	<0.038		0.038	0.0037	ug/L		02/17/17 21:00	02/20/17 23:35	1
4,4'-DDT	<0.038		0.038	0.0031	ug/L		02/17/17 21:00	02/20/17 23:35	1
delta-BHC	<0.038		0.038	0.0099	ug/L		02/17/17 21:00	02/20/17 23:35	1
Dieldrin	<0.038		0.038	0.012	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endosulfan I	<0.038		0.038	0.0039	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endosulfan II	<0.038		0.038	0.0027	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endosulfan sulfate	<0.038		0.038	0.011	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endrin	<0.038		0.038	0.014	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endrin aldehyde	<0.038		0.038	0.0079	ug/L		02/17/17 21:00	02/20/17 23:35	1
Endrin ketone	<0.038		0.038	0.016	ug/L		02/17/17 21:00	02/20/17 23:35	1
gamma-BHC (Lindane)	<0.038		0.038	0.0054	ug/L		02/17/17 21:00	02/20/17 23:35	1
gamma-Chlordane	<0.038		0.038	0.0069	ug/L		02/17/17 21:00	02/20/17 23:35	1
Heptachlor	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:35	1
Heptachlor epoxide	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/20/17 23:35	1
Methoxychlor	<0.077		0.077	0.022	ug/L		02/17/17 21:00	02/20/17 23:35	1
Toxaphene	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*30 - 143*	*02/17/17 21:00*	*02/20/17 23:35*	*1*
Tetrachloro-m-xylene	*117*		*30 - 120*	*02/17/17 21:00*	*02/20/17 23:35*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.38		0.38	0.064	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1221	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1232	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1242	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1248	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1254	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:18	1
PCB-1260	<0.38		0.38	0.067	ug/L		02/17/17 21:00	02/20/17 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*79*		*30 - 127*	*02/17/17 21:00*	*02/20/17 14:18*	*1*
DCB Decachlorobiphenyl	*72*		*30 - 150*	*02/17/17 21:00*	*02/20/17 14:18*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/22/17 18:49	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 20:44	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:44	1
Barium	**0.34**		0.010	0.0022	mg/L		02/17/17 08:13	02/22/17 18:49	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/22/17 18:49	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 20:44	1
Calcium	**98**		0.20	0.059	mg/L		02/17/17 08:13	02/22/17 18:49	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 20:44	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 20:44	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:44	1
Iron	**34**	~~^B~~	0.20	0.10	mg/L		02/17/17 08:13	02/22/17 18:49	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 20:44	1
Magnesium	**49**		0.10	0.041	mg/L		02/17/17 08:13	02/22/17 18:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-2

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.21**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:44	1
Nickel	**0.0045**	**J**	0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 20:44	1
Potassium	**34**		0.50	0.16	mg/L		02/17/17 08:13	02/22/17 18:49	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 20:44	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 20:44	1
Sodium	**160**		1.0	0.43	mg/L		02/17/17 08:13	02/22/17 18:49	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:44	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 20:44	1
Zinc	**0.050**		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 20:44	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/22/17 18:52	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 20:48	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:48	1
Barium	**0.36**		0.010	0.0022	mg/L		02/17/17 08:13	02/22/17 18:52	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/22/17 18:52	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 20:48	1
Calcium	**110**		0.20	0.059	mg/L		02/17/17 08:13	02/22/17 18:52	1
Chromium	**0.0032**	**J**	0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 20:48	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 20:48	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:48	1
Iron	**36**	~~J B~~	0.20	0.10	mg/L		02/17/17 08:13	02/22/17 18:52	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 20:48	1
Magnesium	**54**		0.10	0.041	mg/L		02/17/17 08:13	02/22/17 18:52	1
Manganese	**0.23**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:48	1
Nickel	**0.0043**	**J**	0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 20:48	1
Potassium	**37**		0.50	0.16	mg/L		02/17/17 08:13	02/22/17 18:52	1
Selenium	**0.0069**	**J**	0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 20:48	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 20:48	1
Sodium	**180**		1.0	0.43	mg/L		02/17/17 08:13	02/22/17 18:52	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:48	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 20:48	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 20:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**0.38**	**J**	1.0	0.18	mg/L			02/21/17 07:39	1
Sulfate	5.0 ~~**3.0**~~	~~**J B**~~ UB	5.0	1.5	mg/L			03/02/17 07:09	1
Total Organic Carbon - Duplicates	**19**		1.0	0.27	mg/L			02/17/17 00:54	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**63**		5.0	2.5	mg/L			02/17/17 13:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-02-GW-02152017

Lab Sample ID: 500-123998-2
Matrix: Water

Date Collected: 02/15/17 16:05
Date Received: 02/16/17 15:35

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**46**		2.0	1.0	mg/L		02/17/17 19:00	02/17/17 22:14	10
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:44	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-01-GW-02162017

Date Collected: 02/16/17 07:55
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**55**		5.0	1.7	ug/L			02/23/17 04:42	1
Benzene	**30**		0.50	0.15	ug/L			02/23/17 04:42	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/23/17 04:42	1
Bromoform	<1.0		1.0	0.48	ug/L			02/23/17 04:42	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/23/17 04:42	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/23/17 04:42	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/23/17 04:42	1
Chlorobenzene	**5.8**		1.0	0.39	ug/L			02/23/17 04:42	1
Chloroethane	<1.0	J	1.0	0.51	ug/L			02/23/17 04:42	1
Chloroform	<2.0		2.0	0.37	ug/L			02/23/17 04:42	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/23/17 04:42	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/23/17 04:42	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/23/17 04:42	1
Cyclohexane	**1.6**		1.0	0.49	ug/L			02/23/17 04:42	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/23/17 04:42	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/23/17 04:42	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/23/17 04:42	1
1,2-Dichlorobenzene	**1.8**		1.0	0.33	ug/L			02/23/17 04:42	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/23/17 04:42	1
1,4-Dichlorobenzene	**3.6**		1.0	0.36	ug/L			02/23/17 04:42	1
Dichlorodifluoromethane	<2.0	J	2.0	0.67	ug/L			02/23/17 04:42	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/23/17 04:42	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/23/17 04:42	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/23/17 04:42	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/23/17 04:42	1
Ethylbenzene	**24**		0.50	0.18	ug/L			02/23/17 04:42	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/23/17 04:42	1
Isopropylbenzene	**14**		1.0	0.39	ug/L			02/23/17 04:42	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/23/17 04:42	1
Methylcyclohexane	**1.8**		1.0	0.32	ug/L			02/23/17 04:42	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/23/17 04:42	1
Methyl Ethyl Ketone	**46**		5.0	2.1	ug/L			02/23/17 04:42	1
methyl isobutyl ketone	**99**		5.0	2.2	ug/L			02/23/17 04:42	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/23/17 04:42	1
Styrene	<1.0		1.0	0.39	ug/L			02/23/17 04:42	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/23/17 04:42	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/23/17 04:42	1
Toluene	**11**		0.50	0.15	ug/L			02/23/17 04:42	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/23/17 04:42	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/23/17 04:42	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/23/17 04:42	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/23/17 04:42	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/23/17 04:42	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/23/17 04:42	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/23/17 04:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/23/17 04:42	1
Vinyl chloride	**0.48**	J	0.50	0.20	ug/L			02/23/17 04:42	1
Xylenes, Total	**23**		1.0	0.22	ug/L			02/23/17 04:42	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-01-GW-02162017

Lab Sample ID: 500-123998-3

Date Collected: 02/16/17 07:55
Matrix: Water
Date Received: 02/16/17 15:35

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*71 - 120*		*02/23/17 04:42*	*1*
Dibromofluoromethane	*92*		*70 - 120*		*02/23/17 04:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*71 - 127*		*02/23/17 04:42*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*02/23/17 04:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**8.1**		0.77	0.24	ug/L		02/23/17 22:30	02/24/17 14:30	1
Acenaphthylene	<0.77		0.77	0.20	ug/L		02/23/17 22:30	02/24/17 14:30	1
Acetophenone	**2.0**	J	3.8	0.51	ug/L		02/23/17 22:30	02/24/17 14:30	1
Anthracene	**0.26**	J	0.77	0.26	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzo[a]anthracene	<0.15		0.15	0.043	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzo[a]pyrene	<0.15		0.15	0.076	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzo[b]fluoranthene	<0.15		0.15	0.062	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzo[g,h,i]perylene	<0.77		0.77	0.29	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzo[k]fluoranthene	<0.15		0.15	0.049	ug/L		02/23/17 22:30	02/24/17 14:30	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.22	ug/L		02/23/17 22:30	02/24/17 14:30	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/23/17 22:30	02/24/17 14:30	1
Bis(2-ethylhexyl) phthalate	<7.7		7.7	1.3	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Bromophenyl phenyl ether	<3.8		3.8	0.41	ug/L		02/23/17 22:30	02/24/17 14:30	1
Butyl benzyl phthalate	<1.5		1.5	0.37	ug/L		02/23/17 22:30	02/24/17 14:30	1
Carbazole	**6.4**	J	3.8	0.27	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Chloroaniline	**13**		7.7	1.5	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Chloro-3-methylphenol	<7.7		7.7	1.8	ug/L		02/23/17 22:30	02/24/17 14:30	1
2-Chloronaphthalene	<1.5		1.5	0.18	ug/L		02/23/17 22:30	02/24/17 14:30	1
2-Chlorophenol	<3.8		3.8	0.43	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Chlorophenyl phenyl ether	<3.8		3.8	0.49	ug/L		02/23/17 22:30	02/24/17 14:30	1
Chrysene	<0.15		0.15	0.052	ug/L		02/23/17 22:30	02/24/17 14:30	1
Dibenz(a,h)anthracene	<0.23		0.23	0.039	ug/L		02/23/17 22:30	02/24/17 14:30	1
Dibenzofuran	**1.4**	J	1.5	0.20	ug/L		02/23/17 22:30	02/24/17 14:30	1
3,3'-Dichlorobenzidine	<3.8		3.8	1.3	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4-Dichlorophenol	<7.7		7.7	2.0	ug/L		02/23/17 22:30	02/24/17 14:30	1
Diethyl phthalate	<1.5		1.5	0.28	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4-Dimethylphenol	**6.7**	J	7.7	1.4	ug/L		02/23/17 22:30	02/24/17 14:30	1
Dimethyl phthalate	<1.5		1.5	0.24	ug/L		02/23/17 22:30	02/24/17 14:30	1
Di-n-butyl phthalate	<3.8		3.8	0.56	ug/L		02/23/17 22:30	02/24/17 14:30	1
4,6-Dinitro-2-methylphenol	<15		15	4.5	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4-Dinitrophenol	<15		15	6.6	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4-Dinitrotoluene	<0.77		0.77	0.19	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,6-Dinitrotoluene	<0.77		0.77	0.056	ug/L		02/23/17 22:30	02/24/17 14:30	1
Di-n-octyl phthalate	<7.7		7.7	0.80	ug/L		02/23/17 22:30	02/24/17 14:30	1
Fluoranthene	<0.77		0.77	0.35	ug/L		02/23/17 22:30	02/24/17 14:30	1
Fluorene	**2.6**		0.77	0.19	ug/L		02/23/17 22:30	02/24/17 14:30	1
Hexachlorobenzene	<0.38		0.38	0.061	ug/L		02/23/17 22:30	02/24/17 14:30	1
Hexachlorobutadiene	<3.8		3.8	0.39	ug/L		02/23/17 22:30	02/24/17 14:30	1
Hexachlorocyclopentadiene	<15	J	15	4.9	ug/L		02/23/17 22:30	02/24/17 14:30	1
Hexachloroethane	<3.8		3.8	0.46	ug/L		02/23/17 22:30	02/24/17 14:30	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.057	ug/L		02/23/17 22:30	02/24/17 14:30	1
Isophorone	<1.5		1.5	0.29	ug/L		02/23/17 22:30	02/24/17 14:30	1
2-Methylnaphthalene	**5.5**		1.5	0.050	ug/L		02/23/17 22:30	02/24/17 14:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-01-GW-02162017

Date Collected: 02/16/17 07:55
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	**1.5**		1.5	0.23	ug/L		02/23/17 22:30	02/24/17 14:30	1
3 & 4 Methylphenol	**6.6**		1.5	0.34	ug/L		02/23/17 22:30	02/24/17 14:30	1
2-Nitroaniline	<3.8		3.8	0.99	ug/L		02/23/17 22:30	02/24/17 14:30	1
3-Nitroaniline	<7.7		7.7	1.4	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Nitroaniline	<7.7		7.7	1.3	ug/L		02/23/17 22:30	02/24/17 14:30	1
Nitrobenzene	<0.77		0.77	0.34	ug/L		02/23/17 22:30	02/24/17 14:30	1
2-Nitrophenol	<7.7		7.7	1.9	ug/L		02/23/17 22:30	02/24/17 14:30	1
4-Nitrophenol	<15		15	5.7	ug/L		02/23/17 22:30	02/24/17 14:30	1
N-Nitrosodi-n-propylamine	<0.38		0.38	0.12	ug/L		02/23/17 22:30	02/24/17 14:30	1
N-Nitrosodiphenylamine	<0.77		0.77	0.28	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.29	ug/L		02/23/17 22:30	02/24/17 14:30	1
Pentachlorophenol	<15	J	15	3.0	ug/L		02/23/17 22:30	02/24/17 14:30	1
Phenanthrene	**1.3**		0.77	0.23	ug/L		02/23/17 22:30	02/24/17 14:30	1
Pyrene	<0.77		0.77	0.33	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4,5-Trichlorophenol	<7.7		7.7	2.0	ug/L		02/23/17 22:30	02/24/17 14:30	1
2,4,6-Trichlorophenol	<3.8		3.8	0.55	ug/L		02/23/17 22:30	02/24/17 14:30	1
Benzaldehyde	<31	J	31	12	ug/L		02/23/17 22:30	02/24/17 14:30	1
Caprolactam	<7.7		7.7	1.1	ug/L		02/23/17 22:30	02/24/17 14:30	1
Atrazine	<3.8		3.8	0.48	ug/L		02/23/17 22:30	02/24/17 14:30	1
1,1'-Biphenyl	<3.8		3.8	0.28	ug/L		02/23/17 22:30	02/24/17 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*30 - 123*	*02/23/17 22:30*	*02/24/17 14:30*	*1*
2-Fluorophenol (Surr)	*58*		*30 - 110*	*02/23/17 22:30*	*02/24/17 14:30*	*1*
Nitrobenzene-d5 (Surr)	*67*		*33 - 139*	*02/23/17 22:30*	*02/24/17 14:30*	*1*
Phenol-d5 (Surr)	*41*		*20 - 100*	*02/23/17 22:30*	*02/24/17 14:30*	*1*
Terphenyl-d14 (Surr)	*96*		*42 - 150*	*02/23/17 22:30*	*02/24/17 14:30*	*1*
2,4,6-Tribromophenol (Surr)	*105*		*30 - 150*	*02/23/17 22:30*	*02/24/17 14:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**130**	D	3.8	1.2	ug/L		02/23/17 22:30	02/24/17 14:58	5
Phenol	**72**	D	19	2.6	ug/L		02/23/17 22:30	02/24/17 14:58	5

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/17/17 21:00	02/20/17 23:54	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/17/17 21:00	02/20/17 23:54	1
alpha-Chlordane	<0.037		0.037	0.0040	ug/L		02/17/17 21:00	02/20/17 23:54	1
beta-BHC	<0.037		0.037	0.0094	ug/L		02/17/17 21:00	02/20/17 23:54	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/20/17 23:54	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/17/17 21:00	02/20/17 23:54	1
4,4'-DDT	<0.037		0.037	0.0029	ug/L		02/17/17 21:00	02/20/17 23:54	1
delta-BHC	<0.037		0.037	0.0094	ug/L		02/17/17 21:00	02/20/17 23:54	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/20/17 23:54	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/17/17 21:00	02/20/17 23:54	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/17/17 21:00	02/20/17 23:54	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/17/17 21:00	02/20/17 23:54	1
Endrin	<0.037		0.037	0.013	ug/L		02/17/17 21:00	02/20/17 23:54	1
Endrin aldehyde	<0.037		0.037	0.0075	ug/L		02/17/17 21:00	02/20/17 23:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-01-GW-02162017

Lab Sample ID: 500-123998-3

Date Collected: 02/16/17 07:55
Date Received: 02/16/17 15:35

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin ketone	<0.037		0.037	0.016	ug/L		02/17/17 21:00	02/20/17 23:54	1
gamma-BHC (Lindane)	<0.037		0.037	0.0051	ug/L		02/17/17 21:00	02/20/17 23:54	1
gamma-Chlordane	<0.037		0.037	0.0066	ug/L		02/17/17 21:00	02/20/17 23:54	1
Heptachlor	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/20/17 23:54	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/17/17 21:00	02/20/17 23:54	1
Methoxychlor	<0.073		0.073	0.021	ug/L		02/17/17 21:00	02/20/17 23:54	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*30 - 143*	*02/17/17 21:00*	*02/20/17 23:54*	*1*
Tetrachloro-m-xylene	*73*		*30 - 120*	*02/17/17 21:00*	*02/20/17 23:54*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.061	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 14:33	1
PCB-1260	<0.37		0.37	0.064	ug/L		02/17/17 21:00	02/20/17 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*70*		*30 - 127*	*02/17/17 21:00*	*02/20/17 14:33*	*1*
DCB Decachlorobiphenyl	*65*		*30 - 150*	*02/17/17 21:00*	*02/20/17 14:33*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.34**		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 20:57	1
Antimony	**0.0068**	**J**	0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 20:57	1
Arsenic	**0.0038**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:57	1
Barium	**0.46**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:57	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 20:57	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 20:57	1
Calcium	**510**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 20:57	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 20:57	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 20:57	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 20:57	1
Iron	<0.20		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 20:57	1
Lead	**0.0027**	**J**	0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 20:57	1
Magnesium	**1.7**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 20:57	1
Manganese	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:57	1
Nickel	**0.016**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 20:57	1
Potassium	**51**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 20:57	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 20:57	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 20:57	1
Sodium	**210**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 20:57	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 20:57	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 20:57	1
Zinc	**0.012**	**J**	0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 20:57	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-01-GW-02162017

Date Collected: 02/16/17 07:55
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-3

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.21**		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:01	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:01	1
Arsenic	**0.0046**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:01	1
Barium	**0.45**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:01	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:01	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:01	1
Calcium	**510**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:01	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:01	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:01	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:01	1
Iron	<0.20		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:01	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:01	1
Magnesium	<0.10		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:01	1
Manganese	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:01	1
Nickel	**0.016**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:01	1
Potassium	**50**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:01	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:01	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:01	1
Sodium	**210**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:01	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:01	1
Vanadium	<0.0050		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:01	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:47	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**0.98**	**J**	1.0	0.18	mg/L			02/21/17 07:42	1
Sulfate	**24**	~~**B**~~	5.0	1.5	mg/L			03/02/17 07:12	1
Total Organic Carbon - Duplicates	**31**		1.0	0.27	mg/L			02/17/17 01:11	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**29**		5.0	2.5	mg/L			02/17/17 13:14	1
Ammonia	**49**		4.0	2.0	mg/L		02/17/17 19:00	02/17/17 22:17	20
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:45	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Date Collected: 02/16/17 10:35
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<50		50	17	ug/L			02/23/17 05:09	10
Benzene	**410**		5.0	1.5	ug/L			02/23/17 05:09	10
Bromodichloromethane	<10		10	3.7	ug/L			02/23/17 05:09	10
Bromoform	<10		10	4.8	ug/L			02/23/17 05:09	10
Bromomethane	<20		20	8.0	ug/L			02/23/17 05:09	10
Carbon disulfide	<20		20	4.5	ug/L			02/23/17 05:09	10
Carbon tetrachloride	<10		10	3.8	ug/L			02/23/17 05:09	10
Chlorobenzene	<10		10	3.9	ug/L			02/23/17 05:09	10
Chloroethane	<10	J	10	5.1	ug/L			02/23/17 05:09	10
Chloroform	<20		20	3.7	ug/L			02/23/17 05:09	10
Chloromethane	<10		10	3.2	ug/L			02/23/17 05:09	10
cis-1,2-Dichloroethene	**37**		10	4.1	ug/L			02/23/17 05:09	10
cis-1,3-Dichloropropene	<10		10	4.2	ug/L			02/23/17 05:09	10
Cyclohexane	<10		10	4.9	ug/L			02/23/17 05:09	10
Dibromochloromethane	<10		10	4.9	ug/L			02/23/17 05:09	10
1,2-Dibromo-3-Chloropropane	<50		50	20	ug/L			02/23/17 05:09	10
1,2-Dibromoethane	<10		10	3.9	ug/L			02/23/17 05:09	10
1,2-Dichlorobenzene	**18**		10	3.3	ug/L			02/23/17 05:09	10
1,3-Dichlorobenzene	<10		10	4.0	ug/L			02/23/17 05:09	10
1,4-Dichlorobenzene	<10		10	3.6	ug/L			02/23/17 05:09	10
Dichlorodifluoromethane	<20	J	20	6.7	ug/L			02/23/17 05:09	10
1,1-Dichloroethane	<10		10	4.1	ug/L			02/23/17 05:09	10
1,2-Dichloroethane	<10		10	3.9	ug/L			02/23/17 05:09	10
1,1-Dichloroethene	<10		10	3.9	ug/L			02/23/17 05:09	10
1,2-Dichloropropane	<10		10	4.3	ug/L			02/23/17 05:09	10
Ethylbenzene	**1300**		5.0	1.8	ug/L			02/23/17 05:09	10
2-Hexanone	<50		50	16	ug/L			02/23/17 05:09	10
Isopropylbenzene	**100**		10	3.9	ug/L			02/23/17 05:09	10
Methyl acetate	<50		50	20	ug/L			02/23/17 05:09	10
Methylcyclohexane	<10		10	3.2	ug/L			02/23/17 05:09	10
Methylene Chloride	<50		50	16	ug/L			02/23/17 05:09	10
Methyl Ethyl Ketone	<50		50	21	ug/L			02/23/17 05:09	10
methyl isobutyl ketone	<50		50	22	ug/L			02/23/17 05:09	10
Methyl tert-butyl ether	<10		10	3.9	ug/L			02/23/17 05:09	10
Styrene	<10		10	3.9	ug/L			02/23/17 05:09	10
1,1,2,2-Tetrachloroethane	<10		10	4.0	ug/L			02/23/17 05:09	10
Tetrachloroethene	<10		10	3.7	ug/L			02/23/17 05:09	10
trans-1,2-Dichloroethene	<10		10	3.5	ug/L			02/23/17 05:09	10
trans-1,3-Dichloropropene	<10		10	3.6	ug/L			02/23/17 05:09	10
1,2,4-Trichlorobenzene	<10		10	3.4	ug/L			02/23/17 05:09	10
1,1,1-Trichloroethane	<10		10	3.8	ug/L			02/23/17 05:09	10
1,1,2-Trichloroethane	<10		10	3.5	ug/L			02/23/17 05:09	10
Trichloroethene	<5.0		5.0	1.6	ug/L			02/23/17 05:09	10
Trichlorofluoromethane	<10		10	4.3	ug/L			02/23/17 05:09	10
1,1,2-Trichloro-1,2,2-trifluoroethane	<10		10	4.6	ug/L			02/23/17 05:09	10
Vinyl chloride	**11**		5.0	2.0	ug/L			02/23/17 05:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*71 - 120*		*02/23/17 05:09*	*10*

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Date Collected: 02/16/17 10:35
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*93*		*70 - 120*		*02/23/17 05:09*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 127*		*02/23/17 05:09*	*10*
Toluene-d8 (Surr)	*101*		*75 - 120*		*02/23/17 05:09*	*10*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**2600**	D	50	15	ug/L			02/23/17 05:36	100
Xylenes, Total	**8400**	D	100	22	ug/L			02/23/17 05:36	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*71 - 120*		*02/23/17 05:36*	*100*
Dibromofluoromethane	*91*		*70 - 120*		*02/23/17 05:36*	*100*
1,2-Dichloroethane-d4 (Surr)	*99*		*71 - 127*		*02/23/17 05:36*	*100*
Toluene-d8 (Surr)	*100*		*75 - 120*		*02/23/17 05:36*	*100*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.86**		0.74	0.23	ug/L		02/22/17 12:03	02/23/17 00:54	1
Acenaphthylene	**2.3**		0.74	0.20	ug/L		02/22/17 12:03	02/23/17 00:54	1
Acetophenone	**32**		3.7	0.49	ug/L		02/22/17 12:03	02/23/17 00:54	1
Anthracene	**0.29**	J	0.74	0.25	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzo[a]anthracene	<0.15	J	0.15	0.042	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzo[a]pyrene	<0.15		0.15	0.073	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzo[b]fluoranthene	<0.15		0.15	0.060	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzo[g,h,i]perylene	<0.74		0.74	0.28	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/22/17 12:03	02/23/17 00:54	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/22/17 12:03	02/23/17 00:54	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/22/17 12:03	02/23/17 00:54	1
Bis(2-ethylhexyl) phthalate	**2.9**	J	7.4	1.3	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Bromophenyl phenyl ether	<3.7	J	3.7	0.40	ug/L		02/22/17 12:03	02/23/17 00:54	1
Butyl benzyl phthalate	**1.3**	J	1.5	0.35	ug/L		02/22/17 12:03	02/23/17 00:54	1
Carbazole	<3.7	J	3.7	0.26	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Chloroaniline	<7.4		7.4	1.5	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Chloro-3-methylphenol	<7.4		7.4	1.7	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Chlorophenol	<3.7		3.7	0.41	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/22/17 12:03	02/23/17 00:54	1
Chrysene	<0.15		0.15	0.050	ug/L		02/22/17 12:03	02/23/17 00:54	1
Dibenz(a,h)anthracene	<0.22	J	0.22	0.037	ug/L		02/22/17 12:03	02/23/17 00:54	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/22/17 12:03	02/23/17 00:54	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4-Dichlorophenol	<7.4		7.4	1.9	ug/L		02/22/17 12:03	02/23/17 00:54	1
Diethyl phthalate	**11**		1.5	0.27	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4-Dimethylphenol	**42**		7.4	1.3	ug/L		02/22/17 12:03	02/23/17 00:54	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/22/17 12:03	02/23/17 00:54	1
Di-n-butyl phthalate	**3.9**		3.7	0.54	ug/L		02/22/17 12:03	02/23/17 00:54	1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4-Dinitrophenol	<15		15	6.3	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4-Dinitrotoluene	<0.74		0.74	0.18	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,6-Dinitrotoluene	<0.74		0.74	0.054	ug/L		02/22/17 12:03	02/23/17 00:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Lab Sample ID: 500-123998-4
Date Collected: 02/16/17 10:35
Matrix: Water
Date Received: 02/16/17 15:35

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	<7.4		7.4	0.77	ug/L		02/22/17 12:03	02/23/17 00:54	1
Fluoranthene	<0.74		0.74	0.33	ug/L		02/22/17 12:03	02/23/17 00:54	1
Fluorene	**1.2**		0.74	0.18	ug/L		02/22/17 12:03	02/23/17 00:54	1
Hexachlorobenzene	<0.37		0.37	0.059	ug/L		02/22/17 12:03	02/23/17 00:54	1
Hexachlorobutadiene	<3.7		3.7	0.38	ug/L		02/22/17 12:03	02/23/17 00:54	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/22/17 12:03	02/23/17 00:54	1
Hexachloroethane	<3.7		3.7	0.44	ug/L		02/22/17 12:03	02/23/17 00:54	1
Indeno[1,2,3-cd]pyrene	<0.15	J	0.15	0.055	ug/L		02/22/17 12:03	02/23/17 00:54	1
Isophorone	<1.5		1.5	0.28	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Methylnaphthalene	**11**		1.5	0.048	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Methylphenol	<1.5		1.5	0.23	ug/L		02/22/17 12:03	02/23/17 00:54	1
3 & 4 Methylphenol	**40**		1.5	0.33	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Nitroaniline	<3.7		3.7	0.95	ug/L		02/22/17 12:03	02/23/17 00:54	1
3-Nitroaniline	<7.4		7.4	1.3	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Nitroaniline	<7.4		7.4	1.2	ug/L		02/22/17 12:03	02/23/17 00:54	1
Nitrobenzene	<0.74		0.74	0.33	ug/L		02/22/17 12:03	02/23/17 00:54	1
2-Nitrophenol	<7.4		7.4	1.8	ug/L		02/22/17 12:03	02/23/17 00:54	1
4-Nitrophenol	<15		15	5.5	ug/L		02/22/17 12:03	02/23/17 00:54	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/22/17 12:03	02/23/17 00:54	1
N-Nitrosodiphenylamine	**11**		0.74	0.27	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/22/17 12:03	02/23/17 00:54	1
Pentachlorophenol	<15	J	15	2.9	ug/L		02/22/17 12:03	02/23/17 00:54	1
Phenanthrene	**0.86**		0.74	0.22	ug/L		02/22/17 12:03	02/23/17 00:54	1
Phenol	**39**		3.7	0.50	ug/L		02/22/17 12:03	02/23/17 00:54	1
Pyrene	<0.74		0.74	0.31	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4,5-Trichlorophenol	<7.4		7.4	1.9	ug/L		02/22/17 12:03	02/23/17 00:54	1
2,4,6-Trichlorophenol	**1.3**	**J**	3.7	0.53	ug/L		02/22/17 12:03	02/23/17 00:54	1
Benzaldehyde	<30	J	30	11	ug/L		02/22/17 12:03	02/23/17 00:54	1
Caprolactam	<7.4		7.4	1.1	ug/L		02/22/17 12:03	02/23/17 00:54	1
Atrazine	<3.7		3.7	0.46	ug/L		02/22/17 12:03	02/23/17 00:54	1
1,1'-Biphenyl	**2.0**	**J**	3.7	0.27	ug/L		02/22/17 12:03	02/23/17 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*30 - 123*	*02/22/17 12:03*	*02/23/17 00:54*	*1*
2-Fluorophenol (Surr)	*21*	*X*	*30 - 110*	*02/22/17 12:03*	*02/23/17 00:54*	*1*
Nitrobenzene-d5 (Surr)	*69*		*33 - 139*	*02/22/17 12:03*	*02/23/17 00:54*	*1*
Phenol-d5 (Surr)	*46*		*20 - 100*	*02/22/17 12:03*	*02/23/17 00:54*	*1*
Terphenyl-d14 (Surr)	*82*		*42 - 150*	*02/22/17 12:03*	*02/23/17 00:54*	*1*
2,4,6-Tribromophenol (Surr)	*95*		*30 - 150*	*02/22/17 12:03*	*02/23/17 00:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**190**	D	7.4	2.3	ug/L		02/22/17 12:03	02/23/17 01:21	10

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.038		0.038	0.0051	ug/L		02/17/17 21:00	02/21/17 00:13	1
alpha-BHC	<0.038		0.038	0.0025	ug/L		02/17/17 21:00	02/21/17 00:13	1
alpha-Chlordane	<0.038		0.038	0.0042	ug/L		02/17/17 21:00	02/21/17 00:13	1
beta-BHC	<0.038		0.038	0.0097	ug/L		02/17/17 21:00	02/21/17 00:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Date Collected: 02/16/17 10:35
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-4

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:13	1
4,4'-DDE	<0.038		0.038	0.0036	ug/L		02/17/17 21:00	02/21/17 00:13	1
4,4'-DDT	<0.038		0.038	0.0031	ug/L		02/17/17 21:00	02/21/17 00:13	1
delta-BHC	<0.038		0.038	0.0098	ug/L		02/17/17 21:00	02/21/17 00:13	1
Dieldrin	<0.038		0.038	0.012	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endosulfan I	<0.038		0.038	0.0039	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endosulfan II	<0.038		0.038	0.0027	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endosulfan sulfate	<0.038		0.038	0.011	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endrin	<0.038		0.038	0.014	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endrin aldehyde	<0.038		0.038	0.0078	ug/L		02/17/17 21:00	02/21/17 00:13	1
Endrin ketone	<0.038		0.038	0.016	ug/L		02/17/17 21:00	02/21/17 00:13	1
gamma-BHC (Lindane)	<0.038		0.038	0.0053	ug/L		02/17/17 21:00	02/21/17 00:13	1
gamma-Chlordane	<0.038		0.038	0.0069	ug/L		02/17/17 21:00	02/21/17 00:13	1
Heptachlor	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:13	1
Heptachlor epoxide	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:13	1
Methoxychlor	<0.076		0.076	0.022	ug/L		02/17/17 21:00	02/21/17 00:13	1
Toxaphene	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/21/17 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*47*		*30 - 143*	*02/17/17 21:00*	*02/21/17 00:13*	*1*
Tetrachloro-m-xylene	*40*		*30 - 120*	*02/17/17 21:00*	*02/21/17 00:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.38		0.38	0.064	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1221	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1232	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1242	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1248	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1254	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 14:48	1
PCB-1260	<0.38		0.38	0.067	ug/L		02/17/17 21:00	02/20/17 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*105*		*30 - 127*	*02/17/17 21:00*	*02/20/17 14:48*	*1*
DCB Decachlorobiphenyl	*58*		*30 - 150*	*02/17/17 21:00*	*02/20/17 14:48*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:07	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:07	1
Arsenic	**0.0074**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:07	1
Barium	**0.25**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:07	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:07	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:07	1
Calcium	**100**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:07	1
Chromium	**0.0032**	**J**	0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:07	1
Cobalt	**0.0018**	**J**	0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:07	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:07	1
Iron	**4.8**		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:07	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:07	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Date Collected: 02/16/17 10:35
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-4

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**47**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:07	1
Manganese	**0.24**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:07	1
Nickel	**0.014**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:07	1
Potassium	**67**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:07	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:07	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:07	1
Sodium	**230**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:07	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:07	1
Vanadium	**0.0028**	**J**	0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:07	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:13	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:13	1
Arsenic	**0.0070**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:13	1
Barium	**0.25**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:13	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:13	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:13	1
Calcium	**100**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:13	1
Chromium	**0.0027**	**J**	0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:13	1
Cobalt	**0.0020**	**J**	0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:13	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:13	1
Iron	**4.3**		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:13	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:13	1
Magnesium	**48**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:13	1
Manganese	**0.24**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:13	1
Nickel	**0.014**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:13	1
Potassium	**69**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:13	1
Selenium	**0.0063**	**J**	0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:13	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:13	1
Sodium	**240**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:13	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:13	1
Vanadium	**0.0025**	**J**	0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:13	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:53	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**3.4**		1.0	0.18	mg/L			02/21/17 07:44	1
Sulfate	**100**	~~**B**~~	25	7.4	mg/L			03/02/17 07:13	5
Total Organic Carbon - Duplicates	**61**	~~**B**~~	2.0	0.53	mg/L			02/21/17 00:31	2
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-13-GW-02162017

Date Collected: 02/16/17 10:35
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-4

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**20**		5.0	2.5	mg/L			02/17/17 13:15	1
Ammonia	**57**		4.0	2.0	mg/L		02/17/17 19:00	02/17/17 22:25	20
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:45	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-11-GW-02162017

Date Collected: 02/16/17 13:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<5.0	J	5.0	1.7	ug/L			02/23/17 18:00	1
Benzene	**81**		0.50	0.15	ug/L			02/23/17 18:00	1
Bromodichloromethane	<1.0		1.0	0.37	ug/L			02/23/17 18:00	1
Bromoform	<1.0		1.0	0.48	ug/L			02/23/17 18:00	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/23/17 18:00	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/23/17 18:00	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/23/17 18:00	1
Chlorobenzene	**11**		1.0	0.39	ug/L			02/23/17 18:00	1
Chloroethane	<1.0		1.0	0.51	ug/L			02/23/17 18:00	1
Chloroform	<2.0		2.0	0.37	ug/L			02/23/17 18:00	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/23/17 18:00	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/23/17 18:00	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/23/17 18:00	1
Cyclohexane	**110**		1.0	0.49	ug/L			02/23/17 18:00	1
Dibromochloromethane	<1.0		1.0	0.49	ug/L			02/23/17 18:00	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/23/17 18:00	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/23/17 18:00	1
1,2-Dichlorobenzene	**1.2**		1.0	0.33	ug/L			02/23/17 18:00	1
1,3-Dichlorobenzene	<1.0		1.0	0.40	ug/L			02/23/17 18:00	1
1,4-Dichlorobenzene	**3.8**		1.0	0.36	ug/L			02/23/17 18:00	1
Dichlorodifluoromethane	<2.0		2.0	0.67	ug/L			02/23/17 18:00	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/23/17 18:00	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/23/17 18:00	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/23/17 18:00	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/23/17 18:00	1
Ethylbenzene	**3.1**		0.50	0.18	ug/L			02/23/17 18:00	1
2-Hexanone	<5.0		5.0	1.6	ug/L			02/23/17 18:00	1
Isopropylbenzene	**61**		1.0	0.39	ug/L			02/23/17 18:00	1
Methyl acetate	<5.0		5.0	2.0	ug/L			02/23/17 18:00	1
Methylcyclohexane	**170**		1.0	0.32	ug/L			02/23/17 18:00	1
Methylene Chloride	<5.0		5.0	1.6	ug/L			02/23/17 18:00	1
Methyl Ethyl Ketone	<5.0		5.0	2.1	ug/L			02/23/17 18:00	1
methyl isobutyl ketone	<5.0		5.0	2.2	ug/L			02/23/17 18:00	1
Methyl tert-butyl ether	<1.0		1.0	0.39	ug/L			02/23/17 18:00	1
Styrene	<1.0		1.0	0.39	ug/L			02/23/17 18:00	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/23/17 18:00	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/23/17 18:00	1
Toluene	**0.82**		0.50	0.15	ug/L			02/23/17 18:00	1
trans-1,2-Dichloroethene	<1.0		1.0	0.35	ug/L			02/23/17 18:00	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/23/17 18:00	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/23/17 18:00	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/23/17 18:00	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/23/17 18:00	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/23/17 18:00	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/23/17 18:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/23/17 18:00	1
Vinyl chloride	<0.50		0.50	0.20	ug/L			02/23/17 18:00	1
Xylenes, Total	**17**		1.0	0.22	ug/L			02/23/17 18:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-11-GW-02162017

Date Collected: 02/16/17 13:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-5

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*71 - 120*		*02/23/17 18:00*	*1*
Dibromofluoromethane	*94*		*70 - 120*		*02/23/17 18:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*71 - 127*		*02/23/17 18:00*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*02/23/17 18:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.23**	**J**	0.73	0.23	ug/L		02/20/17 07:25	02/23/17 01:49	1
Acenaphthylene	<0.73		0.73	0.20	ug/L		02/20/17 07:25	02/23/17 01:49	1
Acetophenone	<3.7		3.7	0.49	ug/L		02/20/17 07:25	02/23/17 01:49	1
Anthracene	<0.73		0.73	0.25	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzo[a]anthracene	<0.15		0.15	0.042	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzo[a]pyrene	<0.15		0.15	0.073	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzo[b]fluoranthene	<0.15		0.15	0.059	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzo[g,h,i]perylene	<0.73		0.73	0.28	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/20/17 07:25	02/23/17 01:49	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/23/17 01:49	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/23/17 01:49	1
Bis(2-ethylhexyl) phthalate	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/20/17 07:25	02/23/17 01:49	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/20/17 07:25	02/23/17 01:49	1
Carbazole	<3.7	J	3.7	0.26	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Chloroaniline	<7.3		7.3	1.5	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Chloro-3-methylphenol	<7.3		7.3	1.7	ug/L		02/20/17 07:25	02/23/17 01:49	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/20/17 07:25	02/23/17 01:49	1
2-Chlorophenol	<3.7		3.7	0.41	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/20/17 07:25	02/23/17 01:49	1
Chrysene	<0.15		0.15	0.050	ug/L		02/20/17 07:25	02/23/17 01:49	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/20/17 07:25	02/23/17 01:49	1
Dibenzofuran	<1.5		1.5	0.19	ug/L		02/20/17 07:25	02/23/17 01:49	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4-Dichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/23/17 01:49	1
Diethyl phthalate	**0.64**	**J**	1.5	0.27	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4-Dimethylphenol	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/23/17 01:49	1
Di-n-butyl phthalate	**0.69**	**J**	3.7	0.54	ug/L		02/20/17 07:25	02/23/17 01:49	1
4,6-Dinitro-2-methylphenol	<15		15	4.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4-Dinitrophenol	<15		15	6.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4-Dinitrotoluene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,6-Dinitrotoluene	<0.73		0.73	0.054	ug/L		02/20/17 07:25	02/23/17 01:49	1
Di-n-octyl phthalate	<7.3		7.3	0.77	ug/L		02/20/17 07:25	02/23/17 01:49	1
Fluoranthene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/23/17 01:49	1
Fluorene	<0.73		0.73	0.18	ug/L		02/20/17 07:25	02/23/17 01:49	1
Hexachlorobenzene	<0.37		0.37	0.058	ug/L		02/20/17 07:25	02/23/17 01:49	1
Hexachlorobutadiene	<3.7		3.7	0.38	ug/L		02/20/17 07:25	02/23/17 01:49	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/20/17 07:25	02/23/17 01:49	1
Hexachloroethane	<3.7		3.7	0.44	ug/L		02/20/17 07:25	02/23/17 01:49	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/20/17 07:25	02/23/17 01:49	1
Isophorone	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/23/17 01:49	1
2-Methylnaphthalene	**3.7**		1.5	0.048	ug/L		02/20/17 07:25	02/23/17 01:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-11-GW-02162017

Lab Sample ID: 500-123998-5

Date Collected: 02/16/17 13:00
Matrix: Water
Date Received: 02/16/17 15:35

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<1.5		1.5	0.22	ug/L		02/20/17 07:25	02/23/17 01:49	1
3 & 4 Methylphenol	**3.2**		1.5	0.33	ug/L		02/20/17 07:25	02/23/17 01:49	1
Naphthalene	**2.4**		0.73	0.23	ug/L		02/20/17 07:25	02/23/17 01:49	1
2-Nitroaniline	<3.7		3.7	0.95	ug/L		02/20/17 07:25	02/23/17 01:49	1
3-Nitroaniline	<7.3		7.3	1.3	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Nitroaniline	<7.3		7.3	1.2	ug/L		02/20/17 07:25	02/23/17 01:49	1
Nitrobenzene	<0.73		0.73	0.33	ug/L		02/20/17 07:25	02/23/17 01:49	1
2-Nitrophenol	<7.3		7.3	1.8	ug/L		02/20/17 07:25	02/23/17 01:49	1
4-Nitrophenol	<15		15	5.5	ug/L		02/20/17 07:25	02/23/17 01:49	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/20/17 07:25	02/23/17 01:49	1
N-Nitrosodiphenylamine	**1.7**		0.73	0.27	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/23/17 01:49	1
Pentachlorophenol	<15	J	15	2.9	ug/L		02/20/17 07:25	02/23/17 01:49	1
Phenanthrene	<0.73		0.73	0.22	ug/L		02/20/17 07:25	02/23/17 01:49	1
Phenol	**0.73**	**J**	3.7	0.49	ug/L		02/20/17 07:25	02/23/17 01:49	1
Pyrene	<0.73		0.73	0.31	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4,5-Trichlorophenol	<7.3		7.3	1.9	ug/L		02/20/17 07:25	02/23/17 01:49	1
2,4,6-Trichlorophenol	<3.7		3.7	0.53	ug/L		02/20/17 07:25	02/23/17 01:49	1
Benzaldehyde	<29	J	29	11	ug/L		02/20/17 07:25	02/23/17 01:49	1
Caprolactam	<7.3		7.3	1.1	ug/L		02/20/17 07:25	02/23/17 01:49	1
Atrazine	<3.7		3.7	0.46	ug/L		02/20/17 07:25	02/23/17 01:49	1
1,1'-Biphenyl	**0.99**	**J**	3.7	0.27	ug/L		02/20/17 07:25	02/23/17 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*41*		*30 - 123*	*02/20/17 07:25*	*02/23/17 01:49*	*1*
2-Fluorophenol (Surr)	*51*		*30 - 110*	*02/20/17 07:25*	*02/23/17 01:49*	*1*
Nitrobenzene-d5 (Surr)	*59*		*33 - 139*	*02/20/17 07:25*	*02/23/17 01:49*	*1*
Phenol-d5 (Surr)	*46*		*20 - 100*	*02/20/17 07:25*	*02/23/17 01:49*	*1*
Terphenyl-d14 (Surr)	*63*		*42 - 150*	*02/20/17 07:25*	*02/23/17 01:49*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*30 - 150*	*02/20/17 07:25*	*02/23/17 01:49*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.037		0.037	0.0049	ug/L		02/17/17 21:00	02/21/17 00:33	1
alpha-BHC	<0.037		0.037	0.0024	ug/L		02/17/17 21:00	02/21/17 00:33	1
alpha-Chlordane	<0.037		0.037	0.0041	ug/L		02/17/17 21:00	02/21/17 00:33	1
beta-BHC	<0.037		0.037	0.0094	ug/L		02/17/17 21:00	02/21/17 00:33	1
4,4'-DDD	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/21/17 00:33	1
4,4'-DDE	<0.037		0.037	0.0035	ug/L		02/17/17 21:00	02/21/17 00:33	1
4,4'-DDT	<0.037		0.037	0.0030	ug/L		02/17/17 21:00	02/21/17 00:33	1
delta-BHC	<0.037		0.037	0.0095	ug/L		02/17/17 21:00	02/21/17 00:33	1
Dieldrin	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endosulfan I	<0.037		0.037	0.0038	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endosulfan II	<0.037		0.037	0.0026	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endosulfan sulfate	<0.037		0.037	0.011	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endrin	<0.037		0.037	0.013	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endrin aldehyde	<0.037		0.037	0.0076	ug/L		02/17/17 21:00	02/21/17 00:33	1
Endrin ketone	<0.037		0.037	0.016	ug/L		02/17/17 21:00	02/21/17 00:33	1
gamma-BHC (Lindane)	<0.037		0.037	0.0052	ug/L		02/17/17 21:00	02/21/17 00:33	1
gamma-Chlordane	<0.037		0.037	0.0067	ug/L		02/17/17 21:00	02/21/17 00:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-11-GW-02162017

Date Collected: 02/16/17 13:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-5

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.037		0.037	0.012	ug/L		02/17/17 21:00	02/21/17 00:33	1
Heptachlor epoxide	<0.037		0.037	0.013	ug/L		02/17/17 21:00	02/21/17 00:33	1
Methoxychlor	<0.074		0.074	0.021	ug/L		02/17/17 21:00	02/21/17 00:33	1
Toxaphene	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/21/17 00:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*60*		*30 - 143*	*02/17/17 21:00*	*02/21/17 00:33*	*1*
Tetrachloro-m-xylene	*67*		*30 - 120*	*02/17/17 21:00*	*02/21/17 00:33*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.37		0.37	0.062	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1221	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1232	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1242	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1248	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1254	<0.37		0.37	0.18	ug/L		02/17/17 21:00	02/20/17 15:04	1
PCB-1260	<0.37		0.37	0.065	ug/L		02/17/17 21:00	02/20/17 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*30 - 127*	*02/17/17 21:00*	*02/20/17 15:04*	*1*
DCB Decachlorobiphenyl	*46*		*30 - 150*	*02/17/17 21:00*	*02/20/17 15:04*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:19	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:19	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:19	1
Barium	**0.79**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:19	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:19	1
Cadmium	**0.0011**	**J**	0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:19	1
Calcium	**130**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:19	1
Chromium	**0.0073**	**J**	0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:19	1
Cobalt	**0.0018**	**J**	0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:19	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:19	1
Iron	**29**		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:19	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:19	1
Magnesium	**120**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:19	1
Manganese	**0.22**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:19	1
Nickel	**0.020**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:19	1
Potassium	**110**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:19	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:19	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:19	1
Sodium	**380**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:19	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:19	1
Vanadium	**0.0050**		0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:19	1
Zinc	**0.011**	**J**	0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	<0.20		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: MW-11-GW-02162017

Lab Sample ID: 500-123998-5

Date Collected: 02/16/17 13:00
Matrix: Water
Date Received: 02/16/17 15:35

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:26	1
Arsenic	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:26	1
Barium	**0.79**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:26	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:26	1
Cadmium	**0.0010**	**J**	0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:26	1
Calcium	**130**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:26	1
Chromium	**0.0076**	**J**	0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:26	1
Cobalt	**0.0017**	**J**	0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:26	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:26	1
Iron	**28**		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:26	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:26	1
Magnesium	**120**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:26	1
Manganese	**0.22**		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:26	1
Nickel	**0.019**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:26	1
Potassium	**120**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:26	1
Selenium	**0.0068**	**J**	0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:26	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:26	1
Sodium	**390**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:26	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:26	1
Vanadium	**0.0042**	**J**	0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:26	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:55	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.0		1.0	0.18	mg/L			02/21/17 07:47	1
Sulfate	**7.2**	~~B~~ UB	5.0	1.5	mg/L			03/02/17 07:14	1
Total Organic Carbon - Duplicates	**36**		1.0	0.27	mg/L			02/17/17 01:44	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**100**		5.0	2.5	mg/L			02/17/17 13:16	1
Ammonia	**59**		5.0	2.5	mg/L		02/17/17 19:00	02/17/17 22:28	25
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:45	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: DUP-1-02162017

Date Collected: 02/16/17 00:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**59**	J	5.0	1.7	ug/L			02/23/17 06:03	1
Benzene	**30**	J	0.50	0.15	ug/L			02/23/17 06:03	1
Bromodichloromethane	<1.0	R	1.0	0.37	ug/L			02/23/17 06:03	1
Bromoform	<1.0		1.0	0.48	ug/L			02/23/17 06:03	1
Bromomethane	<2.0		2.0	0.80	ug/L			02/23/17 06:03	1
Carbon disulfide	<2.0		2.0	0.45	ug/L			02/23/17 06:03	1
Carbon tetrachloride	<1.0		1.0	0.38	ug/L			02/23/17 06:03	1
Chlorobenzene	**5.7**	J	1.0	0.39	ug/L			02/23/17 06:03	1
Chloroethane	<1.0	R	1.0	0.51	ug/L			02/23/17 06:03	1
Chloroform	<2.0		2.0	0.37	ug/L			02/23/17 06:03	1
Chloromethane	<1.0		1.0	0.32	ug/L			02/23/17 06:03	1
cis-1,2-Dichloroethene	<1.0		1.0	0.41	ug/L			02/23/17 06:03	1
cis-1,3-Dichloropropene	<1.0		1.0	0.42	ug/L			02/23/17 06:03	1
Cyclohexane	**1.5**	J	1.0	0.49	ug/L			02/23/17 06:03	1
Dibromochloromethane	<1.0	R	1.0	0.49	ug/L			02/23/17 06:03	1
1,2-Dibromo-3-Chloropropane	<5.0		5.0	2.0	ug/L			02/23/17 06:03	1
1,2-Dibromoethane	<1.0		1.0	0.39	ug/L			02/23/17 06:03	1
1,2-Dichlorobenzene	**1.7**	J	1.0	0.33	ug/L			02/23/17 06:03	1
1,3-Dichlorobenzene	<1.0	R	1.0	0.40	ug/L			02/23/17 06:03	1
1,4-Dichlorobenzene	**3.6**	J	1.0	0.36	ug/L			02/23/17 06:03	1
Dichlorodifluoromethane	<2.0	R	2.0	0.67	ug/L			02/23/17 06:03	1
1,1-Dichloroethane	<1.0		1.0	0.41	ug/L			02/23/17 06:03	1
1,2-Dichloroethane	<1.0		1.0	0.39	ug/L			02/23/17 06:03	1
1,1-Dichloroethene	<1.0		1.0	0.39	ug/L			02/23/17 06:03	1
1,2-Dichloropropane	<1.0		1.0	0.43	ug/L			02/23/17 06:03	1
Ethylbenzene	**25**	J	0.50	0.18	ug/L			02/23/17 06:03	1
2-Hexanone	<5.0	R	5.0	1.6	ug/L			02/23/17 06:03	1
Isopropylbenzene	**13**	J	1.0	0.39	ug/L			02/23/17 06:03	1
Methyl acetate	<5.0	R	5.0	2.0	ug/L			02/23/17 06:03	1
Methylcyclohexane	**1.9**	J	1.0	0.32	ug/L			02/23/17 06:03	1
Methylene Chloride	<5.0	R	5.0	1.6	ug/L			02/23/17 06:03	1
Methyl Ethyl Ketone	**45**	J	5.0	2.1	ug/L			02/23/17 06:03	1
methyl isobutyl ketone	**99**	J	5.0	2.2	ug/L			02/23/17 06:03	1
Methyl tert-butyl ether	<1.0	R	1.0	0.39	ug/L			02/23/17 06:03	1
Styrene	<1.0		1.0	0.39	ug/L			02/23/17 06:03	1
1,1,2,2-Tetrachloroethane	<1.0		1.0	0.40	ug/L			02/23/17 06:03	1
Tetrachloroethene	<1.0		1.0	0.37	ug/L			02/23/17 06:03	1
Toluene	**11**	J	0.50	0.15	ug/L			02/23/17 06:03	1
trans-1,2-Dichloroethene	<1.0	R	1.0	0.35	ug/L			02/23/17 06:03	1
trans-1,3-Dichloropropene	<1.0		1.0	0.36	ug/L			02/23/17 06:03	1
1,2,4-Trichlorobenzene	<1.0		1.0	0.34	ug/L			02/23/17 06:03	1
1,1,1-Trichloroethane	<1.0		1.0	0.38	ug/L			02/23/17 06:03	1
1,1,2-Trichloroethane	<1.0		1.0	0.35	ug/L			02/23/17 06:03	1
Trichloroethene	<0.50		0.50	0.16	ug/L			02/23/17 06:03	1
Trichlorofluoromethane	<1.0		1.0	0.43	ug/L			02/23/17 06:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.0		1.0	0.46	ug/L			02/23/17 06:03	1
Vinyl chloride	**0.45**	J	0.50	0.20	ug/L			02/23/17 06:03	1
Xylenes, Total	**24**	J	1.0	0.22	ug/L			02/23/17 06:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: DUP-1-02162017

Date Collected: 02/16/17 00:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-6

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*71 - 120*		*02/23/17 06:03*	*1*
Dibromofluoromethane	*9*	*X*	*70 - 120*		*02/23/17 06:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 127*		*02/23/17 06:03*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*02/23/17 06:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**8.1**		0.74	0.23	ug/L		02/20/17 07:25	02/23/17 02:16	1
Acenaphthylene	<0.74		0.74	0.20	ug/L		02/20/17 07:25	02/23/17 02:16	1
Acetophenone	**1.4**	**J**	3.7	0.49	ug/L		02/20/17 07:25	02/23/17 02:16	1
Anthracene	<0.74		0.74	0.25	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzo[a]anthracene	<0.15		0.15	0.042	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzo[a]pyrene	<0.15		0.15	0.073	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzo[b]fluoranthene	<0.15		0.15	0.060	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzo[g,h,i]perylene	<0.74		0.74	0.28	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzo[k]fluoranthene	<0.15		0.15	0.047	ug/L		02/20/17 07:25	02/23/17 02:16	1
Bis(2-chloroethoxy)methane	<1.5		1.5	0.21	ug/L		02/20/17 07:25	02/23/17 02:16	1
Bis(2-chloroethyl)ether	<1.5		1.5	0.22	ug/L		02/20/17 07:25	02/23/17 02:16	1
Bis(2-ethylhexyl) phthalate	<7.4		7.4	1.3	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Bromophenyl phenyl ether	<3.7		3.7	0.40	ug/L		02/20/17 07:25	02/23/17 02:16	1
Butyl benzyl phthalate	<1.5		1.5	0.35	ug/L		02/20/17 07:25	02/23/17 02:16	1
Carbazole	**4.3**	J	3.7	0.26	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Chloroaniline	<7.4		7.4	1.5	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Chloro-3-methylphenol	<7.4		7.4	1.7	ug/L		02/20/17 07:25	02/23/17 02:16	1
2-Chloronaphthalene	<1.5		1.5	0.17	ug/L		02/20/17 07:25	02/23/17 02:16	1
2-Chlorophenol	<3.7		3.7	0.41	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Chlorophenyl phenyl ether	<3.7		3.7	0.47	ug/L		02/20/17 07:25	02/23/17 02:16	1
Chrysene	<0.15		0.15	0.050	ug/L		02/20/17 07:25	02/23/17 02:16	1
Dibenz(a,h)anthracene	<0.22		0.22	0.037	ug/L		02/20/17 07:25	02/23/17 02:16	1
Dibenzofuran	**1.3**	**J**	1.5	0.19	ug/L		02/20/17 07:25	02/23/17 02:16	1
3,3'-Dichlorobenzidine	<3.7		3.7	1.3	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4-Dichlorophenol	<7.4		7.4	1.9	ug/L		02/20/17 07:25	02/23/17 02:16	1
Diethyl phthalate	<1.5		1.5	0.27	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4-Dimethylphenol	**5.5**	**J**	7.4	1.3	ug/L		02/20/17 07:25	02/23/17 02:16	1
Dimethyl phthalate	<1.5		1.5	0.23	ug/L		02/20/17 07:25	02/23/17 02:16	1
Di-n-butyl phthalate	**0.75**	**J**	3.7	0.54	ug/L		02/20/17 07:25	02/23/17 02:16	1
4,6-Dinitro-2-methylphenol	<15		15	4.4	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4-Dinitrophenol	<15		15	6.3	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4-Dinitrotoluene	<0.74		0.74	0.18	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,6-Dinitrotoluene	<0.74		0.74	0.054	ug/L		02/20/17 07:25	02/23/17 02:16	1
Di-n-octyl phthalate	<7.4		7.4	0.77	ug/L		02/20/17 07:25	02/23/17 02:16	1
Fluoranthene	<0.74		0.74	0.33	ug/L		02/20/17 07:25	02/23/17 02:16	1
Fluorene	**2.4**		0.74	0.18	ug/L		02/20/17 07:25	02/23/17 02:16	1
Hexachlorobenzene	<0.37		0.37	0.059	ug/L		02/20/17 07:25	02/23/17 02:16	1
Hexachlorobutadiene	<3.7		3.7	0.38	ug/L		02/20/17 07:25	02/23/17 02:16	1
Hexachlorocyclopentadiene	<15		15	4.7	ug/L		02/20/17 07:25	02/23/17 02:16	1
Hexachloroethane	<3.7		3.7	0.44	ug/L		02/20/17 07:25	02/23/17 02:16	1
Indeno[1,2,3-cd]pyrene	<0.15		0.15	0.055	ug/L		02/20/17 07:25	02/23/17 02:16	1
Isophorone	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/23/17 02:16	1
2-Methylnaphthalene	**4.3**		1.5	0.048	ug/L		02/20/17 07:25	02/23/17 02:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: DUP-1-02162017

Date Collected: 02/16/17 00:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	**1.4**	J	1.5	0.23	ug/L		02/20/17 07:25	02/23/17 02:16	1
3 & 4 Methylphenol	**6.3**		1.5	0.33	ug/L		02/20/17 07:25	02/23/17 02:16	1
2-Nitroaniline	<3.7		3.7	0.95	ug/L		02/20/17 07:25	02/23/17 02:16	1
3-Nitroaniline	<7.4		7.4	1.3	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Nitroaniline	<7.4		7.4	1.2	ug/L		02/20/17 07:25	02/23/17 02:16	1
Nitrobenzene	<0.74		0.74	0.33	ug/L		02/20/17 07:25	02/23/17 02:16	1
2-Nitrophenol	<7.4		7.4	1.8	ug/L		02/20/17 07:25	02/23/17 02:16	1
4-Nitrophenol	<15		15	5.5	ug/L		02/20/17 07:25	02/23/17 02:16	1
N-Nitrosodi-n-propylamine	<0.37		0.37	0.11	ug/L		02/20/17 07:25	02/23/17 02:16	1
N-Nitrosodiphenylamine	<0.74		0.74	0.27	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,2'-oxybis[1-chloropropane]	<1.5		1.5	0.28	ug/L		02/20/17 07:25	02/23/17 02:16	1
Pentachlorophenol	<15	J	15	2.9	ug/L		02/20/17 07:25	02/23/17 02:16	1
Phenanthrene	**1.2**		0.74	0.22	ug/L		02/20/17 07:25	02/23/17 02:16	1
Pyrene	<0.74		0.74	0.31	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4,5-Trichlorophenol	<7.4		7.4	1.9	ug/L		02/20/17 07:25	02/23/17 02:16	1
2,4,6-Trichlorophenol	<3.7		3.7	0.53	ug/L		02/20/17 07:25	02/23/17 02:16	1
Benzaldehyde	<30	J	30	11	ug/L		02/20/17 07:25	02/23/17 02:16	1
Caprolactam	<7.4		7.4	1.1	ug/L		02/20/17 07:25	02/23/17 02:16	1
Atrazine	<3.7		3.7	0.46	ug/L		02/20/17 07:25	02/23/17 02:16	1
1,1'-Biphenyl	<3.7		3.7	0.27	ug/L		02/20/17 07:25	02/23/17 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*37*		*30 - 123*	*02/20/17 07:25*	*02/23/17 02:16*	*1*
2-Fluorophenol (Surr)	*41*		*30 - 110*	*02/20/17 07:25*	*02/23/17 02:16*	*1*
Nitrobenzene-d5 (Surr)	*33*		*33 - 139*	*02/20/17 07:25*	*02/23/17 02:16*	*1*
Phenol-d5 (Surr)	*40*		*20 - 100*	*02/20/17 07:25*	*02/23/17 02:16*	*1*
Terphenyl-d14 (Surr)	*71*		*42 - 150*	*02/20/17 07:25*	*02/23/17 02:16*	*1*
2,4,6-Tribromophenol (Surr)	*78*		*30 - 150*	*02/20/17 07:25*	*02/23/17 02:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**120**	D	3.7	1.1	ug/L		02/20/17 07:25	02/24/17 15:56	5
Phenol	**96**	D	18	2.5	ug/L		02/20/17 07:25	02/24/17 15:56	5

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.038		0.038	0.0050	ug/L		02/17/17 21:00	02/21/17 00:52	1
alpha-BHC	<0.038		0.038	0.0024	ug/L		02/17/17 21:00	02/21/17 00:52	1
alpha-Chlordane	<0.038		0.038	0.0041	ug/L		02/17/17 21:00	02/21/17 00:52	1
beta-BHC	<0.038		0.038	0.0096	ug/L		02/17/17 21:00	02/21/17 00:52	1
4,4'-DDD	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:52	1
4,4'-DDE	<0.038		0.038	0.0036	ug/L		02/17/17 21:00	02/21/17 00:52	1
4,4'-DDT	<0.038		0.038	0.0030	ug/L		02/17/17 21:00	02/21/17 00:52	1
delta-BHC	<0.038		0.038	0.0097	ug/L		02/17/17 21:00	02/21/17 00:52	1
Dieldrin	<0.038		0.038	0.012	ug/L		02/17/17 21:00	02/21/17 00:52	1
Endosulfan I	<0.038		0.038	0.0039	ug/L		02/17/17 21:00	02/21/17 00:52	1
Endosulfan II	<0.038		0.038	0.0026	ug/L		02/17/17 21:00	02/21/17 00:52	1
Endosulfan sulfate	<0.038		0.038	0.011	ug/L		02/17/17 21:00	02/21/17 00:52	1
Endrin	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:52	1
Endrin aldehyde	<0.038		0.038	0.0077	ug/L		02/17/17 21:00	02/21/17 00:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: DUP-1-02162017

Lab Sample ID: 500-123998-6

Date Collected: 02/16/17 00:00
Matrix: Water
Date Received: 02/16/17 15:35

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin ketone	<0.038		0.038	0.016	ug/L		02/17/17 21:00	02/21/17 00:52	1
gamma-BHC (Lindane)	<0.038		0.038	0.0053	ug/L		02/17/17 21:00	02/21/17 00:52	1
gamma-Chlordane	<0.038		0.038	0.0068	ug/L		02/17/17 21:00	02/21/17 00:52	1
Heptachlor	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:52	1
Heptachlor epoxide	<0.038		0.038	0.013	ug/L		02/17/17 21:00	02/21/17 00:52	1
Methoxychlor	<0.075		0.075	0.022	ug/L		02/17/17 21:00	02/21/17 00:52	1
Toxaphene	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/21/17 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*30 - 143*	*02/17/17 21:00*	*02/21/17 00:52*	*1*
Tetrachloro-m-xylene	*66*		*30 - 120*	*02/17/17 21:00*	*02/21/17 00:52*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.38		0.38	0.063	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1221	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1232	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1242	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1248	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1254	<0.38		0.38	0.19	ug/L		02/17/17 21:00	02/20/17 15:19	1
PCB-1260	<0.38		0.38	0.066	ug/L		02/17/17 21:00	02/20/17 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*30 - 127*	*02/17/17 21:00*	*02/20/17 15:19*	*1*
DCB Decachlorobiphenyl	*70*		*30 - 150*	*02/17/17 21:00*	*02/20/17 15:19*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.33**		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:31	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:31	1
Arsenic	**0.0066**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:31	1
Barium	**0.45**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:31	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:31	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:31	1
Calcium	**500**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:31	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:31	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:31	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:31	1
Iron	**0.12**	**J**	0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:31	1
Lead	**0.0025**	**J**	0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:31	1
Magnesium	**1.7**		0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:31	1
Manganese	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:31	1
Nickel	**0.015**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:31	1
Potassium	**50**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:31	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:31	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:31	1
Sodium	**210**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:31	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:31	1
Vanadium	**0.0020**	**J**	0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:31	1
Zinc	**0.010**	**J**	0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Lake Calumet Cluster Site

TestAmerica Job ID: 500-123998-1

Client Sample ID: DUP-1-02162017

Date Collected: 02/16/17 00:00
Date Received: 02/16/17 15:35

Lab Sample ID: 500-123998-6

Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.22**		0.20	0.062	mg/L		02/17/17 08:13	02/21/17 21:35	1
Antimony	<0.020		0.020	0.0064	mg/L		02/17/17 08:13	02/21/17 21:35	1
Arsenic	**0.0048**	**J**	0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:35	1
Barium	**0.47**		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:35	1
Beryllium	<0.0040		0.0040	0.00085	mg/L		02/17/17 08:13	02/21/17 21:35	1
Cadmium	<0.0020		0.0020	0.00094	mg/L		02/17/17 08:13	02/21/17 21:35	1
Calcium	**530**		0.20	0.059	mg/L		02/17/17 08:13	02/21/17 21:35	1
Chromium	<0.010		0.010	0.0024	mg/L		02/17/17 08:13	02/21/17 21:35	1
Cobalt	<0.0050		0.0050	0.00096	mg/L		02/17/17 08:13	02/21/17 21:35	1
Copper	<0.010		0.010	0.0022	mg/L		02/17/17 08:13	02/21/17 21:35	1
Iron	<0.20		0.20	0.10	mg/L		02/17/17 08:13	02/21/17 21:35	1
Lead	<0.0050		0.0050	0.0025	mg/L		02/17/17 08:13	02/21/17 21:35	1
Magnesium	**0.043**	**J**	0.10	0.041	mg/L		02/17/17 08:13	02/21/17 21:35	1
Manganese	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:35	1
Nickel	**0.016**		0.010	0.0037	mg/L		02/17/17 08:13	02/21/17 21:35	1
Potassium	**52**		0.50	0.16	mg/L		02/17/17 08:13	02/21/17 21:35	1
Selenium	<0.010		0.010	0.0051	mg/L		02/17/17 08:13	02/21/17 21:35	1
Silver	<0.0050		0.0050	0.0013	mg/L		02/17/17 08:13	02/21/17 21:35	1
Sodium	**220**		1.0	0.43	mg/L		02/17/17 08:13	02/21/17 21:35	1
Thallium	<0.010		0.010	0.0034	mg/L		02/17/17 08:13	02/21/17 21:35	1
Vanadium	**0.0021**	**J**	0.0050	0.0019	mg/L		02/17/17 08:13	02/21/17 21:35	1
Zinc	<0.020		0.020	0.0090	mg/L		02/17/17 08:13	02/21/17 21:35	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 10:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00011	mg/L		02/17/17 13:30	02/20/17 11:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**3.5**	J	1.0	0.18	mg/L			02/21/17 07:50	1
Sulfate	**22**	~~B~~	5.0	1.5	mg/L			03/02/17 07:15	1
Total Organic Carbon - Duplicates	**30**		1.0	0.27	mg/L			02/17/17 02:00	1
Nitrogen, Nitrate	<0.10		0.10	0.035	mg/L			02/19/17 20:20	1
Total Suspended Solids	**24**		5.0	2.5	mg/L			02/17/17 13:18	1
Ammonia	**49**		4.0	2.0	mg/L		02/17/17 19:00	02/17/17 23:33	20
Nitrogen, Nitrite	<0.020		0.020	0.0088	mg/L			02/17/17 12:46	1
Nitrogen, Nitrate Nitrite	<0.10		0.10	0.035	mg/L			02/18/17 00:19	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
X	Surrogate is outside control limits
*	ISTD response or retention time outside acceptable limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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(optional)
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Contact: Jack Kratzmeyer
Company: Arcadis
Address: 200 S. Michigan Ave
Address: Ste 2000
Phone: 312 575 3700
Fax:
E-Mail: Jack.Kratzmeyer@arcadis

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-123998
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 2.8, -0.9, 1.7

Client: Arcadis
Client Project #: CI001805.0002.00005
Project Name: LCCS
Project Location/State: Chicago, IL
Lab Project #:
Sampler: B. Thurnhoffer
Lab PM: Therese Hargraves

Preservative Key
1. HCL, Cool to 4°
500-123998 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	SVOC, PCBs, Pesticides (Preservative 8)	Total Metals (3)	Dissolved Metals (3)	Ammonia NO3/NO2 (6)	Sulfide (5)	TOC (2)	TSS, SO4, NO2 (8)	VOC (1)	Dissolved Gases (9)	Comments
1		MW-03-GW-02152017	2-15	1320	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Dissolved metals
2		MW-02-GW-02152017	2-15	1605	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	were field-filtered
3		MW-01-GW-02162017	2-16	0755	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4		MW-13-GW-02162017	2-16	1035	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5		MW-11-GW-02162017	2-16	1300	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6		Dup-1-02162017	2-16	—	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Arcadis	2-16-2017	1455	[signature]	TA	2/16/17	1455
[signature]	TA	2/16/17	1535	[signature]	TACHE	02/16/17	1535

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TA-13/2017

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480001** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-03-GW-02152017** Date Collected: 2/15/2017 13:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**22000**	ug/l	0.50	0.027	1	2/24/2017 13:48	MM	n
Carbon Dioxide	**80**	mg/l	5.0	0.24	1	2/24/2017 13:48	MM	n
Oxygen	**3.0**	mg/l	0.50	0.13	1	2/24/2017 13:48	MM	n
Nitrogen	**9.1**	mg/l	2.0	0.24	1	2/24/2017 13:48	MM	n

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ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480002** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-02-GW-02152017** Date Collected: 2/15/2017 16:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**16000**	ug/l	0.50	0.027	1	2/24/2017 14:04	MM	n
Carbon Dioxide	**360**	mg/l	5.0	0.24	1	2/24/2017 14:04	MM	n
Oxygen	**1.6**	mg/l	0.50	0.13	1	2/24/2017 14:04	MM	n
Nitrogen	**8.9**	mg/l	2.0	0.24	1	2/24/2017 14:04	MM	n

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ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480003** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-01-GW-02162017** Date Collected: 2/16/2017 07:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**20000**	ug/l	0.50	0.027	1	2/24/2017 14:17	MM	n
Carbon Dioxide	**<5.0**	mg/l	5.0	0.24	1	2/24/2017 14:17	MM	n
Oxygen	**3.4**	mg/l	0.50	0.13	1	2/24/2017 14:17	MM	n
Nitrogen	**10**	mg/l	2.0	0.24	1	2/24/2017 14:17	MM	n

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ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480004** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-13-GW-02162017** Date Collected: 2/16/2017 10:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**23000**	ug/l	0.50	0.027	1	2/24/2017 14:30	MM	n
Carbon Dioxide	**64**	mg/l	5.0	0.24	1	2/24/2017 14:30	MM	n
Oxygen	**1.4**	mg/l	0.50	0.13	1	2/24/2017 14:30	MM	n
Nitrogen	**7.9**	mg/l	2.0	0.24	1	2/24/2017 14:30	MM	n

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ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480005** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **MW-11-GW-02162017** Date Collected: 2/16/2017 13:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**18000**	ug/l	0.50	0.027	1	2/24/2017 14:43	MM	n
Carbon Dioxide	**210**	mg/l	5.0	0.24	1	2/24/2017 14:43	MM	n
Oxygen	**1.6**	mg/l	0.50	0.13	1	2/24/2017 14:43	MM	n
Nitrogen	**9.5**	mg/l	2.0	0.24	1	2/24/2017 14:43	MM	n

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ANALYTICAL RESULTS

Workorder: 21748 500-123998-2

Lab ID: **217480006** Date Received: 2/17/2017 10:40 Matrix: Water

Sample ID: **DUP-1-02162017** Date Collected: 2/16/2017 00:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**21000**	ug/l	0.50	0.027	1	2/24/2017 14:57	MM	n
Carbon Dioxide	**<5.0**	mg/l	5.0	0.24	1	2/24/2017 14:57	MM	n
Oxygen	**3.4**	mg/l	0.50	0.13	1	2/24/2017 14:57	MM	n
Nitrogen	**10**	mg/l	2.0	0.24	1	2/24/2017 14:57	MM	n

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 21748 500-123998-2

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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(optional)
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Contact: Jack Kratzmeyer
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(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-123998
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 2.8, -0.9, 1.7

Client: Arcadis
Client Project #: CI001805.0002.00005
Project Name: LCCS
Project Location/State: Chicago, IL
Lab Project #:
Sampler: B. Thurnhoffer
Lab PM: Therese Hargraves

Preservative Key
1. HCL, Cool to 4°
Cool to 4°
o 4°
500-123998 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	SVOCs, PCBs, Pesticides	Total Metals	Dissolved Metals	Ammonia NO3/NO2	Sulfide	TOC	TSS, SO4, NO2	VOC	Dissolved Gases	Comments
							8	3	3	6	5	2	8	1	9	
1		MW-03-GW-02152017	2-15	1320	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	Dissolved metals
2		MW-02-GW-02152017	2-15	1605	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	were field-filtered
3		MW-01-GW-02162017	2-16	0755	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4		MW-13-GW-02162017	2-16	1035	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5		MW-11-GW-02162017	2-16	1300	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6		Dup-1-02162017	2-16	—	18	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
Requested Due Date ____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Arcadis	2-16-2017	1455	[signature]	TA	2/16/17	1455
[signature]	TA	2/16/17	1535	[signature]	TACHI	02/16/17	1535

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

2/28/2017

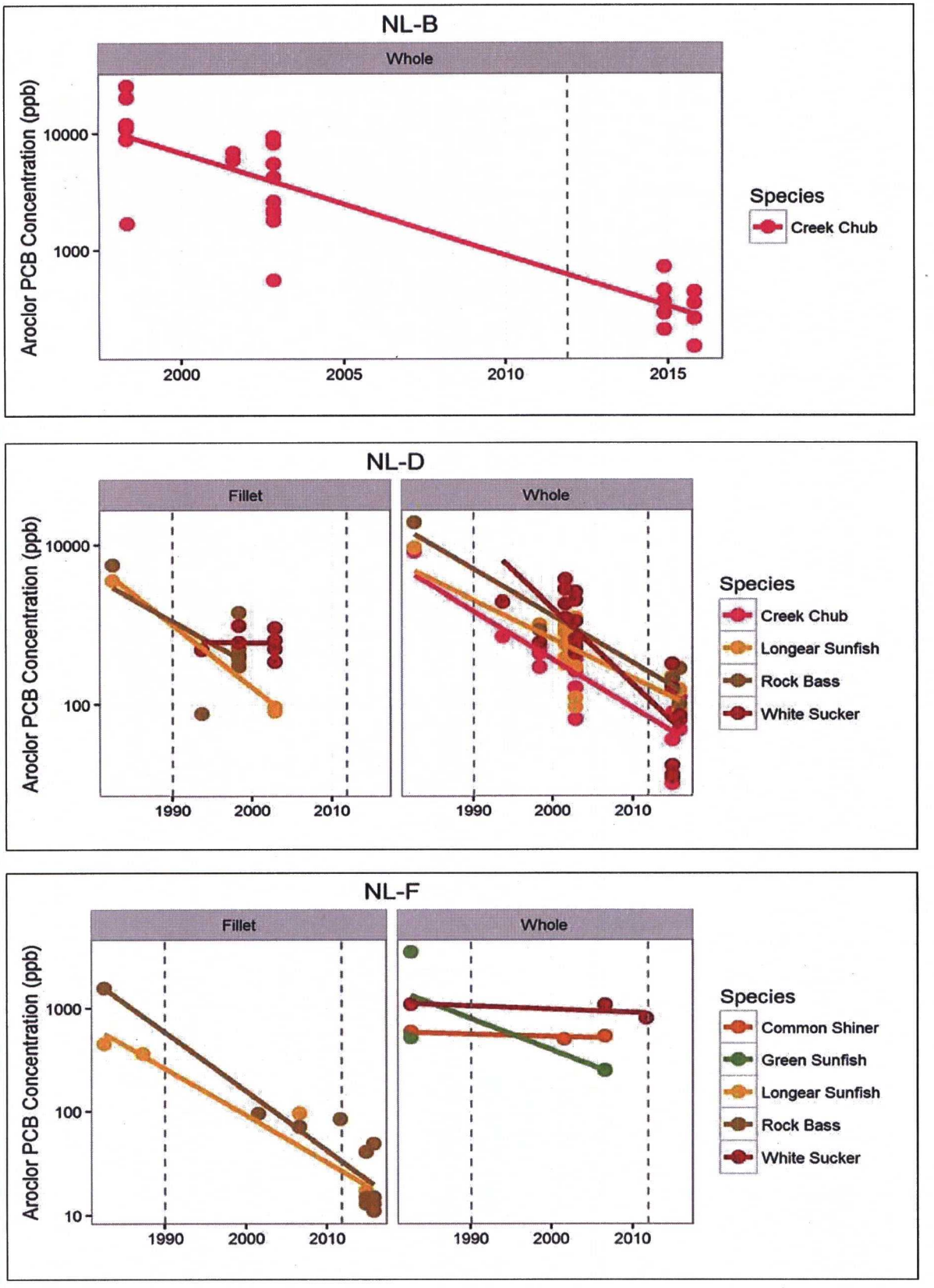
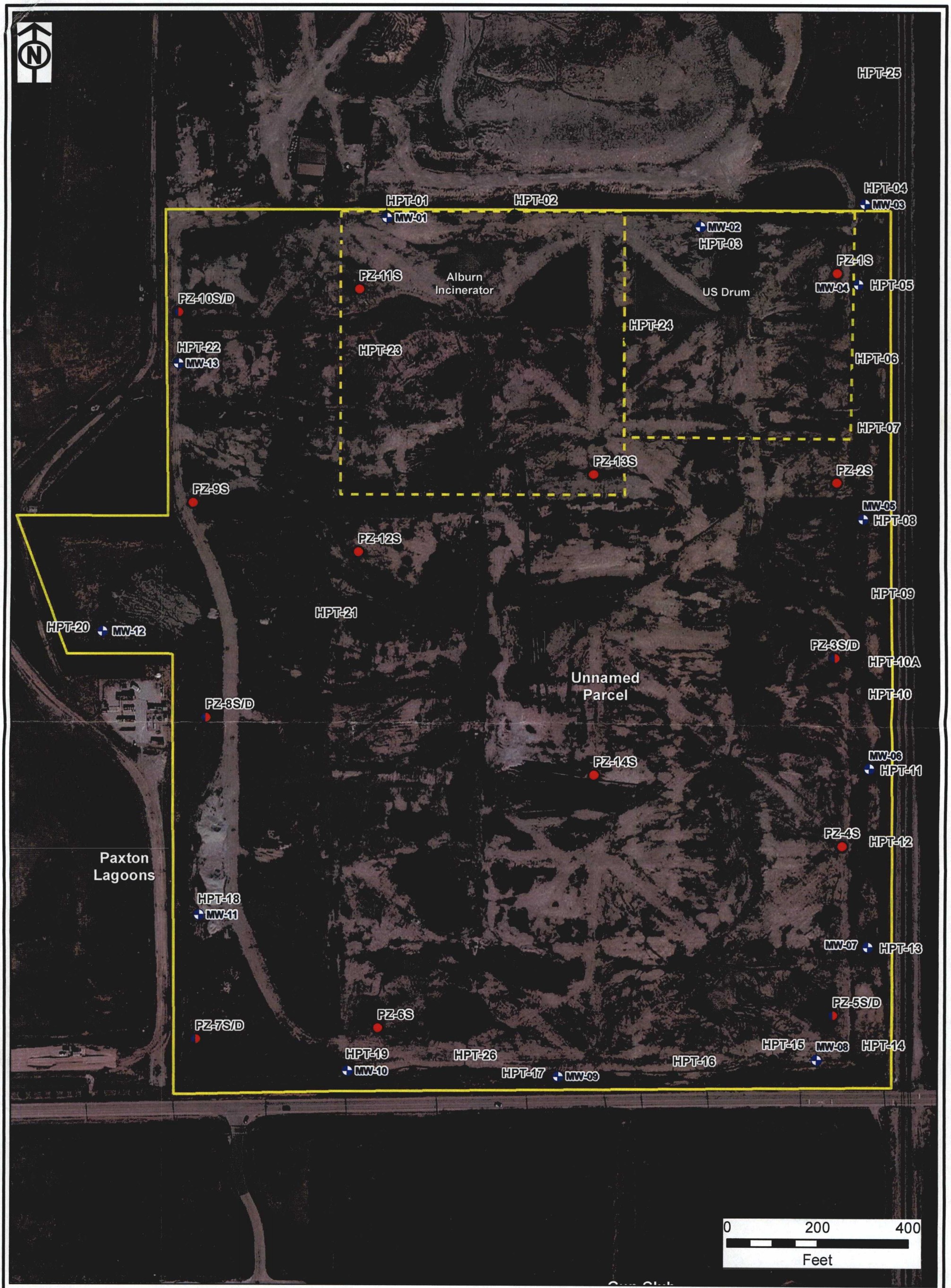


Figure 9. Time series plots of Aroclor Fish Tissue Concentrations at Neal Landfill Sampling Locations B, D, and F.

City: CHI User: mnesta
Path: Z:\GISPROJECTS_ENV\LCCS\MXD\LCCS_SurveyedLocations_2016_22313.mxd

IN Rc



LEGEND

- Monitoring Well Location
- HPT/VAP Location
- Piezometer Location - Shallow
- Piezometer Location - Shallow/Deep
- ALBURN INCINERATOR / US DRUM
- Site Boundary

Service Layer Credits: Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LAKE CALUMET CLUSTER SITE
CHICAGO, ILLINOIS

PIEZOMETER, HPT/VAP, AND MONITORING WELL LOCATIONS

ARCADIS

FIGURE
1

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-01	MW-01	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-03	MW-04	MW-04
		Sample ID	MW-1-GW-04282016	MW-01-GW-08082016	MW-01-GW-10032016	DUP-1-02162017	MW-01-GW-02162017	MW-2-GW-04282016	MW-02-GW-08082016	MW-02-GW-10032016	MW-02-GW-02152017	MW-3-GW-04272016	MW-03-GW-08082016	MW-03-GW-10042016	MW-03-GW-02152017	MW-4-GW-04272016	MW-04-GW-08082016
		Sample Date	4/28/2016	8/8/2016	10/3/2016	2/16/2017	2/16/2017	4/28/2016	8/8/2016	10/3/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/27/2016	8/8/2016
Analyte	T/D	Units															
Anions																	
Ammonia Nitrogen	T	mg/l	53	57	59	49	49	43	42 B	45	46	32	38 B	38	41	0 31	9 6
Nitrate/Nitrite	N	mg/l	0.057 J					< 0.10 U	< 0 10 U			< 0.10 U	< 0.10 U			< 0 10 U	< 0 10 U
Nitrate/Nitrite	T	mg/l		0.047 J	< 0 10 U	< 0 10 U	< 0.10 U			< 0 10 U	< 0.10 U			0 077 J	< 0 10 U		
Nitrate-N	T	mg/l	0.050 J	0 047 J	< 0.10 U	< 0 10 U	< 0 10 U	< 0 10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0 10 U	< 0.10 U	0 077 J	< 0.10 U	< 0 10 U	< 0 10 U
Nitrite	T	mg/l	< 0.020 UB	< 0 020 U	< 0 020 U	< 0 020 U	< 0 020 U	0.0055 J	< 0.020 U	< 0 020 U	< 0.020 U	< 0 020 UB	< 0.020 U	< 0.020 U	< 0.020 U	< 0 020 UB	< 0 020 U
Sulfate	T	mg/l	18	37	44	22	24	< 5.0 U	< 5 0 U	< 5 0 UB	< 5 0 UB	50	< 10 UB	< 5 0 UB	< 5 0 UB	640	250
Gases																	
Carbon Dioxide	N	mg/l	< 5 0	R	< 5.0 U	< 5.0 U	< 5.0 U	280	240 J	290	360	19	36 J	30	80	27	R
Methane	N	ug/l	17000	11000 J	12000	21000	20000	19000	20000 J	12000	16000	18000	24000 J	16000	22000	17000	17000 J
Nitrogen	N	mg/l	10	9 5 J	10	10	10	12	4 1 J	8 3	8 9	8 2	4.8 J	9 1	9 1	8.4	8 2 J
Oxygen	N	mg/l	4 2	4 1 J	3.9	3.4	3.4	2 3	1 4 J	1.6	1 6	2.5	1 3 J	3.4	3	1	0 99 J
GenChem																	
Total Suspended Solids	T	mg/l	8 5	26	10	24	29	77	24	57	63	6.5	8	8.5	11	7	< 5 0 U
Sulfide	N	mg/l	2.5	2.8	3 6	3.5 J	0 98 J	< 1 0 U	< 1 0 U	< 1 0 U	0.38 J	< 1.0 U	< 1.0 U	0.31 J	< 1.0 U	3.2	12
Metals																	
Aluminum	D	mg/l	0 077 J	0.24	0.4	0 22	0.21	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0 20 U	< 0.20 U	< 0 20 U
Aluminum	T	mg/l	0 20 J	0.38	0.42	0 33	0 34	< 0 20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	0.11 J	< 0.20 U	< 0 20 U	< 0 20 U	< 0 20 U
Antimony	D	mg/l	< 0.020 U	< 0 020 U	0 0079 J	< 0.020 U	< 0 020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Antimony	T	mg/l	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	0.0068 J	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	< 0.020 U
Arsenic	D	mg/l	0.0055 J	< 0.010 U	0.0045 J	0 0048 J	0.0046 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0046 J	< 0.010 U	< 0.010 U	< 0.010 U	0.0050 J	0 0098 J
Arsenic	T	mg/l	< 0.010 U	0.0042 J	< 0 010 U	0.0066 J	0.0038 J	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	0.0074 J	< 0 010 U	< 0.010 U	< 0.010 U	0.0066 J	0.0083 J
Barium	D	mg/l	0.78	0 65	0.81	0.47	0.45	0 32	0 28	0.35	0.36	0.61	0 88	0 96 J	0 95	0.063	0 069
Barium	T	mg/l	0.88	0.68	0.82	0 45	0.46	0.3	0.3	0.36	0.34	0 62	0.89	1	1.1	0.063	0.068
Beryllium	D	mg/l	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U
Beryllium	T	mg/l	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0 0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U
Cadmium	D	mg/l	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0014 J	0.00096 J	0 0012 J	< 0.0020 U	< 0.0020 U	0.0014 J	0 0013 J	0 0011 J	0.0012 J	0.0011 J
Cadmium	T	mg/l	< 0 0020 U	0.00094 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0012 J	< 0 0020 U	0.00096 J	< 0.0020 U	0.00097 J	0.0011 J	0.0011 J	0.0011 J	0.0012 J	0.0011 J
Calcium	D	mg/l	790	530	790	530	510	110 J	90	110	110	57	66	73	86	240	92
Calcium	T	mg/l	930	550	730	500	510	100 J	90	110	98	58	65	76	94	240	91
Chromium	D	mg/l	< 0.010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0.010 U	0.0027 J	0.0029 J	0.0028 J	0 0032 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Chromium	T	mg/l	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	0 0026 J	0.0029 J	0.0035 J	< 0 010 U	< 0.010 U	0.0024 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Cobalt	D	mg/l	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U
Cobalt	T	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	0.0012 J	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Copper	D	mg/l	0 0047 J	0.0033 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0023 J	< 0.010 U	< 0.010 U	0.0022 J	0.0023 J
Copper	T	mg/l	0.0070 J	0.0068 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0027 J	< 0.010 U	< 0 010 U	< 0.010 U	0 0033 J	< 0 010 U	< 0.010 U	< 0.010 U	0.0025 J
Iron	D	mg/l	0.21	< 0 20 U	< 0.20 U	< 0.20 U	< 0 20 U	40 J	31	39	< 36 UB	7 3	5 5	3.6	< 3.3 UB	0.69	< 0 20 U
Iron	T	mg/l	< 0.20 U	0.53	0 12 J	0.12 J	< 0 20 U	37 J	33	41	< 34 UB	7.4	6.4	4 6	< 4 0 UB	1.1	< 0.20 U
Lead	D	mg/l	0 0028 J	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 UJ	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	0 0031 J	< 0.0050 U
Lead	T	mg/l	0.0041 J	0 01	< 0 0050 U	0.0025 J	0 0027 J	0.0034 J	< 0 0050 U	0.0028 J	< 0 0050 U	0.0024 J	< 0.0050 U	< 0.0050 U	< 0 0050 U	0 0026 J	< 0.0050 U
Magnesium	D	mg/l	< 0 10 U	0.071 J	0.051 J	0 043 J	< 0.10 U	57	45	51	54	79	75	82 J	84	97	33
Magnesium	T	mg/l	0.059 J	0 64	0 25	1.7	1 7	52	46	54	49	80	75	84	94	98	31
Manganese	D	mg/l	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	0.41	0 22	0.28	0.23	0.31	0 17	0.13	0.091	2.2	0 4
Manganese	T	mg/l	0.0052 J	0.014	0.0045 J	< 0.010 U	< 0 010 U	0 39	0 23	0 3	0.21	0.33	0.18	0 14	0 1	2.2	0.42
Mercury	D	mg/l	0 00013 J	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0 00020 U	< 0.00020 U
Mercury	T	mg/l	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0 00020 U	< 0 00020 U
Nickel	D	mg/l	0.016	0.017	0 021	0.016	0 016	0.0039 J	< 0 010 U	0.0037 J	0 0043 J	0.0063 J	0.0043 J	0.0049 J	0 0049 J	0.0037 J	< 0.010 U
Nickel	T	mg/l	0 017	0.018	0.023	0.015	0.016	0.0046 J	< 0 010 U	0.0037 J	0.0045 J	0.0068 J	0.0048 J	0.0051 J	0 0062 J	< 0 010 U	< 0.010 U
Potassium	D	mg/l	48	50	50	52	50	36	31	36	37	52	55	60 J	62	13	15
Potassium	T	mg/l	52	51	52	50	51	33	32	38	34	53	56	62	69	13	14
Selenium	D	mg/l	0.0051 J	< 0.010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0 010 U	0 0052 J	< 0 010 U	0 0069 J	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U
Selenium	T	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	0 0053 J	< 0 010 U	< 0.010 U	< 0 010 U	< 0 010 U	0 0055 J	< 0 010 U	< 0.010 U
Silver	D	mg/l	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U
Silver	T	mg/l	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U
Sodium	D	mg/l	230	210	200	220	210	170	160	170	180	270	250	260 J	270	460	350
Sodium	T	mg/l	250	220	200	210	210	150	160	180	160	280	250	270 J	300	470	330
Thallium	D	mg/l	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0 010 U	< 0.010 U
Thallium	T	mg/l	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U
Vanadium	D	mg/l	< 0 0050 U	< 0.0050 U	< 0.0050 U	0.0021 J	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	0 0022 J	< 0.0050 U
Vanadium	T	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0020 J	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0 0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	0.0026 J	< 0 0050 U
Zinc	D	mg/l	0 013 J	< 0.020 U	0.012 J	< 0.020 U	< 0.020 U	0.086 J	< 0.020 U	0 021	< 0.020 U	< 0.020 U	< 0.020 U	< 0 020 U	< 0 020 U	< 0.020 U	< 0 020 U
Zinc	T	mg/l	0.032	0 021	0 015 J	0 010 J	0.012 J	0 093	0 0098 J	0.067	0.05	< 0 020 U	< 0.020 U	< 0 020 U	< 0 020 U	< 0 020 U	< 0.020 U
Pesticides																	
4,4-DDD	N	ug/l	< 0.041 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.037 U	< 0 042 U	< 0 037 U	< 0 037 U	< 0.038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0.038 U	< 0 041 U	< 0 037 U
4,4-DDE	N	ug/l	< 0 041 U	< 0 037 U	< 0.037 U	< 0 038 U	< 0.037 U	< 0.042 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0 038 U	< 0.041 U	< 0.037 U
4,4-DDT	N	ug/l	< 0.041 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0.037 U	< 0.042 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0 038 U	< 0.041 U	< 0.037 U
Aldrin	N	ug/l	< 0.041 U	< 0 037 U	< 0 037 U	< 0 038 U	< 0 037 U	< 0 042 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0.040 U	< 0 038 U	< 0.037 U	< 0.038 U	< 0.041 U	< 0 037 U
Alpha-BHC	N	ug/l	< 0 041 U	< 0 037 UJ	< 0 037 U	< 0.038 U	< 0.037 U	< 0.042 U	< 0 037 UJ	< 0.037 U	< 0 038 U	< 0.040 U	< 0 038 UJ	< 0 037 U	< 0.038 U	< 0.041 U	< 0.037 UJ
Alpha-chlordane	N	ug/l	< 0 041 U	< 0 037 U	< 0 037 U	< 0.038 U	< 0 037 U	< 0 042 U	< 0 037 U	< 0.037 U	< 0 038 U	< 0.040 U	< 0 038 U	< 0 037 U	< 0.038 U	< 0 041 U	< 0.037 U
Beta-BHC	N	ug/l	< 0 041 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0.037 U	< 0 042 U	< 0.037 U	< 0 037 U	< 0.038 U	< 0.040 U	< 0 038 U	< 0 037 U	< 0 038 U	< 0.041 U	< 0.037 U
Delta-BHC	N	ug/l	< 0 041 U	< 0 037 UJ	< 0 037 U	< 0.038 U	< 0 037 U	< 0 042 U	< 0.037 UJ	< 0.037 U	< 0 038 U	< 0.040 U	< 0 038 UJ	< 0 037 U	< 0 038 U	< 0 041 U	< 0.037 UJ
Dieldrin	N	ug/l	< 0 041 U	< 0.037 U	< 0 037 U	< 0.038 U	< 0 037 U	< 0 042 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0.038 U	< 0.041 U	< 0.037 U
Endosulfan I	N	ug/l	< 0.041 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0 037 U	< 0.042 U	< 0 037 U	< 0 037 U	< 0.038 U	< 0.040 U	< 0.038 U	< 0 037 U	< 0 038 U	< 0.041 U	< 0.037 U
Endosulfan II	N	ug/l	< 0.041 U	< 0 037 U	< 0 037 U	< 0.038 U	< 0 037 U	< 0.042 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0.038 U	< 0 041 U	< 0 037 U
Endosulfan sulfate	N	ug/l	< 0 041 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0.037 U	< 0.042 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0 038 U	< 0.041 U	< 0.037 U
Endrin	N	ug/l	< 0 041 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.037 U	< 0.042 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0.040 U	< 0 038 U	< 0.037 U	< 0.038 U	< 0.041 U	< 0.037 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-01	MW-01	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-03	MW-04	MW-04
		Sample ID	MW-1-GW-04282016	MW-01-GW-08082016	MW-01-GW-10032016	DUP-1-02162017	MW-01-GW-02162017	MW-2-GW-04282016	MW-02-GW-08082016	MW-02-GW-10032016	MW-02-GW-02152017	MW-3-GW-04272016	MW-03-GW-08082016	MW-03-GW-10042016	MW-03-GW-02152017	MW-4-GW-04272016	MW-04-GW-08082016
		Sample Date	4/28/2016	8/8/2016	10/3/2016	2/16/2017	2/16/2017	4/28/2016	8/8/2016	10/3/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/27/2016	8/8/2016
Analyte	T/D	Units															
Endrin aldehyde	N	ug/l	< 0.041 U	< 0 037 U	< 0 037 U	< 0 038 U	< 0.037 U	< 0 042 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0 040 U	< 0 038 U	< 0 037 U	< 0.038 U	< 0 041 U	< 0.037 U
Endrin ketone	N	ug/l	< 0.041 U	< 0 037 U	< 0 037 U	< 0.038 U	< 0 037 U	< 0 042 U	< 0 037 U	< 0.037 U	< 0.038 U	< 0.040 U	< 0 038 U	< 0 037 U	< 0.038 U	< 0.041 U	< 0 037 U
Gamma-BHC	N	ug/l	< 0 041 U	< 0 037 UJ	< 0 037 U	< 0.038 U	< 0 037 U	< 0 042 U	< 0.037 UJ	< 0 037 U	< 0 038 U	< 0.040 U	< 0.038 UJ	< 0.037 U	< 0.038 U	< 0.041 U	< 0 037 UJ
Heptachlor	N	ug/l	< 0 041 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.037 U	< 0.042 U	< 0 037 U	< 0.037 U	< 0.038 U	< 0.040 U	< 0 038 U	< 0 037 U	< 0.038 U	< 0 041 U	< 0.037 U
Heptachlor epoxide	N	ug/l	< 0.041 U	< 0.037 U	< 0.037 U	< 0 038 U	< 0.037 U	< 0.042 U	< 0.037 U	< 0 037 U	< 0 038 U	< 0.040 U	< 0 038 U	< 0.037 U	< 0 038 U	< 0.041 U	< 0 037 U
Methoxychlor	N	ug/l	< 0.082 U	< 0 074 U	< 0.074 U	< 0.075 U	< 0.073 U	< 0.083 U	< 0.073 U	< 0 075 U	< 0.077 U	< 0 080 U	< 0.077 U	< 0.074 U	< 0 077 U	< 0.081 U	< 0.073 U
Toxaphene	N	ug/l	< 0.41 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0 42 U	< 0 37 U	< 0.37 U	< 0.38 U	< 0.40 U	< 0 38 U	< 0.37 U	< 0.38 U	< 0.41 U	< 0.37 U
trans-chlordane	N	ug/l	< 0 041 U	< 0 037 U	< 0.037 U	< 0.038 U	< 0 037 U	< 0.042 U	< 0.037 U	< 0.037 U	< 0.038 U	< 0.040 U	< 0.038 U	< 0.037 U	< 0.038 U	< 0.041 U	< 0.037 U
PCBs																	
Aroclor 1016	N	ug/l	< 0.41 U	< 0.37 U	< 0 37 U	< 0 38 U	< 0.37 U	< 0 42 U	< 0 37 U	< 0 37 U	< 0.38 U	< 0.40 U	< 0 38 U	< 0.37 U	< 0 38 U	< 0.41 U	< 0.37 U
Aroclor 1221	N	ug/l	< 0.41 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0.42 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.40 U	< 0 38 U	< 0.37 U	< 0.38 U	0 93	< 0 37 U
Aroclor 1232	N	ug/l	< 0.41 U	< 0 37 U	< 0.37 U	< 0 38 U	< 0.37 U	< 0.42 U	< 0.37 U	< 0 37 U	< 0.38 U	< 0.40 U	< 0 38 U	< 0.37 U	< 0.38 U	1 8	< 0 37 U
Aroclor 1242	N	ug/l	< 0.41 U	< 0 37 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0.42 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.40 U	< 0.38 U	< 0 37 U	< 0.38 U	< 0.41 U	0.69
Aroclor 1248	N	ug/l	< 0.41 U	< 0.37 U	< 0.37 U	< 0 38 U	< 0 37 U	< 0.42 U	< 0 37 U	< 0 37 U	< 0.38 U	< 0.40 U	< 0.38 U	< 0.37 U	< 0.38 U	< 0.41 U	< 0 37 U
Aroclor 1254	N	ug/l	< 0.41 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0.42 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0 40 U	< 0.38 U	< 0 37 U	< 0.38 U	< 0.41 U	< 0.37 U
Aroclor 1260	N	ug/l	< 0 41 U	< 0.37 U	< 0 37 U	< 0.38 U	< 0 37 U	< 0.42 U	< 0.37 U	< 0.37 U	< 0.38 U	< 0.40 U	< 0.38 U	< 0 37 U	< 0 38 U	< 0 41 U	< 0 37 U
SVOCs																	
1,1-Biphenyl	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3.7 U	< 3.8 U	0.70 J	< 3.7 U	0.53 J	< 3.8 U	38 D	20	26 J	15	< 4.2 U	< 3.7 U
2,2-Oxybis(1-Chloropropane)	N	ug/l	< 1.6 U	< 1.5 UJ	< 1.5 U	< 1 5 U	< 1 5 U	< 1.7 U	< 1.5 UJ	< 1 4 U	< 1 5 U	< 8.1 U	< 1.5 U	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U
2,4,5-Trichlorophenol	N	ug/l	< 8.2 U	< 7.3 U	< 7 5 U	< 7.4 U	< 7.7 U	< 8 3 U	< 7 3 U	< 7.2 U	< 7 5 U	< 40 U	< 7.6 U	< 74 U	< 7 5 U	< 8.4 U	< 7.3 U
2,4,6-Trichlorophenol	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3 7 U	< 3 8 U	< 4.1 U	< 3 7 U	< 3.6 U	< 3.8 U	< 20 U	< 3 8 U	< 37 U	< 3 8 U	< 4.2 U	< 3.7 U
2,4-Dichlorophenol	N	ug/l	< 8.2 U	< 7.3 U	< 7.5 U	< 7.4 U	< 7.7 U	< 8.3 U	< 7.3 U	< 7 2 U	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8.4 U	< 7 3 U
2,4-Dimethylphenol	N	ug/l	4.4 J	4.0 J	5.9 J	5.5 J	6.7 J	< 8.3 UJ	< 7 3 U	< 7 2 U	< 7.5 U	280 D	68 D	74	17	13	25
2,4-Dinitrophenol	N	ug/l	< 16 U	< 15 U	< 15 U	< 15 U	< 15 U	< 17 U	< 15 U	< 14 U	< 15 U	< 81 U	< 15 U	< 150 U	< 15 U	< 17 U	< 15 U
2,4-Dinitrotoluene	N	ug/l	< 0.82 U	< 0.73 U	< 0.75 U	< 0 74 U	< 0 77 U	< 0 83 U	< 0.73 U	< 0.72 U	< 0.75 U	< 4 0 U	< 0 76 U	< 7.4 U	< 0 75 U	< 0 84 U	< 0.73 U
2,6-Dinitrotoluene	N	ug/l	< 0.41 U	< 0 37 U	< 0.75 U	< 0 74 U	< 0.77 U	< 0 41 U	2.2	< 0.72 U	< 0.75 U	< 2 0 U	< 0 38 U	< 7.4 U	< 0 75 U	< 0 42 U	< 0 37 U
2-Chloronaphthalene	N	ug/l	< 1.6 U	< 1.5 U	< 1.5 U	< 1 5 U	< 1 5 U	< 1.7 U	< 1 5 U	0.55 J	< 1.5 U	< 8.1 U	< 1.5 U	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U
2-Chlorophenol	N	ug/l	< 4 1 U	< 3.7 U	< 3 8 U	< 3.7 U	< 3 8 U	5.8	< 3.7 U	2 7 J	4.9	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4.2 U	< 3.7 U
2-Methyl-4,6-dinitrophenol	N	ug/l	< 16 U	< 15 U	< 15 U	< 15 U	< 15 U	< 17 U	< 15 U	< 14 U	< 15 U	< 81 U	< 15 U	< 150 U	< 15 U	< 17 U	< 15 U
2-Methylnaphthalene	N	ug/l	5.1	3.6	5	4.3	5.5	120 D	76	120	100 D	360 D	330 D	300	150 D	< 0 42 U	0 25 J
2-Methylphenol	N	ug/l	1 4 J	1.4 J	2.3	1.4 J	1 5	< 1.7 U	< 1 5 U	< 1.4 U	< 1.5 U	180 D	27	21	2.2	5	7.6
2-Nitroaniline	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3 7 U	< 3.8 U	< 4.1 U	< 3.7 U	< 3.6 U	< 3.8 U	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4 2 U	< 3.7 U
2-Nitrophenol	N	ug/l	< 8.2 U	< 7.3 U	< 7.5 U	< 7.4 U	< 7 7 U	< 8.3 U	< 7 3 U	< 7.2 U	< 7.5 U	< 40 U	< 7 6 U	< 74 U	< 7.5 U	< 8 4 U	< 7 3 U
3,3-Dichlorobenzidine	N	ug/l	< 4.1 U	< 3 7 U	< 3.8 U	< 3.7 U	< 3.8 U	< 4.1 U	< 3.7 U	< 3 6 U	< 3.8 U	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4.2 U	< 3.7 U
3-Nitroaniline	N	ug/l	< 8.2 UJ	< 7.3 U	< 7.5 U	< 7.4 U	< 7.7 U	< 8.3 U	< 7.3 U	< 7.2 U	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8 4 U	< 7 3 U
4-Bromophenyl phenyl ether	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3.7 U	< 3.8 U	< 4.1 U	< 3.7 U	< 3.6 U	< 3.8 U	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4.2 U	< 3.7 U
4-Chloro-3-Methylphenol	N	ug/l	< 8.2 U	< 7.3 U	< 7.5 U	< 7 4 U	< 7.7 U	< 8.3 U	< 7.3 U	< 7.2 U	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8 4 U	< 7.3 U
4-Chlorophenyl phenyl ether	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3.7 U	< 3.8 U	< 4.1 U	< 3.7 U	< 3.6 U	< 3.8 U	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4.2 U	< 3 7 U
4-Methylphenol	N	ug/l	16	6.3	10	6.3	6.6	6.8	6.7	2.7	< 1.5 U	280 D	22	12 J	1.6	9 5	8
4-Nitroaniline	N	ug/l	< 8.2 U	< 7.3 U	< 7.5 U	< 7.4 U	< 7.7 U	< 8.3 U	< 7.3 U	< 7.2 UJ	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8.4 U	< 7.3 U
4-Nitrophenol	N	ug/l	< 16 U	< 15 UJ	< 15 U	< 15 U	< 15 U	< 17 U	< 15 UJ	< 14 U	< 15 U	< 81 U	< 15 UJ	< 150 U	< 15 U	< 17 U	< 15 UJ
Acenaphthene	N	ug/l	7.4	4.8	6 9	8.1	8.1	1.1	< 0.73 U	0.98	1	29 D	18	21	20	< 0.84 U	< 0.73 U
Acenaphthylene	N	ug/l	< 0 82 U	< 0.73 U	< 0.75 U	< 0.74 U	< 0.77 U	< 0.83 U	< 0.73 U	< 0.72 U	< 0 75 U	3.7 JD	2.7	3.4 J	1.9	< 0.84 U	< 0.73 U
Acetophenone	N	ug/l	1.3 J	1 1 J	2.2 J	1 4 J	2 0 J	< 4.1 U	< 3 7 U	< 3 6 U	< 3.8 U	< 20 U	1.9 J	< 37 U	< 3 8 U	< 4 2 U	< 3.7 U
Anthracene	N	ug/l	< 0.82 U	< 0.73 U	< 0.75 U	< 0.74 U	0.26 J	< 0.83 U	< 0.73 U	< 0.72 U	< 0.75 U	12 D	12	9.1	7.6	< 0.84 U	< 0.73 U
Atrazine	N	ug/l	< 4.1 U	< 3.7 U	< 3.8 U	< 3.7 U	< 3.8 U	< 4 1 U	< 3 7 U	< 3 6 U	< 3.8 U	< 20 U	< 3.8 U	< 37 U	< 3.8 U	< 4.2 U	< 3.7 U
Benzaldehyde	N	ug/l	< 16 UJ	< 29 U	< 30 UJ	< 30 UJ	< 31 UJ	R	< 29 U	< 29 UJ	< 30 U	< 81 UJ	< 30 U	< 290 UJ	< 30 U	< 17 UJ	< 29 U
Benzo(a)anthracene	N	ug/l	< 0.16 U	0.2	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.15 U	< 0.14 U	< 0.15 U	< 0.81 U	0.64	< 1 5 U	0.39	< 0.17 U	< 0.15 U
Benzo(a)pyrene	N	ug/l	< 0.16 U	0.21	< 0.15 U	< 0.15 U	< 0 15 U	< 0.17 U	< 0.15 U	< 0 14 U	< 0.15 U	< 0.81 U	< 0 15 U	< 1 5 U	0.23	< 0.17 UJ	< 0 15 UJ
Benzo(b)fluoranthene	N	ug/l	< 0.16 U	0.25	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.15 U	< 0.14 U	< 0.15 U	< 0 81 U	0.39	< 1.5 U	0.19	< 0.17 UJ	< 0.15 UJ
Benzo(g,h,i)perylene	N	ug/l	< 0.82 U	< 0.73 U	< 0 75 U	< 0.74 U	< 0.77 U	< 0.83 U	< 0.73 U	< 0.72 U	< 0.75 U	< 4.0 U	< 0.76 U	< 7.4 U	< 0.75 U	< 0.84 UJ	< 0 73 UJ
Benzo(k)fluoranthene	N	ug/l	< 0 16 U	0.16	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.15 U	< 0.14 U	< 0 15 U	< 0.81 U	< 0.15 U	< 1.5 U	< 0.15 U	< 0 17 UJ	< 0.15 UJ
bis(2-Chloroethoxy)methane	N	ug/l	< 1.6 U	< 1.5 U	< 1.5 U	< 1 5 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1 4 U	< 1.5 U	< 8.1 U	< 1.5 U	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U
bis(2-Chloroethyl)ether	N	ug/l	< 1.6 U	< 1.5 UJ	< 1.5 U	< 1.5 U	< 1.5 U	0.97 J	< 1 5 UJ	1.2 J	1.4 J	< 8 1 U	< 1 5 U	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U
bis(2-Ethylhexyl)phthalate	N	ug/l	< 8 2 U	< 7.3 U	< 7 5 U	< 7.4 U	< 7 7 U	2 0 J	< 7 3 U	< 7 2 U	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8.4 U	< 7.3 U
Butyl benzyl phthalate	N	ug/l	< 1 6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1 5 U	< 1 7 U	< 1.5 U	< 1 4 U	< 1.5 U	< 8.1 U	< 1.5 U	< 15 U	< 1.5 U	< 1 7 U	< 1.5 U
Caprolactam	N	ug/l	< 8.2 U	< 7.3 U	< 7 5 U	< 7 4 U	< 7.7 U	< 8 3 U	< 7.3 U	< 7.2 U	< 7 5 U	< 40 U	< 7.6 U	< 74 U	< 7.5 U	< 8.4 U	< 7 3 U
Carbazole	N	ug/l	6.6	< 3.7 U	6 7 J	4 3 J	6.4 J	< 4.1 U	0.31 J	0.29 J	< 3 8 UJ	140 D	120 D	150	71 JD	< 4.2 U	< 3 7 U
Chrysene	N	ug/l	< 0.41 U	0.21 J	< 0.38 U	< 0 15 U	< 0.15 U	< 0 41 U	< 0 37 U	< 0 36 U	< 0.15 U	< 2.0 U	0.56	< 3.7 U	0.36	< 0 42 U	< 0.37 U
Dibenzo(a,h)anthracene	N	ug/l	< 0 25 U	< 0.22 U	< 0.23 U	< 0.22 U	< 0.23 U	< 0.25 U	< 0 22 U	< 0.22 U	< 0.23 U	< 1 2 U	< 0.23 U	< 2.2 U	< 0.23 U	< 0 25 UJ	< 0 22 UJ
Dibenzofuran	N	ug/l	1.1 J	0.64 J	0.91 J	1.3 J	1 4 J	< 1.7 U	0 26 J	0 29 J	< 1 5 U	56 D	34	42	27	< 1 7 U	< 1 5 U
Diethyl phthalate	N	ug/l	< 1.6 U	< 1.5 U	< 1 5 U	< 1.5 U	< 1 5 U	0 50 J	< 1.5 U	0.43 J	< 1.5 U	< 8 1 U	< 1.5 U	< 15 U	< 1 5 U	< 1.7 U	< 1 5 U
Dimethyl phthalate	N	ug/l	< 1 6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1 5 U	< 1.7 U	< 1 5 U	< 1.4 U	< 1 5 U	< 8 1 U	< 1.5 U	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U
Di-n-butyl phthalate	N	ug/l	< 4.1 U	< 3 7 U	< 3 8 U	0 75 J	< 3.8 U	1 9 J	0.94 J	0 79 J	< 3 8 U	< 20 U	< 3.8 U	< 37 U	< 3 8 U	< 4.2 U	< 3 7 U
Di-n-octyl phthalate	N	ug/l	< 8 2 U	< 7 3 U	< 7.5 U	< 7 4 U	< 7.7 U	< 8 3 U	< 7 3 U	< 7 2 U	< 7.5 U	< 40 U	< 7.6 U	< 74 U	< 7 5 U	< 8 4 U	< 7.3 U
Fluoranthene	N	ug/l	< 0 82 U	< 0 73 U	< 0 75 U	< 0 74 U	< 0.77 U	< 0.83 U	< 0.73 U	< 0.72 U	< 0.75 U	7.1 D	7 8	6 2 J	5.8	< 0.84 U	< 0.73 U
Fluorene	N	ug/l	2 1	1.2	1.7	2.4	2.6	0.59 J	0.46 J	0 53 J	0 67 J	83 D	49	62	43	< 0.84 U	< 0 73 U
Hexachloro-1,3-butadiene	N	ug/l	< 4 1 U	< 3.7 U	< 3 8 U	< 3 7 U	< 3 8 U	< 4 1 U	< 3 7 U	< 3 6 U	< 3.8 U	< 20 UJ	< 3.8 U	< 37 U	< 3 8 U	< 4 2 UJ	< 3.7 U
Hexachlorobenzene	N	ug/l	< 0.41 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0 38 U	< 0 41 U	< 0 37 U	< 0 36 U	< 0.38 U	< 2 0 U	< 0.38 U	< 3 7 U	< 0.38 U	< 0.42 U	< 0 37 U
Hexachlorocyclopentadiene	N	ug/l	< 16 UJ	R	< 15 UJ	< 15 U	< 15 UJ	< 17 U	< 15 UJ	< 14 U	< 15 UJ	R	R	< 150 UJ	< 15 UJ	R	R
Hexachloroethane	N	ug/l	< 4 1 U	< 3.7 U	< 3 8 U	< 3 7 U	< 3 8 U	< 4 1 U	< 3 7 U	< 3.6 U	< 3.8 U	< 20 UJ	< 3.8 U	< 37 U	< 3.8 U	< 4 2 UJ	< 3 7 U
Indeno(1,2,3-cd)pyrene	N	ug/l	< 0.16 U	< 0.15 U	< 0.15 U	< 0 15 U	< 0.15 U	< 0.17 U	< 0 15 U	< 0 14 U	< 0.15 U	< 0.81 U	< 0 15 U	< 1.5 U	< 0.15 U	< 0 17 UJ	< 0.15 UJ
Isophorone	N	ug/l	< 1.6 U	< 1 5 U	< 1 5 U	< 1 5 U	< 1 5 U	< 1 7 U	< 1.5 U	< 1 4 U	< 1 5 U	< 8 1 U	< 1 5 U	< 15 U	< 1 5 U	< 1 7 U	< 1 5 U
Naphthalene	N	ug/l	150 EJ	120 D	230	120 D	130 D	90 D	44	92	73 D	3600 D	2000 D	2200	870 D	2 4	1 5
Nitrobenzene	N	ug/l	< 0 82 U	< 0.73 U	< 0 75 U	< 0 74 U	< 0.77 U	< 0 83 U	< 0.73 U	< 0 72 U	< 0 75 U	< 4 0 U	< 0 76 U	< 7 4 U	< 0.75 U	< 0 84 U	< 0.73 U
N-Nitrosodi-n-propylamine	N	ug/l	< 0 41 U	< 0.37 U	< 0.38 U	< 0.37 U	< 0.38 U	< 0.41 U	< 0.37 U	< 0 36 U	< 0 38 U	< 2 0 U	< 0.38 U	< 3 7 U	< 0.38 U	< 0 42 U	< 0.37 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-01	MW-01	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-03	MW-04	MW-04
		Sample ID	MW-1-GW-04282016	MW-01-GW-08082016	MW-01-GW-10032016	DUP-1-02162017	MW-01-GW-02162017	MW-2-GW-04282016	MW-02-GW-08082016	MW-02-GW-10032016	MW-02-GW-02152017	MW-3-GW-04272016	MW-03-GW-08082016	MW-03-GW-10042016	MW-03-GW-02152017	MW-4-GW-04272016	MW-04-GW-08082016
		Sample Date	4/28/2016	8/8/2016	10/3/2016	2/16/2017	2/16/2017	4/28/2016	8/8/2016	10/3/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/27/2016	8/8/2016
Analyte	T/D	Units															
N-Nitrosodiphenylamine	N	ug/l	< 0 82 U	< 0 73 U	< 0 75 U	< 0.74 U	< 0.77 U	4	< 0.73 U	6 3	7.1	< 4.0 U	< 0.76 U	< 7.4 U	< 0.75 U	< 0 84 U	< 0.73 U
p-Chloroaniline	N	ug/l	4 1 J	< 7 3 UJ	13	< 7.4 U	13	< 8.3 UJ	< 7.3 U	< 7.2 UJ	< 7 5 U	< 40 U	< 7.6 UJ	< 74 U	< 7.5 U	< 8.4 U	< 7.3 UJ
Pentachlorophenol	N	ug/l	< 16 U	< 15 U	< 15 U	< 15 UJ	< 15 U	< 17 U	< 15 U	< 14 U	< 15 U	< 81 U	< 15 UJ	< 150 UJ	< 15 U	< 17 U	< 15 UJ
Phenanthrene	N	ug/l	1 1	0.79	0.88	1 2	1 3	0 33 J	0 26 J	0.26 J	0 32 J	69 D	62	55	36	< 0 84 U	< 0 73 U
Phenol	N	ug/l	30	62 D	160	96 D	72 D	< 4 1 U	< 3 7 U	< 3.6 U	< 3 8 U	85 D	4.9 D	< 37 U	< 3.8 U	4.3	1 7 J
Pyrene	N	ug/l	< 0 82 U	< 0 73 U	< 0 75 U	< 0.74 U	< 0 77 U	< 0.83 U	< 0 73 U	< 0.72 U	< 0 75 U	4.7 D	6 3	4 5 J	4.1	< 0 84 U	< 0 73 U
TOC																	
Total Organic Carbon	N	mg/l	26	43	49	30	31	21	18	20	19	21	21	24	22	100	19
VOCs																	
1,1,1-Trichloroethane	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1 0 U
1,1,2,2-Tetrachloroethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1 0 UJ	R	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1 0 U
1,1,2-trichloro-1,2,2-trifluoroethane	N	ug/l	< 1 0 UJ	< 2 0 UJ	< 1.0 UJ	R	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1 0 U
1,1,2-Trichloroethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1 0 UJ	R	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	N	ug/l	< 1 0 UJ	< 2 0 UJ	< 1.0 UJ	R	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	11	22
1,1-Dichloroethene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1 0 UJ	R	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1 0 U
1,2,4-Trichlorobenzene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	N	ug/l	< 5 0 UJ	< 10 UJ	< 5.0 UJ	R	< 5.0 U	< 5 0 UJ	< 5.0 U	< 5 0 U	< 5.0 U	< 100 U	< 50 U	< 50 U	< 25 U	< 5 0 U	< 5.0 U
1,2-Dibromoethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1 0 UJ	R	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
1,2-Dichlorobenzene	N	ug/l	1.1 J	< 2.0 UJ	1 6 J	1.7 J	1 8	24	4.8	5 6	6 2	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1 0 U
1,2-Dichloroethane	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	56	30
1,2-Dichloropropane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1 0 U	1 3
1,3-Dichlorobenzene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	5.6	2 5	3.9	4.1	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	N	ug/l	2.1 J	< 2 0 UJ	2 8 J	3.6 J	3.6	23	7	9.2	11	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
2-Butanone (MEK)	N	ug/l	48 J	85 J	110 J	45 J	46	< 5.0 UJ	< 5 0 U	< 5.0 U	< 5.0 U	< 100 UJ	< 50 U	< 50 U	< 25 U	< 5 0 UJ	< 5 0 U
4-Methyl-2-Pentanone	N	ug/l	57 J	200 J	230	99 J	99	< 5 0 UJ	< 5 0 U	< 5.0 U	< 5 0 U	< 100 UJ	< 50 U	< 50 U	< 25 U	< 5.0 UJ	14
Acetone	N	ug/l	94 J	110 J	110 J	59 J	55	< 5.0 U	9.1	9 0 J	6 3 J	< 100 U	< 50 U	< 50 U	< 25 UJ	19	15
Benzene	N	ug/l	25 J	33 J	36 J	30 J	30	14	10	15	14	250 D	160	110	57	490 D	510 D
Bromodichloromethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1 0 U
Bromoform	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1 0 U	< 1.0 UJ	< 1.0 U	< 1 0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1 0 U	< 1.0 U
Bromomethane	N	ug/l	< 2.0 UJ	< 4.0 UJ	< 2.0 UJ	R	< 2 0 U	< 2 0 U	< 2.0 U	< 2.0 U	< 2 0 U	< 40 U	< 20 U	< 20 U	< 10 U	< 2.0 U	< 2 0 U
Carbon Disulfide	N	ug/l	< 2.0 UJ	< 4 0 UJ	< 2 0 UJ	R	< 2 0 U	< 2.0 U	< 2.0 U	< 2 0 U	< 2.0 U	< 40 U	< 20 U	< 20 U	< 10 U	9 3	28
Carbon Tetrachloride	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1.0 U
CFC-11	N	ug/l	< 1 0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1 0 U	< 1.0 U
CFC-12	N	ug/l	< 2.0 UJ	< 4.0 UJ	< 2.0 UJ	R	< 2.0 UJ	< 2.0 UJ	< 2 0 U	< 2.0 U	< 2.0 U	< 40 U	< 20 U	< 20 U	< 10 U	< 2.0 U	< 2.0 U
Chlorobenzene	N	ug/l	4.1 J	4.9 J	5.3 J	5.7 J	5.8	660 D	450 D	560	480	< 20 U	5.7 J	< 10 U	2.7 J	< 1.0 U	0.68 J
Chlorodibromomethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1.0 UJ	< 1 0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1.0 U
Chloroethane	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1.0 UJ	R	< 1 0 UJ	4.8	2.6	5	4.5	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
Chloroform	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1.0 UJ	R	< 2.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 2 0 U	< 20 U	< 10 U	< 10 U	< 10 U	< 1.0 U	< 1 0 U
Chloromethane	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1 0 U	< 1.0 UJ	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1 0 U
cis-1,2-Dichloroethene	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	3 4	6 3
cis-1,3-Dichloropropene	N	ug/l	< 1 0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1 0 U	< 1 0 U
Cyclohexane	N	ug/l	1.1 J	< 2 0 UJ	1 5 J	1.5 J	1.6	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	0.97 J	1.3
Dichloromethane	N	ug/l	< 5.0 UJ	< 10 UJ	< 5.0 UJ	R	< 5 0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 100 U	< 50 U	< 50 U	< 25 U	< 5 0 U	< 5 0 U
Ethylbenzene	N	ug/l	10 J	20 J	24 J	25 J	24	2 2	0.85	1.7	1.4	42 D	34	25	13	2.6	4.9
Isopropylbenzene	N	ug/l	7 3 J	11 J	11 J	13 J	14	5 3	3	4.2	4.9	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1 0 U	< 1.0 U
Methyl Acetate	N	ug/l	< 5 0 UJ	< 10 UJ	< 5.0 UJ	R	< 5.0 U	20	< 5 0 U	< 5.0 U	< 5 0 U	< 100 UJ	< 50 U	< 50 U	< 25 U	110 J	< 5 0 U
Methyl N-Butyl Ketone (2-Hexanone)	N	ug/l	< 5.0 UJ	< 10 UJ	< 5 0 UJ	R	< 5.0 U	< 5 0 UJ	< 5.0 U	< 5 0 U	< 5 0 U	< 100 UJ	< 50 U	< 50 U	< 25 U	< 5.0 UJ	< 5 0 U
Methylcyclohexane	N	ug/l	< 1 0 UJ	< 2 0 UJ	1 4 J	1.9 J	1.8	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1 0 U
Methyl-tert-butylether	N	ug/l	< 1.0 UJ	< 2 0 UJ	< 1 0 UJ	R	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
Styrene (Monomer)	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1 0 U	< 1.0 U
Tetrachloroethene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 20 U	< 10 U	< 10 U	< 5 0 U	< 1.0 U	< 1.0 U
Toluene	N	ug/l	4.6 J	10 J	13 J	11 J	11	1.3	0 6	1.4	0.84	280 D	180	96	29	13	19
Total Xylenes	N	ug/l	12 J	21 J	27 J	24 J	23	6.2	2 1	4 4	3 9	290 D	220	150	63	3 5	4.3
trans-1,2-Dichloroethene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1 0 U
trans-1,3-Dichloropropene	N	ug/l	< 1.0 UJ	< 2.0 UJ	< 1.0 UJ	R	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 10 U	< 10 U	< 5.0 U	< 1.0 U	< 1.0 U
Trichloroethene	N	ug/l	< 0 50 UJ	< 1 0 UJ	< 0 50 UJ	R	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 10 U	< 5 0 U	< 5.0 U	< 2 5 U	0.72	1
Vinyl chloride	N	ug/l	< 0.50 UJ	< 1 0 UJ	0 33 J	0 45 J	0 48 J	< 0 50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 10 U	< 5.0 U	< 5 0 U	< 2.5 U	5 2	5 6

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-04	MW-04	MW-05	MW-05	MW-05	MW-05	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-07	MW-07
		Sample ID	MW-04-GW-10042016	MW-04-GW-02152017	MW-5-GW-04272016	MW-05-GW-08082016	MW-05-GW-10042016	MW-05-GW-02152017	MW-6-GW-04292016	DUP-2 (04292016)	DUP-2(08092016)	MW-06-GW-08092016	MW-06-GW-10052016	DUP-2 (10052016)	MW-06-GW-02152017	MW-7-GW-04292016	MW-07-GW-08092016
		Sample Date	10/4/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/29/2016	4/29/2016	8/9/2016	8/9/2016	10/5/2016	10/5/2016	2/15/2017	4/29/2016	8/9/2016
Analyte	T/D	Units															
Anions																	
Ammonia Nitrogen	T	mg/l	9 8	7.7	57	54	50	50	530	770	490	490	790	780	530	670	630
Nitrate/Nitrite	N	mg/l			< 0 10 U	0.42			< 0 20 U	< 0 20 U						< 0.20 U	
Nitrate/Nitrite	T	mg/l	< 0.10 U	< 0.10 U			< 0.10 U	< 0.10 U			0.038 J	< 0.10 U	0.053 J	0.058 J	< 0.10 U		0.12
Nitrate-N	T	mg/l	< 0.10 U	< 0.10 U	< 0.10 U	0.42	< 0.10 U	< 0.10 U	< 0.10 U	< 0 10 U	0 038 J	< 0.10 U	0.053 J	0.058 J	< 0.10 U	< 0.10 U	0.12
Nitrite	T	mg/l	< 0 020 U	< 0.020 U	< 0.020 UB	< 0 020 U	< 0.020 U	< 0.020 U	0.014 J	< 0.020 U	< 0.040 U	0 035 J	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0 10 U
Sulfate	T	mg/l	210	530	< 5 0 U	< 5.0 UB	< 5 0 UB	< 5.0 UB	21	63	< 20 UB	49	12	< 50 U	< 21 UB	240	< 50 UB
Gases																	
Carbon Dioxide	N	mg/l	< 5.0 U	200	230	270 J	270	320	25 D	24 D	24 J	24 J	38	40	17	47 D	47 J
Methane	N	ug/l	13000	17000	14000	21000 J	10000	19000	24000 D	27000 D	19000 J	19000 J	20000	21000	21000	31000 D	20000 J
Nitrogen	N	mg/l	8.6	10	7	4 6 J	8 1	6.9	18 D	21 D	5 1 J	7.3 J	10	10	11	23 D	4 6 J
Oxygen	N	mg/l	< 0.50 U	3.2	1.7	1.2 J	2.3	1.5	5.4 D	5.5 D	0.73 J	0.92 J	1.9	2.3	1.8	5 9 D	0.65 J
GenChem																	
Total Suspended Solids	T	mg/l	< 5.0 U	7.5	72	39	24	56	17	19	4 5 J	7	7	7.5	4 0 J	17	12
Sulfide	N	mg/l	7.8	1	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	7 9 J	4.5 J	6.5	5 4	8	8.6	7.2	8 8	5 8
Metals																	
Aluminum	D	mg/l	< 0 20 U	0.064 J	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	0.38	0.27	0.21	0.16 J	< 1.0 U	< 1.0 U	0 14 J	1.4	1
Aluminum	T	mg/l	< 0.20 U	0 094 J	< 0.20 U	0.078 J	0 28	< 0 20 U	0 47	0.51	0.38	0.34	0.55 J	0 56 J	0.29	1.9	1 8
Antimony	D	mg/l	< 0.020 U	< 0.020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	0.0070 J	< 0.10 U	< 0.10 U	< 0.020 U	0 011 J	0 0099 J
Antimony	T	mg/l	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0 020 U	< 0 020 U	< 0.10 U	< 0.10 U	< 0.020 U	0.015 J	0.017 J
Arsenic	D	mg/l	0 01	0 0094 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.024	0.021	0.025	0.027	0.028 J	0 022 J	0.02	0.04	0.052
Arsenic	T	mg/l	0 0084 J	0.0073 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0 024	0 023	0 028	0.028	0 030 J	0 019 J	0 021	0.048	0.058
Barium	D	mg/l	0.061 J	0.036	0.91	0.89	0.97 J	0.83	0.31	0 29	0.3	0.33	0.35	0.37	0.26	0.47	0 51
Barium	T	mg/l	0.058	0.033	0.96	0.85	0 89	0.86	0.29	0.31	0.35	0 34	0 37	0 4	0.26	0 54	0 56
Beryllium	D	mg/l	< 0 0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.020 U	< 0 020 U	< 0.0040 U	0 00085 J	< 0.0040 U
Beryllium	T	mg/l	< 0 0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.020 U	< 0.020 U	< 0.0040 U	0.0011 J	< 0.0040 U
Cadmium	D	mg/l	< 0.0020 U	< 0.0020 U	< 0.0020 U	0 0013 J	0.0014 J	< 0.0020 U	0 0016 J	0.0014 J	< 0.0020 UB	0.0013 J	< 0 010 U	< 0 010 U	< 0 0020 U	0.0057	0 0032
Cadmium	T	mg/l	< 0.0020 U	< 0.0020 U	0.00094 J	0 0012 J	0.0013 J	< 0.0020 U	0 0022	0 0022	0 0019 J	0.0019 J	< 0 010 U	< 0.010 U	0.0015 J	0 008	0.0076
Calcium	D	mg/l	110	180 J	82	68	76	73 J	27 J	26 J	30	34	11	11	15 J	10 J	11
Calcium	T	mg/l	100	160	88	63	70	76	30 J	28 J	35	34	11	12	15	11 J	11
Chromium	D	mg/l	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.14	0.13	0 089	0.097	0.18	0 19	0.1	0 43	0.45
Chromium	T	mg/l	< 0 010 U	< 0.010 U	< 0 010 U	< 0.010 U	0.0032 J	< 0.010 U	0.13	0 14	0 1	0 1	0.19	0.2	0.11	0.48	0.48
Cobalt	D	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0 036	0.034	0 026	0.03	0.038	0.046	0 025	0.041	0 045
Cobalt	T	mg/l	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	0 032	0 036	0 031	0.03	0.036	0 046	0.025	0 044	0.043
Copper	D	mg/l	< 0.010 U	< 0.010 U	< 0 010 U	0.0024 J	< 0 010 U	< 0.010 U	0 0090 J	0.0048 J	0.0060 J	0.0046 J	< 0 050 U	< 0.050 U	< 0 010 U	0.052	0.028
Copper	T	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	0.0035 J	R	< 0 010 U	0.012	0.013	0 012	0.011	0.016 J	0.022 J	0.0096 J	0 082	0.082
Iron	D	mg/l	< 0.20 U	2.7	26	21	18	19	2 1 J	2.0 J	1	0.96	2 1	2.4	0 59	4.1 J	3.8
Iron	T	mg/l	< 0 20 U	2.5	28	20	18	20	2.0 J	2.2 J	1 4	1.2	2.7	2.6	0.98	4 7 J	4.3
Lead	D	mg/l	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.076 J	0.032 J	0.044 J	0.021 J	0.029	< 0.025 U	0.008	0.39 J	0.15
Lead	T	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.013	< 0 0050 U	0.11	0.13	0 1	0.096	0.22	0 24	0.11	0.68	0.7
Magnesium	D	mg/l	29 J	48 J	110	84	88 J	88 J	29	28	26	29	29	30	31 J	21	21
Magnesium	T	mg/l	27	43	110	80	80	90	28	29	29	29	28	30	31	22	20
Manganese	D	mg/l	0 33	1.3 J	0.093	0.057	0.053	0.051 J	0.0087 J	0 0084 J	0 0077 J	0.0093 J	< 0.050 U	< 0.050 U	0.0071 J	0 014	0.014
Manganese	T	mg/l	0.32	1.2	0.097	0 055	0 057	0.053	0.0099 J	0.0093 J	0.012	0.011	< 0 050 U	< 0.050 U	0.0079 J	0.017	0.017
Mercury	D	mg/l	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	0.00063	< 0.00050 UB
Mercury	T	mg/l	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	0 0002	0.0002	< 0 00020 UB	< 0.00026 UB	0.00023	0.00018 J	< 0.00020 U	0 001	0.0013
Nickel	D	mg/l	< 0 010 U	0 0056 J	0.0040 J	< 0.010 U	< 0.010 U	< 0.010 U	0 14	0 14	0.097	0 12	0.15	0.17	0.1	0 15	0.17
Nickel	T	mg/l	< 0.010 U	0.0066 J	0 0043 J	< 0.010 U	0.0044 J	0 0046 J	0.13	0.14	0.12	0.12	0 14	0.17	0.1	0.16	0.16
Potassium	D	mg/l	16 J	16 J	45	44	47 J	42 J	610	590	470	530	690	710	520 J	620	660
Potassium	T	mg/l	15	14	47	42	43	43	570	610	530	530	650	700	520	670	620
Selenium	D	mg/l	< 0.010 U	0 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 UJ	< 0.010 UB	< 0 010 UB	< 0.010 UB	0.0073 J	0.039 J	< 0.050 U	< 0.010 UJ	< 0 010 UB	0 012
Selenium	T	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0 010 U	< 0.010 UB	< 0 010 UB	0.0053 J	0.0069 J	< 0.050 U	< 0 050 U	0.0081 J	< 0.010 UB	0.011
Silver	D	mg/l	< 0 0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.025 U	< 0 025 U	< 0.0050 U	0 0016 J	< 0.0050 U
Silver	T	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.025 U	< 0.025 U	< 0.0050 U	0.0026 J	0.0018 J
Sodium	D	mg/l	360 J	420 J	170	150	160 J	150 J	3300	3200	2400	2700	3300	3500	3500 J	3400	3500
Sodium	T	mg/l	340 J	380	170	150	150 J	150	3100	3300	2700	2800	3200	3500	3300	3600	3400
Thallium	D	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0.050 U	< 0.050 U	< 0.010 U	< 0.010 U	< 0 010 U
Thallium	T	mg/l	< 0 010 U	< 0 010 U	< 0.010 U	< 0 010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0 010 U	< 0.050 U	< 0 050 U	< 0 010 U	< 0 010 U	< 0.010 U
Vanadium	D	mg/l	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	0 054	0 05	0.053	0 056	0.053	0.058	0.029	0 068	0 072
Vanadium	T	mg/l	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	0 057	0.057	0.064	0 062	0.065	0.064	0 032	0 078	0.081
Zinc	D	mg/l	< 0 020 U	< 0 020 U	< 0 020 U	< 0 020 U	< 0.020 U	< 0.020 U	0 12 J	0 060 J	0.061	0 039	0 056 J	0 051 J	0.023	0.67 J	0.41
Zinc	T	mg/l	< 0.020 U	< 0.020 U	< 0 020 U	0.0099 J	0.044	0.0093 J	0.17	0 18	0 14	0.13	0 2	0.31	0 11	1 1	1 1
Pesticides																	
4,4-DDD	N	ug/l	< 0.037 U	< 0 037 U	< 0 040 U	< 0.037 U	< 0 037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0 036 U	< 0 037 UJ	< 0.037 U	R	< 0.19 U
4,4-DDE	N	ug/l	< 0.037 U	< 0 037 U	< 0 040 U	< 0 037 U	< 0 037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0.19 U	< 0 036 U	< 0 036 U	< 0.037 UJ	< 0 037 U	R	< 0.19 U
4,4-DDT	N	ug/l	< 0.037 U	< 0 037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0.19 U	< 0 036 U	< 0 036 U	< 0.037 UJ	< 0 037 U	R	< 0 19 U
Aldrin	N	ug/l	< 0 037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0 037 U	< 0.043 U	< 0 043 U	< 0.19 U	< 0 036 U	< 0 036 U	< 0 037 UJ	< 0.037 U	R	< 0.19 U
Alpha-BHC	N	ug/l	< 0 037 U	< 0 037 U	< 0.040 U	< 0 037 UJ	< 0 037 U	< 0.037 U	< 0 043 U	< 0 043 U	< 0 19 U	< 0 036 U	< 0 036 U	< 0.037 UJ	< 0 037 U	R	< 0 19 U
Alpha-chlordane	N	ug/l	< 0 037 U	< 0 037 U	< 0 040 U	< 0 037 U	< 0 037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0 19 U	< 0.036 U	< 0 036 U	< 0 037 UJ	< 0 037 U	R	< 0 19 U
Beta-BHC	N	ug/l	< 0 037 U	< 0 037 U	< 0 040 U	< 0.037 U	< 0.037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0 19 U	< 0.036 U	< 0 036 U	< 0 037 UJ	< 0.037 U	R	< 0.19 U
Delta-BHC	N	ug/l	< 0 037 U	< 0 037 U	< 0 040 U	< 0 037 UJ	< 0.037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0.19 U	< 0.036 U	< 0 036 U	< 0.037 UJ	< 0.037 U	R	< 0 19 U
Dieldrin	N	ug/l	< 0.037 U	< 0 037 U	< 0.040 U	< 0 037 U	< 0.037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0 19 U	< 0 036 U	< 0 036 U	< 0 037 UJ	< 0 037 U	R	< 0 19 U
Endosulfan I	N	ug/l	< 0.037 U	< 0 037 U	< 0.040 U	< 0 037 U	< 0 037 U	< 0 037 U	< 0.043 U	< 0 043 U	< 0 19 U	< 0.036 U	< 0 036 U	< 0 037 UJ	< 0 037 U	R	< 0 19 U
Endosulfan II	N	ug/l	< 0.037 U	< 0 037 U	< 0 040 U	< 0 037 U	< 0.037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0 19 U	< 0.036 U	< 0 036 U	< 0 037 UJ	< 0 037 U	R	< 0.19 U
Endosulfan sulfate	N	ug/l	< 0.037 U	< 0 037 U	< 0 040 U	< 0 037 U	< 0 037 U	< 0 037 U	< 0 043 U	< 0 043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0 037 UJ	< 0 037 U	R	< 0 19 U
Endrin	N	ug/l	< 0 037 U	< 0.037 U	< 0 040 U	< 0 037 U	< 0 037 U	< 0 037 U	< 0 043 U	< 0.043 U	< 0 19 U	< 0 036 U	< 0.036 U	< 0 037 UJ	< 0 037 U	R	< 0.19 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-04	MW-04	MW-05	MW-05	MW-05	MW-05	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-07	MW-07
		Sample ID	MW-04-GW-10042016	MW-04-GW-02152017	MW-5-GW-04272016	MW-05-GW-08082016	MW-05-GW-10042016	MW-05-GW-02152017	MW-6-GW-04292016	DUP-2 (04292016)	DUP-2(08092016)	MW-06-GW-08092016	MW-06-GW-10052016	DUP-2 (10052016)	MW-06-GW-02152017	MW-7-GW-04292016	MW-07-GW-08092016
		Sample Date	10/4/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/29/2016	4/29/2016	8/9/2016	8/9/2016	10/5/2016	10/5/2016	2/15/2017	4/29/2016	8/9/2016
Analyte	T/D	Units															
Endrin aldehyde	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
Endrin ketone	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
Gamma-BHC	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 UJ	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
Heptachlor	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
Heptachlor epoxide	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
Methoxychlor	N	ug/l	< 0.074 U	< 0.074 U	< 0.079 U	< 0.074 U	< 0.074 U	< 0.073 U	< 0.087 U	< 0.087 U	< 0.38 U	< 0.073 U	< 0.073 U	< 0.073 UJ	< 0.074 U	R	< 0.39 U
Toxaphene	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	< 1.9 U	< 0.36 U	< 0.36 U	< 0.37 UJ	< 0.37 U	R	< 1.9 U
trans-chlordane	N	ug/l	< 0.037 U	< 0.037 U	< 0.040 U	< 0.037 U	< 0.037 U	< 0.037 U	< 0.043 U	< 0.043 U	< 0.19 U	< 0.036 U	< 0.036 U	< 0.037 UJ	< 0.037 U	R	< 0.19 U
PCBs																	
Aroclor 1016	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 U	< 0.41 UJ	< 0.37 U
Aroclor 1221	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 U	< 0.41 UJ	< 0.37 U
Aroclor 1232	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	4.9	4	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 U	< 0.41 UJ	< 0.37 U
Aroclor 1242	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	3.4	3.5	5.3	4.9	2.6	< 0.41 UJ	8.1
Aroclor 1248	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 U	< 0.41 UJ	< 0.37 U
Aroclor 1254	N	ug/l	< 0.37 U	< 0.37 U	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.43 U	< 0.43 U	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 U	1.7 J	< 0.37 U
Aroclor 1260	N	ug/l	< 0.37 U	< 0.37 UJ	< 0.40 U	< 0.37 U	< 0.37 U	< 0.37 UJ	< 0.43 U	< 0.43 U	< 0.38 U	< 0.36 U	< 0.36 U	< 0.37 U	< 0.37 UJ	< 0.41 UJ	< 0.37 U
SVOCs																	
1,1-Biphenyl	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	1.5 J	< 42 U	< 38 U
2,2-Oxybis(1-Chloropropane)	N	ug/l	< 7.3 UJ	< 1.5 U	< 1.6 U	0.32 J	< 1.5 UJ	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
2,4,5-Trichlorophenol	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
2,4,6-Trichlorophenol	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
2,4-Dichlorophenol	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
2,4-Dimethylphenol	N	ug/l	17 J	31	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	110 JD	110 JD	< 36 U	< 37 U	79	77	93 D	470 JD	370
2,4-Dinitrophenol	N	ug/l	< 73 U	< 15 U	< 16 U	< 15 U	< 15 U	< 15 U	< 170 U	< 170 U	< 73 U	< 73 U	< 150 UJ	< 150 UJ	< 15 U	< 170 U	< 150 U
2,4-Dinitrotoluene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	< 0.73 U	< 8.4 U	< 7.5 U
2,6-Dinitrotoluene	N	ug/l	< 3.6 U	< 0.73 U	< 0.40 U	< 0.38 U	< 0.74 U	< 0.75 U	< 4.3 U	< 4.2 U	< 1.8 U	< 1.8 U	< 7.4 U	< 7.4 U	< 0.73 U	< 4.2 U	< 3.8 U
2-Chloronaphthalene	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	0.22 J	0.18 J	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	3.1	< 17 U	< 15 U
2-Chlorophenol	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
2-Methyl-4,6-dinitrophenol	N	ug/l	< 73 U	< 15 U	< 16 U	< 15 U	< 15 U	< 15 U	< 170 U	< 170 U	< 73 U	< 73 U	< 150 UJ	< 150 UJ	< 15 U	< 170 U	< 150 U
2-Methylnaphthalene	N	ug/l	< 7.3 U	< 1.5 U	0.64	0.46 J	< 1.5 UB	0.40 J	< 4.3 U	6.6 D	2.8 J	2.8 J	2.2 J	2.1 J	2	9.4 D	6.0 J
2-Methylphenol	N	ug/l	5.5 J	7.7	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	20 D	19 D	17	17	21	17	18	78 D	75 J
2-Nitroaniline	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
2-Nitrophenol	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
3,3-Dichlorobenzidine	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
3-Nitroaniline	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
4-Bromophenyl phenyl ether	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
4-Chloro-3-Methylphenol	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	12	< 84 U	< 75 U
4-Chlorophenyl phenyl ether	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
4-Methylphenol	N	ug/l	2.1 J	11	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	96 D	90 D	120	130	160	150	5	280 D	290
4-Nitroaniline	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 UJ	< 37 UJ	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
4-Nitrophenol	N	ug/l	< 73 U	< 15 U	< 16 U	< 15 UJ	< 15 U	< 15 U	< 170 U	< 170 U	< 73 U	< 73 U	< 150 U	< 150 U	< 15 U	< 170 U	< 150 U
Acenaphthene	N	ug/l	< 3.6 U	< 0.73 U	0.31 J	0.29 J	< 0.74 U	0.32 J	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	0.50 J	< 8.4 U	< 7.5 U
Acenaphthylene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	< 0.73 U	< 8.4 U	< 7.5 U
Acetophenone	N	ug/l	< 18 U	3.0 J	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	6.3 J	7.2 J	6.6 J	< 3.7 U	< 42 U	< 38 UJ
Anthracene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	0.30 J	2.8 JD	3.3 J
Atrazine	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
Benzaldehyde	N	ug/l	< 150 UJ	< 29 UJ	< 16 UJ	< 30 U	< 29 UJ	< 30 UJ	R	R	< 150 UJ	< 150 UJ	< 300 UJ	< 300 UJ	20 J	R	< 300 UJ
Benzo(a)anthracene	N	ug/l	< 0.73 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U	< 1.7 U	< 1.7 U	< 0.73 U	< 0.73 U	< 1.5 U	< 1.5 U	< 0.15 U	< 1.7 U	< 1.5 U
Benzo(a)pyrene	N	ug/l	< 0.73 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U	< 1.7 U	< 1.7 U	< 0.73 UJ	< 0.73 UJ	< 1.5 UJ	< 1.5 UJ	R	< 1.7 U	3.2
Benzo(b)fluoranthene	N	ug/l	< 0.73 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U	< 1.7 U	< 1.7 U	< 0.73 UJ	< 0.73 UJ	< 1.5 UJ	< 1.5 UJ	R	< 1.7 U	3.6
Benzo(g,h,i)perylene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 UJ	< 3.7 UJ	< 7.4 UJ	< 7.4 UJ	R	< 8.4 U	< 7.5 U
Benzo(k)fluoranthene	N	ug/l	< 0.73 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U	< 1.7 U	< 1.7 U	< 0.73 UJ	< 0.73 UJ	< 1.5 UJ	< 1.5 UJ	R	< 1.7 U	< 1.5 U
bis(2-Chloroethoxy)methane	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
bis(2-Chloroethyl)ether	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 UJ	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
bis(2-Ethylhexyl)phthalate	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	1.3 J	< 7.4 U	< 7.5 U	85 JD	88 D	66	69	120	120	41	290 D	270
Butyl benzyl phthalate	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
Caprolactam	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
Carbazole	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 UJ	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 UJ	4.8 JD	5.7 J
Chrysene	N	ug/l	< 1.8 U	< 0.15 U	< 0.40 U	< 0.38 U	< 0.37 U	< 0.15 U	< 4.3 U	< 4.2 U	< 1.8 U	< 1.8 U	< 3.7 U	< 3.7 U	< 0.15 U	< 4.2 U	3.3 J
Dibenzo(a,h)anthracene	N	ug/l	< 1.1 U	< 0.22 U	< 0.24 U	< 0.23 U	< 0.22 U	< 0.23 U	< 2.6 U	< 2.5 U	< 1.1 UJ	< 1.1 UJ	< 2.2 UJ	< 2.2 UJ	R	< 2.5 U	< 2.3 U
Dibenzofuran	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
Diethyl phthalate	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
Dimethyl phthalate	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
Di-n-butyl phthalate	N	ug/l	< 18 U	< 3.7 U	< 4.0 U	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	1.4 J	< 42 U	< 38 U
Di-n-octyl phthalate	N	ug/l	< 36 U	< 7.3 U	< 8.1 U	< 7.6 U	< 7.4 U	< 7.5 U	< 86 U	< 84 U	< 36 U	< 37 U	< 74 U	< 74 U	< 7.3 U	< 84 U	< 75 U
Fluoranthene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	0.43 J	8.8 D	12
Fluorene	N	ug/l	< 3.6 U	< 0.73 U	0.20 J	< 0.76 U	< 0.74 U	0.20 J	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	0.39 J	3.2 JD	< 7.5 U
Hexachloro-1,3-butadiene	N	ug/l	< 18 U	< 3.7 U	< 4.0 UJ	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
Hexachlorobenzene	N	ug/l	< 1.8 U	< 0.37 U	< 0.40 U	< 0.38 U	< 0.37 U	< 0.38 U	< 4.3 U	< 4.2 U	< 1.8 U	< 1.8 U	< 3.7 U	< 3.7 U	< 0.37 U	< 4.2 U	< 3.8 U
Hexachlorocyclopentadiene	N	ug/l	< 73 U	< 15 UJ	R	R	< 15 U	< 15 UJ	< 170 U	< 170 U	< 73 UJ	< 73 UJ	< 150 U	< 150 U	< 15 UJ	< 170 U	< 150 UJ
Hexachloroethane	N	ug/l	< 18 U	< 3.7 U	< 4.0 UJ	< 3.8 U	< 3.7 U	< 3.8 U	< 43 U	< 42 U	< 18 U	< 18 U	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
Indeno(1,2,3-cd)pyrene	N	ug/l	< 0.73 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U	< 1.7 U	< 1.7 U	< 0.73 UJ	< 0.73 UJ	< 1.5 UJ	< 1.5 UJ	R	< 1.7 U	2.0 J
Isophorone	N	ug/l	< 7.3 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U	< 17 U	< 17 U	< 7.3 U	< 7.3 U	< 15 U	< 15 U	< 1.5 U	< 17 U	< 15 U
Naphthalene	N	ug/l	< 3.6 U	< 0.73 U	0.64 J	0.33 J	< 0.74 U	< 0.75 U	16 D	16 D	18	17	14	13	23	48 D	38
Nitrobenzene	N	ug/l	< 3.6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0.74 U	< 0.75 U	< 8.6 U	< 8.4 U	< 3.6 U	< 3.7 U	< 7.4 U	< 7.4 U	< 0.73 U	< 8.4 U	< 7.5 U
N-Nitrosodi-n-propylamine	N	ug/l	< 1.8 U	< 0.37 U	< 0.40 U	< 0.38 U	< 0.37 U	< 0.38 U	< 4.3 U	< 4.2 U	< 1.8 UJ	< 1.8 UJ	< 3.7 U	< 3.7 U	< 0.37 U	< 4.2 U	< 3.8 UJ

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-04	MW-04	MW-05	MW-05	MW-05	MW-05	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-06	MW-07	MW-07
		Sample ID	MW-04-GW-10042016	MW-04-GW-02152017	MW-5-GW-04272016	MW-05-GW-08082016	MW-05-GW-10042016	MW-05-GW-02152017	MW-6-GW-04292016	DUP-2 (04292016)	DUP-2(08092016)	MW-06-GW-08092016	MW-06-GW-10052016	DUP-2 (10052016)	MW-06-GW-02152017	MW-7-GW-04292016	MW-07-GW-08092016
		Sample Date	10/4/2016	2/15/2017	4/27/2016	8/8/2016	10/4/2016	2/15/2017	4/29/2016	4/29/2016	8/9/2016	8/9/2016	10/5/2016	10/5/2016	2/15/2017	4/29/2016	8/9/2016
Analyte	T/D	Units															
N-Nitrosodiphenylamine	N	ug/l	< 3 6 U	< 0 73 U	1.2	1	< 0.74 U	0.98	< 8 6 U	< 8.4 U	1.9 J	< 3.7 U	3.2 J	< 7.4 U	< 0 73 U	< 8.4 U	< 7.5 U
p-Chloroaniline	N	ug/l	< 36 U	< 7 3 U	< 8.1 U	< 7 6 UJ	< 7.4 U	< 7.5 U	< 86 UJ	< 84 UJ	< 36 UJ	< 37 UJ	< 74 UJ	< 74 UJ	< 7 3 U	< 84 UJ	< 75 U
Pentachlorophenol	N	ug/l	< 73 U	< 15 U	< 16 U	< 15 U	< 15 U	< 15 U	< 170 U	< 170 U	< 73 UJ	< 73 UJ	< 150 U	< 150 U	< 15 U	< 170 U	< 150 UJ
Phenanthrene	N	ug/l	< 3 6 U	< 0.73 U	< 0.81 U	< 0.76 U	< 0 74 U	< 0 75 U	< 8 6 U	< 8.4 U	< 3.6 U	1.1 J	< 7 4 U	< 7.4 U	1	14 D	16
Phenol	N	ug/l	< 18 U	13	< 4.0 U	< 3.8 U	< 3 7 U	< 3 8 U	40 JD	38 JD	47	44	< 37 U	< 37 U	< 3.7 U	< 42 U	< 38 U
Pyrene	N	ug/l	< 3.6 U	< 0 73 U	< 0.81 U	< 0.76 U	< 0 74 U	< 0 75 U	< 8.6 U	< 8 4 U	< 3.6 U	< 3 7 U	< 7.4 U	< 7.4 U	0 59 J	8.0 JD	9.7
TOC																	
Total Organic Carbon	N	mg/l	26	15 J	18	19	20	18	360	350	370	280	530	520	310	480	650
VOCs																	
1,1,1-Trichloroethane	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	N	ug/l	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U
1,1,2-Trichloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U
1,1-Dichloroethane	N	ug/l	24	18	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	0.51 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	0.45 J	< 1 0 U	< 1.0 U
1,1-Dichloroethene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U
1,2,4-Trichlorobenzene	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	N	ug/l	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5 0 UJ	< 5.0 UJ	< 5 0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 U
1,2-Dibromoethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U
1,2-Dichlorobenzene	N	ug/l	< 1.0 U	0.56 J	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	2.4	2.5	1.9	2.1	2.6	3.2	2.3	6 8	8.9
1,2-Dichloroethane	N	ug/l	< 1.0 U	58	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.4	1 4	1.5	1 6	1 3	1.3	< 1 0 U	< 1.0 U	< 1.0 U
1,2-Dichloropropane	N	ug/l	< 1.0 U	1 7	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U
1,3-Dichlorobenzene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U
1,4-Dichlorobenzene	N	ug/l	< 1 0 U	< 1.0 U	4	2.1	1.9	1.4	13	13	13	13	14	18	13	17	15
2-Butanone (MEK)	N	ug/l	< 5 0 U	9.7	< 5.0 UJ	< 5.0 U	< 5 0 U	< 5.0 U	14 J	13 J	21	25	19	20	14	16 J	24
4-Methyl-2-Pentanone	N	ug/l	6.1	20	< 5.0 UJ	< 5 0 U	< 5.0 U	< 5.0 U	27 J	27 J	27	28	44	49	25	63 J	100
Acetone	N	ug/l	< 5.0 U	31	< 5.0 U	11	8	8 5	33	30	46 J	66 J	41	44	43	54	46
Benzene	N	ug/l	530	530	< 0 50 U	0.25 J	0 27 J	0 24 J	7	7	6	6	6 6	7.6	6.6	10	12
Bromodichloromethane	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U
Bromoform	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 UJ	< 1 0 U
Bromomethane	N	ug/l	< 2.0 U	< 2.0 U	< 2 0 U	< 2 0 U	< 2.0 U	< 2.0 U	< 2 0 U	< 2.0 U	< 2 0 U	< 2.0 UJ	< 2.0 UJ	< 2.0 UJ	< 2.0 U	< 2.0 U	< 2.0 UJ
Carbon Disulfide	N	ug/l	33	2.2 J	< 2.0 U	< 2.0 U	< 2.0 U	< 2 0 UJ	< 2.0 U	< 2 0 U	0.71 J	1.1 J	< 2 0 U	< 2 0 U	1 6 J	< 2.0 U	< 2 0 U
Carbon Tetrachloride	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
CFC-11	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U
CFC-12	N	ug/l	< 2.0 U	< 2 0 U	< 2.0 U	< 2 0 U	< 2 0 U	< 2.0 U	< 2 0 U	< 2 0 U	< 2.0 U	< 2.0 U	< 2 0 U	< 2 0 U	< 2 0 U	< 2 0 U	< 2 0 U
Chlorobenzene	N	ug/l	0.82 J	2	4.6	4.2	4.3	2.9	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.62 J	< 1 0 U	< 1.0 U
Chlorodibromomethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U
Chloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U
Chloroform	N	ug/l	< 1.0 U	0.65 J	< 1.0 U	< 1 0 U	< 1.0 U	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 2.0 U	< 1.0 U	< 1.0 U
Chloromethane	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	N	ug/l	7.3	11	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	4.7	4.5	4.3	4.3	5 3	5.5	3 6	8.5	8.9
cis-1,3-Dichloropropene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Cyclohexane	N	ug/l	1.7	1.9	1.4	1.8	1 7	2 2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	0.73 J
Dichloromethane	N	ug/l	< 5 0 U	6.9	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5 0 U	< 5 0 U
Ethylbenzene	N	ug/l	7.2	13	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	100	97	85	86	63	78	55	150	160
Isopropylbenzene	N	ug/l	< 1.0 U	0.92 J	36	40	35	36	6.7	6 6	5	5	4	5.1	4	9.6	10
Methyl Acetate	N	ug/l	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5 0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5 0 U
Methyl N-Butyl Ketone (2-Hexanone)	N	ug/l	< 5.0 U	< 5 0 U	< 5.0 UJ	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U
Methylcyclohexane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	0.55 J	< 1.0 U	0.55 J	1.1	1.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.76 J	1.3	1.4
Methyl-tert-butylether	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene (Monomer)	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U
Toluene	N	ug/l	21	28	< 0.50 U	< 0.50 U	1	< 0 50 U	160	150	160	160	160	200	130	410 D	420 D
Total Xylenes	N	ug/l	5.9	17	0.73 J	0.64 J	0.75 J	0.90 J	380 D	440 D	310 D	340 D	240	220	230	760 D	760 D
trans-1,2-Dichloroethene	N	ug/l	1	1.1	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U
trans-1,3-Dichloropropene	N	ug/l	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U
Trichloroethene	N	ug/l	< 0.50 U	2 4	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride	N	ug/l	8.5	3 8	< 0 50 U	< 0.50 U	< 0 50 U	< 0.50 U	4.1	3 7	3.3	3.6	4.4	5.3	3 4	13	12

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-07	MW-07	MW-08	MW-08	MW-08	MW-08	MW-08	MW-09	MW-09	MW-09	MW-09	MW-10	MW-10	MW-10	MW-10
		Sample ID	MW-07-GW-10042016	MW-07-GW-02142017	MW-8-GW-04292016	MW-08-GW-08092016	MW-08-GW-10052016	DUP-2-02142017	MW-08-GW-02142017	MW-9-GW-04292016	MW-09-GW-08092016	MW-09-GW-10052016	MW-09-GW-02142017	MW-10-GW-04292016	MW-10-GW-08092016	MW10-GW-10052016	MW-10-GW-02142017
		Sample Date	10/4/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017
Analyte	T/D	Units															
Anions																	
Ammonia Nitrogen	T	mg/l	710	740	41	41	39	37	36	79	74	78	73	4	14	19	1.7
Nitrate/Nitrite	N	mg/l			< 0.10 U					< 0.10 U				< 0.10 U			
Nitrate/Nitrite	T	mg/l	0.1	0.059 J		< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U		< 0.10 U	< 0.10 U	< 0.10 U		< 0.10 U	< 0.10 U	1.3
Nitrate-N	T	mg/l	0.1	0.059 J	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	1.3
Nitrite	T	mg/l	< 0.020 U	< 0.020 U	0.034	< 0.020 U	< 0.020 U	< 0.020 UJ	< 0.020 UJ	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 UJ	0.0032 J	< 0.020 U	< 0.020 U	0.016 J
Sulfate	T	mg/l	< 50 U	< 50 U	< 5.0 U	< 5.0 UB	< 5.0 UB	< 5.0 UB	< 5.0 UB	< 5.0 U	< 5.0 UB	< 5.0 UB	< 10 UB	420	75	22	530
Gases																	
Carbon Dioxide	N	mg/l	38	62	200	150 J	180	230	220	410	340 J	410	450	61	78 J	140	46
Methane	N	ug/l	19000	21000	14000	17000 J	12000	15000	15000	16000	20000 J	13000	13000	720	6000 J	5200	32
Nitrogen	N	mg/l	6.6	9.2	15	4.8 J	11	10	8.8	14	3.8 J	13	9.4	29	16 J	13	24
Oxygen	N	mg/l	1.1	1.3	5	1.5 J	3.5	2.9	2.5	3.4	1.2 J	3	1.8	4.7	2.1 J	3.1	3.8
GenChem																	
Total Suspended Solids	T	mg/l	7.5	13	23	23	19	26	24	52	52	28	45	49	17	42	30
Sulfide	N	mg/l	9.1	8	0.30 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.57 J	< 1.0 U	< 1.0 U
Metals																	
Aluminum	D	mg/l	1.4	0.77	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U
Aluminum	T	mg/l	1.7	1.3	< 0.20 U	< 0.20 U	0.062 J	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U
Antimony	D	mg/l	< 0.10 U	0.0085 J	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Antimony	T	mg/l	< 0.10 U	0.013 J	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Arsenic	D	mg/l	0.038 J	0.032	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Arsenic	T	mg/l	0.05	0.039	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Barium	D	mg/l	0.60 J	0.46	0.63	0.71	0.52	0.65	0.65	0.83	0.81	0.77	0.83	0.12	0.47	0.45	0.093
Barium	T	mg/l	0.63	0.51	0.65	0.65	0.56	0.68 J	0.67 J	0.79	0.83	0.77	0.82 J	0.12	0.46	0.44	0.093 J
Beryllium	D	mg/l	< 0.020 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U
Beryllium	T	mg/l	< 0.020 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U
Cadmium	D	mg/l	0.0061 J	0.0027	0.0014 J	0.0013 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0016 J	0.0013 J	< 0.0020 U	< 0.0020 U	0.0011 J	0.0010 J	0.0010 J	0.0011 J
Cadmium	T	mg/l	0.0078 J	0.0052	0.0014 J	0.0011 J	< 0.0020 U	0.0011 J	0.00094 J	0.0011 J	0.0012 J	< 0.0020 U	< 0.0020 U	0.0014 J	0.0011 J	0.0010 J	0.0014 J
Calcium	D	mg/l	11	9.1 J	110 J	120	92	120	120	130 J	120	120	120	210 J	130	130	180
Calcium	T	mg/l	11	9.6	110 J	110	97	120 J	120 J	130 J	120	120	120 J	210 J	120	120	180 J
Chromium	D	mg/l	0.48	0.33	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0033 J	0.0039 J	0.0044 J	0.0030 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Chromium	T	mg/l	0.5	0.36	< 0.010 U	< 0.010 U	0.0028 J	< 0.010 U	< 0.010 U	0.0028 J	0.0044 J	0.0050 J	0.0040 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Cobalt	D	mg/l	0.04	0.038	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0010 J	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Cobalt	T	mg/l	0.04	0.039	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0011 J
Copper	D	mg/l	R	0.026	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0052 J
Copper	T	mg/l	R	0.057	< 0.010 U	0.0023 J	< 0.010 U	< 0.010 U	0.0022 J	< 0.010 U	0.0023 J	< 0.010 U	< 0.010 U	0.0023 J	0.0033 J	0.0034 J	0.0088 J
Iron	D	mg/l	5.1	3.4	10 J	10	7.8	11	11	28 J	25	25	26	19 J	7.4	13	11
Iron	T	mg/l	5.2	3.9	10 J	10	8.4	11 J	11 J	27 J	25	24	26 J	20 J	7	13	12 J
Lead	D	mg/l	0.32	0.18	< 0.0050 UJ	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 UJ	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 UJ	< 0.0050 U	< 0.0050 U	< 0.0050 U
Lead	T	mg/l	0.71	0.5	< 0.0050 U	< 0.0050 U	0.0025 J	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0043 J	0.0035 J	0.0026 J	< 0.0050 U
Magnesium	D	mg/l	25 J	25 J	90	91	68	88	87	91	82	79	83	95	64	61	78
Magnesium	T	mg/l	25	25	91	82	72	92 J	91 J	88	83	79	81 J	94	60	58	77 J
Manganese	D	mg/l	< 0.050 U	0.013 J	0.16	0.18	0.13	0.18	0.18	0.19	0.17	0.15	0.16	1.1	0.61	0.61	1
Manganese	T	mg/l	0.017 J	0.015	0.16	0.17	0.14	0.19 J	0.18 J	0.19	0.17	0.15	0.16 J	1.1	0.56	0.58	0.99 J
Mercury	D	mg/l	0.00051	0.00036	< 0.00020 U	< 0.00020 UB	< 0.00020 U	< 0.00020 U	0.00012 J	< 0.00020 U	< 0.00020 UB	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 UB	< 0.00020 U	< 0.00020 U
Mercury	T	mg/l	0.0011	0.00086	< 0.00020 U	< 0.00020 UB	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U
Nickel	D	mg/l	0.16	0.13	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0044 J	< 0.010 U	< 0.010 U	0.0041 J	0.0062 J	< 0.010 U	0.0039 J	0.01
Nickel	T	mg/l	0.15	0.14	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.0041 J	< 0.010 U	< 0.010 U	0.0046 J	0.0077 J	< 0.010 U	0.0038 J	0.011
Potassium	D	mg/l	700 J	570 J	37	41	35	35	35	81	75	74	78	92	58	54	35
Potassium	T	mg/l	680	570	38	37	37	37 J	36 J	79	76	74	77 J	94	56	52	34 J
Selenium	D	mg/l	< 0.050 U	0.0070 J	< 0.010 UB	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 UB	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Selenium	T	mg/l	< 0.050 U	0.0093 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 UB	< 0.010 U	< 0.010 U	< 0.010 U
Silver	D	mg/l	< 0.025 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Silver	T	mg/l	< 0.025 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Sodium	D	mg/l	3500 J	3600 J	230	250	200	240	240	210	200	190	200	310	170	150	65
Sodium	T	mg/l	3400 J	3500	240	230	210	250 J	240 J	200	200	190	200 J	320	160	140	64 J
Thallium	D	mg/l	< 0.050 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Thallium	T	mg/l	< 0.050 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Vanadium	D	mg/l	0.076	0.048	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0019 J	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Vanadium	T	mg/l	0.081	0.055	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Zinc	D	mg/l	0.65	0.32	< 0.020 UJ	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 UJ	< 0.020 U	< 0.020 U	< 0.020 U	0.0092 J	< 0.020 U	< 0.020 U	0.073
Zinc	T	mg/l	1.1	0.67	< 0.020 U	< 0.020 U	< 0.020 U	0.017 J	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	0.026	0.032	0.038	0.074
Pesticides																	
4,4-DDD	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
4,4-DDE	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
4,4-DDT	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Aldrin	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Alpha-BHC	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Alpha-chlordane	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Beta-BHC	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Delta-BHC	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Dieldrin	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Endosulfan I	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Endosulfan II	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Endosulfan sulfate	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Endrin	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

	Location		MW-07	MW-07	MW-08	MW-08	MW-08	MW-08	MW-08	MW-09	MW-09	MW-09	MW-09	MW-10	MW-10	MW-10	MW-10
	Sample ID		MW-07-GW-10042016	MW-07-GW-02142017	MW-8-GW-04292016	MW-08-GW-08092016	MW-08-GW-10052016	DUP-2-02142017	MW-08-GW-02142017	MW-9-GW-04292016	MW-09-GW-08092016	MW-09-GW-10052016	MW-09-GW-02142017	MW-10-GW-04292016	MW-10-GW-08092016	MW10-GW-10052016	MW-10-GW-02142017
	Sample Date		10/4/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017
Analyte	T/D	Units															
Endrin aldehyde	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Endrin ketone	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Gamma-BHC	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Heptachlor	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Heptachlor epoxide	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
Methoxychlor	N	ug/l	< 0.37 UJ	< 0.37 UJ	< 0.083 U	< 0.075 U	< 0.073 U	< 0.073 U	< 0.073 U	< 0.086 U	< 0.076 U	< 0.074 U	< 0.073 U	< 0.083 U	< 0.074 U	< 0.074 U	< 0.073 U
Toxaphene	N	ug/l	< 1.9 UJ	< 1.8 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
trans-chlordane	N	ug/l	< 0.19 UJ	< 0.18 UJ	< 0.042 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.036 U	< 0.043 U	< 0.038 U	< 0.037 U	< 0.037 U	< 0.041 U	< 0.037 U	< 0.037 U	< 0.037 U
PCBs																	
Aroclor 1016	N	ug/l	< 0.37 U	< 0.37 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1221	N	ug/l	< 0.37 U	< 0.37 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1232	N	ug/l	< 0.37 U	< 0.37 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1242	N	ug/l	3	3.1 J	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1248	N	ug/l	3.5	< 0.37 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1254	N	ug/l	2.4	1.6 J	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
Aroclor 1260	N	ug/l	< 0.37 U	< 0.37 UJ	< 0.42 U	< 0.37 U	< 0.36 U	< 0.37 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.37 U	< 0.37 U	< 0.37 U
SVOCs																	
1,1-Biphenyl	N	ug/l	< 37 U	2.2 J	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
2,2-Oxybis(1-Chloropropane)	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
2,4,5-Trichlorophenol	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 UJ	< 7.3 UJ	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 UJ	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 UJ
2,4,6-Trichlorophenol	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 UJ	< 3.7 UJ	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 UJ	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 UJ
2,4-Dichlorophenol	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 UJ	< 7.3 UJ	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 UJ	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 UJ
2,4-Dimethylphenol	N	ug/l	320	340 D	< 8.5 UJ	< 7.6 U	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 UJ	< 7.8 U	< 7.4 U	< 7.4 U	< 8.1 UJ	< 7.3 U	< 7.4 U	< 7.3 U
2,4-Dinitrophenol	N	ug/l	< 150 U	< 15 U	< 17 U	< 15 U	< 15 UJ	< 15 UJ	< 15 UJ	< 17 U	< 16 U	< 15 UJ	< 15 UJ	< 16 U	< 15 U	< 15 UJ	< 15 UJ
2,4-Dinitrotoluene	N	ug/l	< 7.3 U	< 0.73 U	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
2,6-Dinitrotoluene	N	ug/l	< 7.3 U	< 0.73 U	< 0.43 U	< 0.38 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.42 U	< 0.39 U	< 0.74 U	< 0.74 U	< 0.41 U	< 0.36 U	< 0.74 U	< 0.73 U
2-Chloronaphthalene	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
2-Chlorophenol	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 UJ	< 3.7 UJ	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 UJ	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 UJ
2-Methyl-4,6-dinitrophenol	N	ug/l	< 150 U	< 15 U	< 17 U	< 15 U	< 15 UJ	< 15 UJ	< 15 UJ	< 17 U	< 16 U	< 15 UJ	< 15 UJ	< 16 U	< 15 U	< 15 UJ	< 15 UJ
2-Methylnaphthalene	N	ug/l	5.6	5	0.14 J	< 1.5 U	0.10 J	< 1.5 U	< 1.5 U	2.6	2.5	2.3	2.5	0.19 J	< 1.5 U	< 1.5 U	< 1.5 U
2-Methylphenol	N	ug/l	88	49	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
2-Nitroaniline	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
2-Nitrophenol	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 UJ	< 7.3 UJ	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 UJ	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 UJ
3,3-Dichlorobenzidine	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
3-Nitroaniline	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 UJ	< 7.3 UJ	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 UJ	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 UJ
4-Bromophenyl phenyl ether	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
4-Chloro-3-Methylphenol	N	ug/l	< 73 U	41	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 U	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 U
4-Chlorophenyl phenyl ether	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
4-Methylphenol	N	ug/l	290	9.5	0.93 J	< 1.5 U	0.39 J	0.33 J	< 1.5 U	4.5	2.5	1.5	< 1.5 U	< 1.6 U	< 1.5 U	0.47 J	< 1.5 U
4-Nitroaniline	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 UJ	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 U	< 7.8 UJ	< 7.4 U	< 7.4 U	< 8.1 U	< 7.3 UJ	< 7.4 U	< 7.3 U
4-Nitrophenol	N	ug/l	< 150 U	< 15 U	< 17 U	< 15 U	< 15 U	< 15 UJ	< 15 UJ	< 17 U	< 16 U	< 15 U	< 15 UJ	< 16 U	< 15 U	< 15 U	< 15 UJ
Acenaphthene	N	ug/l	< 7.3 U	4.3	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	0.97	1	0.88	1.1	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Acenaphthylene	N	ug/l	< 7.3 U	< 0.73 U	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Acetophenone	N	ug/l	17 J	< 3.6 U	< 4.3 U	< 3.8 UJ	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 UJ	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 UJ	< 3.7 U	< 3.6 U
Anthracene	N	ug/l	< 7.3 U	2.6	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Atrazine	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
Benzaldehyde	N	ug/l	< 290 UJ	40 J	R	< 30 UJ	< 30 UJ	< 29 U	< 29 U	< 17 UJ	< 31 UJ	< 30 UJ	< 30 U	R	< 29 UJ	< 29 UJ	< 29 U
Benzo(a)anthracene	N	ug/l	< 1.5 U	1.5	< 0.17 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U
Benzo(a)pyrene	N	ug/l	1.1 J	R	< 0.17 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U
Benzo(b)fluoranthene	N	ug/l	1.5	1.3 J	< 0.17 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U
Benzo(g,h,i)perylene	N	ug/l	< 7.3 U	R	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Benzo(k)fluoranthene	N	ug/l	0.62 J	0.56 J	< 0.17 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U
bis(2-Chloroethoxy)methane	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
bis(2-Chloroethyl)ether	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
bis(2-Ethylhexyl)phthalate	N	ug/l	210	170 D	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 U	< 8.1 U	< 7.3 U	< 7.4 U	1.3 J
Butyl benzyl phthalate	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
Caprolactam	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 U	2.9 J	< 7.3 U	< 7.4 U	< 7.3 U
Carbazole	N	ug/l	4.2 J	R	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
Chrysene	N	ug/l	1.8 J	1.6	< 0.43 U	< 0.38 U	< 0.37 U	< 0.15 U	< 0.15 U	< 0.42 U	< 0.39 U	< 0.37 U	< 0.15 U	< 0.41 U	< 0.36 U	< 0.37 U	< 0.15 U
Dibenzo(a,h)anthracene	N	ug/l	< 2.2 U	R	< 0.26 U	< 0.23 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.25 U	< 0.23 U	< 0.22 U	< 0.22 U	< 0.24 U	< 0.22 U	< 0.22 U	< 0.22 U
Dibenzofuran	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	0.22 J	0.21 J	0.21 J	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
Diethyl phthalate	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	3	0.34 J	< 1.5 U	< 1.5 U
Dimethyl phthalate	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
Di-n-butyl phthalate	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 U	< 3.7 U	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 U	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 U
Di-n-octyl phthalate	N	ug/l	< 73 U	< 7.3 U	< 8.5 U	< 7.6 U	< 7.4 U	< 7.3 U	< 7.3 U	< 8.5 U	< 7.8 U	< 7.4 U	< 7.4 U	< 8.1 U	< 7.3 U	< 7.4 U	< 7.3 U
Fluoranthene	N	ug/l	5.4 J	< 0.73 U	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Fluorene	N	ug/l	< 7.3 U	3.1	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	0.46 J	0.49 J	0.39 J	0.42 J	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Hexachloro-1,3-butadiene	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 UJ	< 3.7 UJ	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 UJ	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 UJ
Hexachlorobenzene	N	ug/l	< 3.7 U	< 0.36 U	< 0.43 U	< 0.38 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0.42 U	< 0.39 U	< 0.37 U	< 0.37 U	< 0.41 U	< 0.36 U	< 0.37 U	< 0.36 U
Hexachlorocyclopentadiene	N	ug/l	< 150 UJ	< 15 UJ	< 17 U	< 15 UJ	< 15 U	< 15 U	< 15 U	< 17 U	< 16 UJ	< 15 U	< 15 U	< 16 U	< 15 UJ	< 15 U	< 15 U
Hexachloroethane	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3.8 U	< 3.7 U	< 3.7 UJ	< 3.7 UJ	< 4.2 U	< 3.9 U	< 3.7 U	< 3.7 UJ	< 4.1 U	< 3.6 U	< 3.7 U	< 3.6 UJ
Indeno(1,2,3-cd)pyrene	N	ug/l	< 1.5 U	R	< 0.17 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.17 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.16 U	< 0.15 U	< 0.15 U	< 0.15 U
Isophorone	N	ug/l	< 15 U	< 1.5 U	< 1.7 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.5 U	< 1.7 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.6 U	< 1.5 U	< 1.5 U	< 1.5 U
Naphthalene	N	ug/l	35	33	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	0.36 J	0.33 J	0.30 J	0.29 J	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
Nitrobenzene	N	ug/l	< 7.3 U	< 0.73 U	< 0.85 U	< 0.76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.85 U	< 0.78 U	< 0.74 U	< 0.74 U	< 0.81 U	< 0.73 U	< 0.74 U	< 0.73 U
N-Nitrosodi-n-propylamine	N	ug/l	< 3.7 U	< 0.36 U	< 0.43 U	< 0.38 UJ	< 0.37 U	< 0.37 U	< 0.37 U	< 0.42 U	< 0.39 UJ	< 0.37 U	< 0.37 U	< 0.41 U	< 0.36 UJ	< 0.37 U	< 0.36 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-07	MW-07	MW-08	MW-08	MW-08	MW-08	MW-08	MW-09	MW-09	MW-09	MW-09	MW-10	MW-10	MW-10	MW-10
		Sample ID	MW-07-GW-10042016	MW-07-GW-02142017	MW-8-GW-04292016	MW-08-GW-08092016	MW-08-GW-10052016	DUP-2-02142017	MW-08-GW-02142017	MW-9-GW-04292016	MW-09-GW-08092016	MW-09-GW-10052016	MW-09-GW-02142017	MW-10-GW-04292016	MW-10-GW-08092016	MW10-GW-10052016	MW-10-GW-02142017
		Sample Date	10/4/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017	4/29/2016	8/9/2016	10/5/2016	2/14/2017
Analyte	T/D	Units															
N-Nitrosodiphenylamine	N	ug/l	5.4 J	< 0.73 U	< 0.85 U	< 0.76 U	< 0 74 U	< 0 73 U	< 0 73 U	< 0 85 U	< 0 78 U	0.57 J	< 0 74 U	0.72 J	0 96	0.56 J	< 0.73 U
p-Chloroaniline	N	ug/l	< 73 U	< 7 3 U	< 8.5 UJ	< 7 6 UJ	< 7.4 UJ	< 7.3 U	< 7 3 U	< 8.5 UJ	< 7 8 UJ	< 7 4 UJ	< 7.4 U	< 8.1 UJ	< 7 3 UJ	< 7.4 UJ	< 7.3 U
Pentachlorophenol	N	ug/l	< 150 UJ	< 15 U	< 17 U	< 15 UJ	< 15 U	< 15 UJ	< 15 UJ	< 17 U	< 16 UJ	< 15 U	< 15 UJ	< 16 U	< 15 UJ	< 15 U	< 15 UJ
Phenanthrene	N	ug/l	8 7	10	< 0.85 U	< 0 76 U	< 0 74 U	< 0.73 U	< 0 73 U	0.48 J	0 55 J	0 37 J	0 37 J	< 0.81 U	< 0 73 U	< 0.74 U	< 0 73 U
Phenol	N	ug/l	< 37 U	< 3.6 U	< 4.3 U	< 3 8 U	< 3.7 U	< 3 7 UJ	< 3.7 UJ	< 4 2 U	< 3.9 U	< 3.7 U	< 3.7 UJ	< 4 1 U	< 3 6 U	< 3.7 U	< 3 6 UJ
Pyrene	N	ug/l	5 3 J	10	< 0.85 U	< 0 76 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0 85 U	< 0.78 U	< 0 74 U	< 0.74 U	< 0 81 U	< 0.73 U	< 0.74 U	< 0 73 U
TOC																	
Total Organic Carbon	N	mg/l	540	540	13	16 J	17	15	15	25	27	27 J	26	11	17	20	12
VOCs																	
1,1,1-Trichloroethane	N	ug/l	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U
1,1,2,2-Tetrachloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U
1,1-Dichloroethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	N	ug/l	< 5.0 U	< 5 0 U	< 5.0 UJ	< 5 0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5 0 UJ	< 5 0 U	< 5 0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 U
1,2-Dibromoethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichlorobenzene	N	ug/l	5	5.9	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U
1,2-Dichloroethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloropropane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	N	ug/l	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	N	ug/l	16	14	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.7	1.5	1 2	1.4	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U
2-Butanone (MEK)	N	ug/l	< 5.0 U	8.1	< 5 0 UJ	< 5 0 U	< 5.0 U	< 5 0 UJ	< 5.0 UJ	< 5 0 UJ	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5 0 UJ	< 5.0 U	< 5.0 U	< 5.0 UJ
4-Methyl-2-Pentanone	N	ug/l	69	45	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5 0 U	< 5 0 U	< 5.0 UJ	< 5.0 U	< 5 0 U	< 5 0 U
Acetone	N	ug/l	30	27	6.2	< 5.0 U	< 5.0 U	< 5 0 UJ	5.7 J	6.8	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 UJ
Benzene	N	ug/l	11	14	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	1.6	1 6	1.3	1 5	0.40 J	0.56	0 54	< 0.50 U
Bromodichloromethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromoform	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 UJ	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1 0 U	< 1.0 U	< 1.0 U
Bromomethane	N	ug/l	< 2.0 U	< 2.0 U	< 2 0 UJ	< 2.0 UJ	< 2 0 UJ	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 UJ	< 2.0 UJ	< 2.0 U	< 2.0 U	< 2.0 UJ	< 2 0 UJ	< 2.0 U
Carbon Disulfide	N	ug/l	< 2.0 U	< 2 0 UJ	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2 0 U	< 2 0 U	< 2 0 U	< 2.0 U	< 2 0 U	< 2.0 U	< 2.0 U
Carbon Tetrachloride	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CFC-11	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
CFC-12	N	ug/l	< 2.0 U	< 2.0 U	< 2.0 UJ	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Chlorobenzene	N	ug/l	< 1.0 U	0.86 J	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	15	15	13	14	0.71 J	1.6	0.92 J	< 1.0 U
Chlorodibromomethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U
Chloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	N	ug/l	< 1.0 U	< 2 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2 0 U	< 2.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 2 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 2.0 U
Chloromethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	N	ug/l	7.2	4 1	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U
cis-1,3-Dichloropropene	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U
Cyclohexane	N	ug/l	< 1 0 U	0 55 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1 5	1.8	1 1	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U
Dichloromethane	N	ug/l	< 5.0 U	< 5.0 U	< 5 0 U	< 5 0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5.0 U
Ethylbenzene	N	ug/l	130	180	0.33 J	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 0.50 U
Isopropylbenzene	N	ug/l	8.6	11	< 1.0 U	< 1.0 U	0 40 J	< 1.0 U	< 1 0 U	3.5	3.4	2.5	3	< 1 0 U	< 1 0 U	< 1.0 U	< 1 0 U
Methyl Acetate	N	ug/l	< 5.0 U	< 5.0 U	< 5 0 U	< 5 0 U	< 5 0 U	< 5 0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 U	< 5 0 U	< 5 0 U	< 5 0 U	< 5.0 U	< 5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	N	ug/l	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5 0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5 0 UJ	< 5.0 U
Methylcyclohexane	N	ug/l	0.94 J	0 98 J	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.3	1.4	0.99 J	1 2	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U
Methyl-tert-butylether	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U
Styrene (Monomer)	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U
Toluene	N	ug/l	310	380	< 0.50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0.50 U	0.37 J	< 0.50 U	< 0.50 U	< 0.50 U	0 29 J	< 0.50 U	< 0 50 U	< 0.50 U
Total Xylenes	N	ug/l	560	910	1.2	< 1 0 U	0 82 J	< 1.0 U	< 1.0 U	0.93 J	< 1 0 U	0 46 J	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U
trans-1,2-Dichloroethene	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U
Trichloroethene	N	ug/l	< 0 50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
Vinyl chloride	N	ug/l	11	8.4	< 0.50 UJ	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 0 50 U	0.42 J	< 0 50 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

	Location		MW-11	MW-11	MW-11	MW-11	MW-12	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
	Sample ID		MW-11-GW-04282016	MW-11-GW-08092016	MW11-GW-10062016	MW-11-GW-02162017	MW-12-GW-04282016	MW-13-GW-04282016	DUP-1(04282016)	MW-13-GW-08092016	DUP-1(08092016)	MW-13-GW-10042016	DUP-1 (10042016)	MW-13-GW-02162017
	Sample Date		4/28/2016	8/9/2016	10/6/2016	2/16/2017	4/28/2016	4/28/2016	4/28/2016	8/9/2016	8/9/2016	10/4/2016	10/4/2016	2/16/2017
Analyte	T/D	Units												
Anions														
Ammonia Nitrogen	T	mg/l	67	60	59	59	440	61	52	56	66	79	80	57
Nitrate/Nitrite	N	mg/l	< 0.10 U				< 0 10 U	< 0 10 U	< 0.10 U					
Nitrate/Nitrite	T	mg/l		< 0.10 U	< 0 10 U	< 0.10 U				< 0 10 U	< 0 10 U	< 0.10 U	< 0.10 U	< 0.10 U
Nitrate-N	T	mg/l	< 0.10 U	< 0.10 U	< 0 10 U	< 0.10 U	< 0 10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Nitrite	T	mg/l	< 0.020 UB	< 0.040 U	< 0 020 U	< 0.020 U	< 0.030 UB	< 0.020 UB	< 0 020 UB	< 0.020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U
Sulfate	T	mg/l	6 5	5 9	< 6.7 UB	< 7 2 UB	1600	390	150	86	96	21	19	100
Gases														
Carbon Dioxide	N	mg/l	180	160 J	130	210	220	< 5.0	41	32 J	40 J	82	82	64
Methane	N	ug/l	15000	22000 J	10000	18000	16000	26000	22000	21000 J	22000 J	21000	20000	23000
Nitrogen	N	mg/l	7 2	5.9 J	5.1	9 5	7.2	5	7 8	6.7 J	3.1 J	10	10	7.9
Oxygen	N	mg/l	1.4	1.4 J	1.1	1 6	0.9	1.3	2 3	1.6 J	0.96 J	2.7	3	1.4
GenChem														
Total Suspended Solids	T	mg/l	85	73	68	100	140	14 J	26 J	28	22	24	25	20
Sulfide	N	mg/l	< 1 0 U	0.46 J	< 1 0 U	< 1.0 U	7 6	1.7	1 7	0.61 J	1 7	< 1.0 U	0.57 J	3.4
Metals														
Aluminum	D	mg/l	< 0.20 U	< 0.20 U	< 0.20 U	< 0 20 U	0.062 J	< 0.20 U	< 0.20 U	< 0 20 U	< 0.20 U	< 0 20 U	0.15 J	< 0.20 U
Aluminum	T	mg/l	0 12 J	< 0 20 U	0 095 J	< 0.20 U	0.15 J	< 0.20 U	0.066 J	0.096 J	0.12 J	0.11 J	0.11 J	< 0.20 U
Antimony	D	mg/l	< 0 020 U	< 0.020 U	< 0.020 U	< 0 020 U	0.012 J	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Antimony	T	mg/l	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	0 019 J	< 0.020 U	< 0.020 U	< 0 020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Arsenic	D	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	0.026	0.0049 J	0.0085 J	0.0095 J	0.0062 J	< 0.010 U	0.0047 J	0.0070 J
Arsenic	T	mg/l	< 0 010 U	< 0 010 U	< 0 010 U	< 0 010 U	0 03	0 0087 J	0.0075 J	0.0068 J	0 0096 J	0.0034 J	0 0047 J	0.0074 J
Barium	D	mg/l	1.2	0 82	0 76	0 79	0.088	0.24	0.25	0.2	0.22	0.23	0.25	0.25
Barium	T	mg/l	1.1	0.85	0.75	0.79	0.091	0.24	0.25	0.21	0.21	0.26	0.28	0.25
Beryllium	D	mg/l	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0 0040 U
Beryllium	T	mg/l	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0.0040 U	< 0 0040 U	< 0.0040 U	< 0 0040 U	< 0 0040 U	< 0.0040 U	< 0 0040 U
Cadmium	D	mg/l	< 0.0020 U	0.0013 J	0.0011 J	0 0010 J	< 0 0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0011 J	< 0.0020 U	< 0 0020 U	< 0.0020 U
Cadmium	T	mg/l	< 0.0020 U	0.0011 J	0.0015 J	0 0011 J	< 0.0020 U	< 0.0020 U	< 0 0020 U	0 00096 J	< 0.0020 U	< 0.0020 U	< 0 0020 U	< 0.0020 U
Calcium	D	mg/l	140	130	130	130	330	110	110	91	86	96	89	100
Calcium	T	mg/l	130	130	120	130	350	110	120	83	93	84	85	100
Chromium	D	mg/l	0.0083 J	0.0081 J	0.0075 J	0.0076 J	0.063	0.0035 J	0.0045 J	0.0032 J	0.0037 J	0.0038 J	0 0046 J	0.0027 J
Chromium	T	mg/l	0.0083 J	0.0088 J	0.0083 J	0.0073 J	0.067	0.0044 J	0.0045 J	0.0032 J	0.0039 J	0.0059 J	0.0052 J	0.0032 J
Cobalt	D	mg/l	0 0021 J	0.0013 J	0.0018 J	0.0017 J	0 12	0.0017 J	0.0025 J	0.0016 J	0.0018 J	0.0015 J	0.0017 J	0.0020 J
Cobalt	T	mg/l	0.0021 J	0.0014 J	0.0017 J	0.0018 J	0.12	0 0027 J	0 0026 J	0.0013 J	0.0015 J	0.0021 J	0 0023 J	0 0018 J
Copper	D	mg/l	0.0039 J	0 0028 J	0.0025 J	< 0.010 U	0 0035 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U	< 0.010 U
Copper	T	mg/l	0.0053 J	0.0026 J	0.0053 J	< 0.010 U	0.0049 J	0.0022 J	0.0025 J	< 0.010 U	0.0029 J	0.0029 J	0 0040 J	< 0 010 U
Iron	D	mg/l	36	28	28	28	41	6.7	7.5	3.3 J	5.9 J	6 4	7.6	4.3
Iron	T	mg/l	35	29	28	29	42	7.4	7.3	6.1	5.6	8.9	9 6	4.8
Lead	D	mg/l	0.0044 J	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.0040 J	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U
Lead	T	mg/l	0.0073	0.0043 J	0.006	< 0.0050 U	0.011	< 0.0050 U	0.0029 J	0.0032 J	< 0.0050 U	0.0036 J	0.0077	< 0.0050 U
Magnesium	D	mg/l	120	110	120	120	290	43	46	39	45	46	50	48
Magnesium	T	mg/l	120	110	110	120	300	42	43	42	40	52	55	47
Manganese	D	mg/l	0.28	0.23	0.22	0.22	2.4	0.35	0.37	0.27	0.31	0.34	0.36	0.24
Manganese	T	mg/l	0.27	0.24	0.21	0.22	2.6	0.42	0.35	0.31	0.29	0 38	0.4	0 24
Mercury	D	mg/l	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 UB	< 0.00020 UB	< 0 00020 U	< 0.00020 U	< 0.00020 U
Mercury	T	mg/l	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0 00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U
Nickel	D	mg/l	0.019	0.016	0.016	0.019	0.25	0 011	0.011	0.0098 J	0.0092 J	0.0072 J	0.0063 J	0 014
Nickel	T	mg/l	0.017	0.017	0.016	0.02	0.27	0.011	0 011	0 0087 J	0.011	0 0079 J	0.0069 J	0.014
Potassium	D	mg/l	150	110	110	120	150	66	71	56	62	67	71	69
Potassium	T	mg/l	140	110	100	110	150	64	68	58	59	74	77	67
Selenium	D	mg/l	< 0.010 U	< 0.010 U	< 0.010 U	0.0068 J	0.019	< 0 010 U	0.0077 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 UB	0.0063 J
Selenium	T	mg/l	0.0054 J	< 0.010 U	< 0.010 U	< 0.010 U	0.023	< 0.010 U	0 0059 J	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Silver	D	mg/l	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U
Silver	T	mg/l	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0 0050 U	< 0 0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.0050 U
Sodium	D	mg/l	380	350	330	390	1700	230	240	200	210	230	230	240
Sodium	T	mg/l	360	350	320	380	1600	230	240	200	210	220	230	230
Thallium	D	mg/l	< 0.010 U	< 0 010 U	< 0 010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U
Thallium	T	mg/l	< 0 010 U	< 0 010 U	< 0.010 U	< 0 010 U	< 0 010 U	< 0 010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0.010 U	< 0 010 U	< 0.010 U
Vanadium	D	mg/l	0 0056	0.005	0.0048 J	0.0042 J	0 017	0 0033 J	0 0036 J	0 0040 J	0 0031 J	0.0036 J	0.0036 J	0 0025 J
Vanadium	T	mg/l	0.0053	0.0058	0 0055	0.005	0.017	0 0035 J	0 0039 J	0.0037 J	0.0045 J	0 0031 J	0.0035 J	0 0028 J
Zinc	D	mg/l	< 0 020 U	< 0 020 U	< 0.020 U	< 0.020 U	0.12	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Zinc	T	mg/l	0.014 J	0.011 J	0.018 J	0.011 J	0 23	< 0 020 U	< 0.020 U	0.011 J	< 0 020 U	0.011 J	0 013 J	< 0 020 U
Pesticides														
4,4-DDD	N	ug/l	< 0.040 U	< 0.037 U	< 0 036 U	< 0 037 U	< 0 20 U	< 0 041 U	< 0.20 UJ	< 0.18 U	< 0 18 U	< 0.037 U	< 0.037 U	< 0.038 U
4,4-DDE	N	ug/l	< 0 040 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.20 U	< 0.041 U	< 0 20 UJ	< 0.18 U	< 0.18 U	< 0.037 U	< 0.037 U	< 0 038 U
4,4-DDT	N	ug/l	< 0 040 U	< 0.037 U	< 0.036 U	< 0.037 U	< 0.20 U	< 0.041 U	< 0.20 UJ	< 0.18 U	< 0.18 U	< 0.037 U	< 0 037 U	< 0 038 U
Aldrin	N	ug/l	< 0.040 U	< 0.037 U	< 0.036 U	< 0 037 U	< 0 20 U	< 0 041 U	< 0 20 UJ	< 0.18 U	< 0 18 U	< 0 037 U	< 0.037 U	< 0 038 U
Alpha-BHC	N	ug/l	< 0.040 U	< 0 037 U	< 0.036 U	< 0.037 U	< 0.20 U	< 0 041 U	< 0 20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0.037 U	< 0.038 U
Alpha-chlordane	N	ug/l	< 0 040 U	< 0 037 U	< 0 036 U	< 0 037 U	< 0 20 U	< 0 041 U	< 0 20 UJ	< 0 18 U	< 0.18 U	< 0.037 U	< 0 037 U	< 0 038 U
Beta-BHC	N	ug/l	< 0.040 U	< 0 037 U	< 0.036 U	< 0.037 U	< 0 20 U	< 0 041 U	< 0.20 UJ	< 0 18 U	< 0.18 U	< 0.037 U	< 0 037 U	< 0 038 U
Delta-BHC	N	ug/l	< 0.040 U	< 0 037 U	< 0 036 U	< 0.037 U	< 0 20 U	< 0.041 U	< 0.20 UJ	< 0.18 U	< 0.18 U	< 0 037 U	< 0 037 U	< 0.038 U
Dieldrin	N	ug/l	< 0.040 U	< 0.037 U	< 0 036 U	< 0 037 U	< 0 20 U	< 0.041 U	< 0 20 UJ	< 0 18 U	< 0.18 U	< 0 037 U	< 0 037 U	< 0.038 U
Endosulfan I	N	ug/l	< 0 040 U	< 0.037 U	< 0 036 U	< 0.037 U	< 0.20 U	< 0.041 U	< 0.20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0 038 U
Endosulfan II	N	ug/l	< 0 040 U	< 0 037 U	< 0.036 U	< 0 037 U	< 0.20 U	< 0.041 U	< 0.20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0 038 U
Endosulfan sulfate	N	ug/l	< 0 040 U	< 0 037 U	< 0 036 U	< 0 037 U	< 0 20 U	< 0.041 U	< 0.20 UJ	< 0 18 U	< 0.18 U	< 0 037 U	< 0.037 U	< 0 038 U
Endrin	N	ug/l	< 0.040 U	< 0.037 U	< 0.036 U	< 0 037 U	< 0.20 U	< 0 041 U	< 0.20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0 038 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-11	MW-11	MW-11	MW-11	MW-12	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
		Sample ID	MW-11-GW-04282016	MW-11-GW-08092016	MW11-GW-10062016	MW-11-GW-02162017	MW-12-GW-04282016	MW-13-GW-04282016	DUP-1(04282016)	MW-13-GW-08092016	DUP-1(08092016)	MW-13-GW-10042016	DUP-1 (10042016)	MW-13-GW-02162017
		Sample Date	4/28/2016	8/9/2016	10/6/2016	2/16/2017	4/28/2016	4/28/2016	4/28/2016	8/9/2016	8/9/2016	10/4/2016	10/4/2016	2/16/2017
Analyte	T/D	Units												
Endrin aldehyde	N	ug/l	< 0 040 U	< 0 037 U	< 0.036 U	< 0.037 U	< 0.20 U	< 0.041 U	< 0.20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0 038 U
Endrin ketone	N	ug/l	< 0.040 U	< 0 037 U	< 0 036 U	< 0 037 U	< 0 20 U	< 0 041 U	< 0 20 UJ	< 0 18 U	< 0.18 U	< 0 037 U	< 0 037 U	< 0.038 U
Gamma-BHC	N	ug/l	< 0 040 U	< 0 037 U	< 0 036 U	< 0 037 U	< 0.20 U	< 0 041 U	< 0.20 UJ	< 0 18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0 038 U
Heptachlor	N	ug/l	< 0 040 U	< 0 037 U	< 0.036 U	< 0 037 U	< 0 20 U	< 0.041 U	< 0.20 UJ	< 0.18 U	< 0 18 U	< 0 037 U	< 0 037 U	< 0.038 U
Heptachlor epoxide	N	ug/l	< 0 040 U	< 0 037 U	< 0 036 U	< 0 037 U	< 0.20 U	< 0 041 U	< 0 20 UJ	< 0 18 U	< 0.18 U	< 0.037 U	< 0.037 U	< 0.038 U
Methoxychlor	N	ug/l	< 0 080 U	< 0.073 U	< 0 073 U	< 0.074 U	< 0 40 U	< 0.082 U	< 0 40 UJ	< 0.37 U	< 0.37 U	< 0 073 U	< 0 074 U	< 0 076 U
Toxaphene	N	ug/l	< 0 40 U	< 0 37 U	< 0 36 U	< 0.37 U	< 2 0 U	< 0.41 U	< 2 0 UJ	< 1.8 U	< 1 8 U	< 0 37 U	< 0 37 U	< 0 38 U
trans-chlordane	N	ug/l	< 0 040 U	< 0 037 U	< 0.036 U	< 0 037 U	< 0 20 U	< 0 041 U	< 0.20 UJ	< 0 18 U	< 0.18 U	< 0.037 U	< 0.037 U	< 0.038 U
PCBs														
Aroclor 1016	N	ug/l	< 0 40 U	< 0.37 U	< 0 36 U	< 0.37 U	< 2.0 U	< 2 0 U	< 2.0 U	< 0 37 U	< 0.37 U	< 0 37 U	< 0.37 U	< 0.38 U
Aroclor 1221	N	ug/l	< 0 40 U	< 0 37 U	< 0 36 U	< 0.37 U	< 2 0 U	< 2.0 U	< 2 0 U	< 0.37 U	< 0 37 U	< 0.37 U	< 0 37 U	< 0 38 U
Aroclor 1232	N	ug/l	< 0.40 U	< 0.37 U	< 0 36 U	< 0 37 U	< 2 0 U	< 2 0 U	< 2.0 U	< 0 37 U	< 0 37 U	< 0 37 U	< 0.37 U	< 0.38 U
Aroclor 1242	N	ug/l	< 0 40 U	< 0.37 U	< 0.36 U	< 0.37 U	< 2.0 U	< 2 0 U	< 2.0 U	< 0.37 U	< 0.37 U	< 0.37 U	< 0 37 U	< 0 38 U
Aroclor 1248	N	ug/l	< 0.40 U	< 0.37 U	< 0 36 U	< 0 37 U	< 2.0 U	< 2.0 U	< 2.0 U	< 0 37 U	< 0.37 U	< 0.37 U	< 0 37 U	< 0.38 U
Aroclor 1254	N	ug/l	< 0.40 U	< 0 37 U	< 0.36 U	< 0.37 U	< 2 0 U	< 2.0 U	< 2.0 U	< 0 37 U	< 0 37 U	< 0 37 U	< 0.37 U	< 0 38 U
Aroclor 1260	N	ug/l	< 0 40 U	< 0 37 U	< 0 36 U	< 0 37 U	< 2.0 U	< 2.0 U	< 2.0 U	< 0.37 U	< 0 37 U	< 0 37 U	< 0.37 U	< 0 38 U
SVOCs														
1,1-Biphenyl	N	ug/l	19 JD	2.6 J	< 18 U	0.99 J	< 410 UJ	3 1 JD	3.2 JD	< 19 U	< 18 U	1.8 J	< 18 U	2.0 J
2,2-Oxybis(1-Chloropropane)	N	ug/l	< 16 UJ	< 1.5 U	< 7 4 U	< 1.5 U	< 160 UJ	< 8.1 U	< 16 UJ	< 7 4 U	< 7.4 U	< 7.3 U	< 7.3 U	< 1.5 U
2,4,5-Trichlorophenol	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7 4 U
2,4,6-Trichlorophenol	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	1.3 J
2,4-Dichlorophenol	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7.4 U
2,4-Dimethylphenol	N	ug/l	16 JD	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	37 JD	40 JD	34 J	32 J	22 J	16 J	42
2,4-Dinitrophenol	N	ug/l	< 160 U	< 15 U	< 74 UJ	< 15 U	< 1600 UJ	< 81 U	< 160 U	< 74 U	< 74 U	< 73 UJ	< 73 UJ	< 15 U
2,4-Dinitrotoluene	N	ug/l	< 8 0 U	< 0.74 U	< 3.7 U	< 0 73 U	< 81 UJ	< 4.1 U	< 8.1 U	< 3 7 U	< 3 7 U	< 3.7 U	< 3.6 U	< 0 74 U
2,6-Dinitrotoluene	N	ug/l	< 4.0 U	< 0.37 U	< 3.7 U	< 0 73 U	< 41 UJ	< 2.0 U	< 4.0 U	< 1.9 U	< 1.8 U	< 3.7 U	< 3.6 U	< 0.74 U
2-Chloronaphthalene	N	ug/l	< 16 U	< 1.5 U	< 7.4 U	< 1.5 U	< 160 UJ	< 8.1 U	< 16 U	< 7.4 U	< 7 4 U	< 7.3 U	< 7 3 U	< 1.5 U
2-Chlorophenol	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3 7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 U
2-Methyl-4,6-dinitrophenol	N	ug/l	< 160 U	< 15 U	< 74 UJ	< 15 U	< 1600 UJ	< 81 U	< 160 U	< 74 U	< 74 U	< 73 UJ	< 73 UJ	< 15 U
2-Methylnaphthalene	N	ug/l	2.9 JD	2 3	1.8 J	3 7	46 JD	22 D	20 D	11	11	10	8.1	11
2-Methylphenol	N	ug/l	< 16 U	< 1.5 U	< 7 4 U	< 1.5 U	7600 JD	< 8 1 U	14 JD	< 7.4 U	< 7.4 U	5 4 J	4 8 J	< 1.5 U
2-Nitroaniline	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 U
2-Nitrophenol	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7 4 U
3,3-Dichlorobenzidine	N	ug/l	< 40 U	< 3.7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 U
3-Nitroaniline	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 UJ	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7 4 U
4-Bromophenyl phenyl ether	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 UJ
4-Chloro-3-Methylphenol	N	ug/l	< 80 U	< 7 4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7.4 U
4-Chlorophenyl phenyl ether	N	ug/l	< 40 U	< 3.7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3 7 U
4-Methylphenol	N	ug/l	180 D	< 1 5 U	2.2 J	3 2	510000 JD	210 D	280 D	54	54	29	22	40
4-Nitroaniline	N	ug/l	< 80 U	< 7.4 UJ	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7 4 U
4-Nitrophenol	N	ug/l	< 160 U	< 15 U	< 74 U	< 15 U	< 1600 UJ	< 81 U	< 160 U	< 74 UJ	< 74 UJ	< 73 U	< 73 U	< 15 U
Acenaphthene	N	ug/l	< 8.0 U	< 0.74 U	< 3 7 U	0.23 J	< 81 UJ	1.4 JD	< 8 1 U	< 3.7 U	< 3 7 U	< 3 7 U	< 3 6 U	0 86
Acenaphthylene	N	ug/l	< 8.0 U	< 0 74 U	< 3.7 U	< 0 73 U	< 81 UJ	4 5 D	5.1 JD	2 7 J	2 5 J	2.2 J	1.7 J	2.3
Acetophenone	N	ug/l	< 40 U	0 57 J	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	26	20	32
Anthracene	N	ug/l	< 8.0 U	< 0.74 U	< 3 7 U	< 0.73 U	< 81 UJ	< 4.1 U	< 8 1 U	< 3 7 U	< 3 7 U	< 3 7 U	< 3.6 U	0.29 J
Atrazine	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 U
Benzaldehyde	N	ug/l	< 160 UJ	< 30 UJ	< 150 UJ	< 29 UJ	< 1600 UJ	< 81 UJ	< 160 UJ	< 150 UJ	< 150 UJ	< 150 UJ	< 150 UJ	< 30 UJ
Benzo(a)anthracene	N	ug/l	< 1 6 U	< 0.15 U	< 0 74 U	< 0.15 U	< 16 UJ	< 0.81 U	< 1 6 U	< 0 74 U	< 0 74 U	< 0 73 U	0 43 J	< 0 15 U
Benzo(a)pyrene	N	ug/l	< 1 6 U	< 0 15 U	< 0 74 U	< 0 15 U	< 16 UJ	< 0.81 U	< 1 6 U	< 0 74 U	< 0 74 U	< 0 73 U	< 0.73 U	< 0 15 UJ
Benzo(b)fluoranthene	N	ug/l	< 1.6 U	< 0 15 U	< 0.74 U	< 0 15 U	< 16 UJ	< 0.81 U	< 1 6 U	< 0 74 U	< 0 74 U	< 0.73 U	< 0.73 U	< 0.15 UJ
Benzo(g,h,i)perylene	N	ug/l	< 8.0 U	< 0 74 U	< 3.7 U	< 0 73 U	< 81 UJ	< 4.1 U	< 8 1 U	< 3.7 U	< 3 7 U	< 3 7 U	< 3 6 U	< 0.74 UJ
Benzo(k)fluoranthene	N	ug/l	< 1.6 U	< 0.15 U	< 0.74 U	< 0 15 U	< 16 UJ	< 0.81 U	< 1.6 U	< 0.74 U	< 0 74 U	< 0.73 U	< 0.73 U	< 0.15 UJ
bis(2-Chloroethoxy)methane	N	ug/l	3.8 JD	< 1 5 U	< 7.4 U	< 1 5 U	< 160 UJ	< 8.1 U	< 16 U	< 7.4 U	< 7.4 U	< 7.3 U	< 7.3 U	< 1 5 U
bis(2-Chloroethyl)ether	N	ug/l	< 16 U	< 1 5 U	< 7 4 U	< 1.5 U	< 160 UJ	< 8 1 U	< 16 U	< 7 4 U	< 7 4 U	< 7.3 U	< 7 3 U	< 1.5 U
bis(2-Ethylhexyl)phthalate	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	2.9 J
Butyl benzyl phthalate	N	ug/l	< 16 U	< 1.5 U	< 7.4 U	< 1.5 U	< 160 UJ	< 8.1 U	< 16 U	< 7.4 U	< 7 4 U	< 7 3 U	< 7.3 U	1 3 J
Caprolactam	N	ug/l	< 80 U	< 7 4 U	< 37 U	< 7.3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7.4 U
Carbazole	N	ug/l	< 40 U	< 3.7 U	< 18 U	< 3.7 UJ	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 UJ
Chrysene	N	ug/l	< 4.0 U	< 0.37 U	< 1.8 U	< 0 15 U	< 41 UJ	< 2.0 U	< 4 0 U	< 1.9 U	< 1.8 U	< 1 8 U	0.35 J	< 0 15 U
Dibenzo(a,h)anthracene	N	ug/l	< 2.4 U	< 0 22 U	< 1.1 U	< 0.22 U	< 24 UJ	< 1 2 U	< 2.4 U	< 1 1 U	< 1.1 U	< 1 1 U	< 1.1 U	< 0.22 UJ
Dibenzofuran	N	ug/l	< 16 U	< 1.5 U	< 7.4 U	< 1 5 U	< 160 UJ	< 8.1 U	< 16 U	< 7.4 U	< 7 4 U	< 7 3 U	< 7 3 U	< 1 5 U
Diethyl phthalate	N	ug/l	< 16 U	0.62 J	< 7.4 U	0.64 J	< 160 UJ	33 D	31 D	9	8.8	12	8.9	11
Dimethyl phthalate	N	ug/l	< 16 U	< 1.5 U	< 7 4 U	< 1.5 U	< 160 UJ	< 8 1 U	< 16 U	< 7 4 U	< 7.4 U	< 7.3 U	< 7.3 U	< 1 5 U
Di-n-butyl phthalate	N	ug/l	< 40 U	< 3 7 U	< 18 U	0 69 J	< 410 UJ	5.5 JD	< 40 U	4.4 J	4 2 J	3 8 J	3.4 J	3.9
Di-n-octyl phthalate	N	ug/l	< 80 U	< 7.4 U	< 37 U	< 7 3 U	< 810 UJ	< 41 U	< 81 U	< 37 U	< 37 U	< 37 U	< 36 U	< 7 4 U
Fluoranthene	N	ug/l	< 8.0 U	< 0.74 U	< 3 7 U	< 0.73 U	< 81 UJ	< 4.1 U	< 8.1 U	< 3.7 U	< 3.7 U	< 3.7 U	< 3 6 U	< 0.74 U
Fluorene	N	ug/l	< 8 0 U	< 0.74 U	< 3 7 U	< 0.73 U	< 81 UJ	1 8 JD	< 8.1 U	< 3.7 U	< 3.7 U	1 0 J	< 3 6 U	1.2
Hexachloro-1,3-butadiene	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3 7 U
Hexachlorobenzene	N	ug/l	< 4 0 U	< 0.37 U	< 1 8 U	< 0.37 U	< 41 UJ	< 2 0 U	< 4.0 U	< 1.9 U	< 1 8 U	< 1 8 U	< 1 8 U	< 0.37 U
Hexachlorocyclopentadiene	N	ug/l	< 160 UJ	< 15 UJ	< 74 U	< 15 U	< 1600 UJ	< 81 UJ	< 160 UJ	< 74 U	< 74 U	< 73 U	< 73 U	< 15 U
Hexachloroethane	N	ug/l	< 40 U	< 3 7 U	< 18 U	< 3.7 U	< 410 UJ	< 20 U	< 40 U	< 19 U	< 18 U	< 18 U	< 18 U	< 3.7 U
Indeno(1,2,3-cd)pyrene	N	ug/l	< 1.6 U	< 0.15 U	< 0.74 U	< 0 15 U	< 16 UJ	< 0 81 U	< 1.6 U	< 0.74 U	< 0.74 U	< 0.73 U	< 0.73 U	< 0.15 UJ
Isophorone	N	ug/l	< 16 U	< 1.5 U	< 7.4 U	< 1 5 U	19000 JD	5 4 JD	< 16 U	< 7.4 U	< 7 4 U	< 7 3 U	< 7.3 U	< 1.5 U
Naphthalene	N	ug/l	8.0 D	2 4	1.9 J	2 4	160 JD	250 D	260 D	170	160	140	110	190 D
Nitrobenzene	N	ug/l	< 8 0 U	< 0 74 U	< 3 7 U	< 0 73 U	< 81 UJ	< 4.1 U	< 8 1 U	< 3 7 U	< 3.7 U	< 3.7 U	< 3.6 U	< 0.74 U
N-Nitrosodi-n-propylamine	N	ug/l	< 4 0 U	< 0 37 UJ	< 1.8 U	< 0.37 U	< 41 UJ	< 2.0 U	< 4.0 U	< 1 9 U	< 1.8 U	< 1 8 U	< 1.8 U	< 0.37 U

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, Illinois

		Location	MW-11	MW-11	MW-11	MW-11	MW-12	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13
		Sample ID	MW-11-GW-04282016	MW-11-GW-08092016	MW11-GW-10062016	MW-11-GW-02162017	MW-12-GW-04282016	MW-13-GW-04282016	DUP-1(04282016)	MW-13-GW-08092016	DUP-1(08092016)	MW-13-GW-10042016	DUP-1 (10042016)	MW-13-GW-02162017
		Sample Date	4/28/2016	8/9/2016	10/6/2016	2/16/2017	4/28/2016	4/28/2016	4/28/2016	8/9/2016	8/9/2016	10/4/2016	10/4/2016	2/16/2017
Analyte	T/D	Units												
N-Nitrosodiphenylamine	N	ug/l	< 8.0 U	1.3	1.6 J	1.7	< 81 UJ	14 D	15 D	10	< 3 7 U	11	7 7	11
p-Chloroaniline	N	ug/l	< 80 UJ	< 7.4 UJ	8.2 J	< 7.3 U	< 810 UJ	< 41 UJ	< 81 UJ	< 37 U	< 37 U	< 37 UJ	< 36 UJ	< 7.4 U
Pentachlorophenol	N	ug/l	< 160 U	< 15 UJ	< 74 U	< 15 UJ	1200 JD	65 JD	< 160 U	< 74 U	< 74 U	< 73 U	< 73 U	< 15 UJ
Phenanthrene	N	ug/l	< 8.0 U	0 36 J	< 3 7 U	< 0.73 U	< 81 UJ	< 4.1 U	< 8 1 U	< 3.7 U	< 3.7 U	< 3.7 U	< 3 6 U	0 86
Phenol	N	ug/l	31 JD	0 97 J	< 18 U	0 73 J	4000 JD	56 JD	84 JD	37	36	17 J	12 J	39
Pyrene	N	ug/l	< 8 0 U	< 0 74 U	< 3.7 U	< 0 73 U	< 81 UJ	< 4.1 U	< 8.1 U	< 3.7 U	< 3.7 U	< 3 7 U	< 3 6 U	< 0.74 U
TOC														
Total Organic Carbon	N	mg/l	91	67	65	36	2200	67	56	54	56	53	54	61
VOCs														
1,1,1-Trichloroethane	N	ug/l	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,1,2,2-Tetrachloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,1,2-trichloro-1,2,2-trifluoroethane	N	ug/l	< 1 0 U	< 1 0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,1,2-Trichloroethane	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
1,1-Dichloroethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	3300 D	52 JD	23 JD	19	16	< 10 U	7 6 J	< 10 U
1,1-Dichloroethene	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	10 D	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,2,4-Trichlorobenzene	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 1 0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,2-Dibromo-3-chloropropane	N	ug/l	< 5.0 U	< 5.0 U	< 5 0 UJ	< 5.0 U	< 50 U	< 50 U	< 50 U	< 25 U	< 25 UJ	< 50 UJ	< 50 UJ	< 50 U
1,2-Dibromoethane	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
1,2-Dichlorobenzene	N	ug/l	< 1 0 U	1.1	0.85 J	1.2	< 10 U	17 D	14 D	12	13	12	12	18
1,2-Dichloroethane	N	ug/l	< 1 0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,2-Dichloropropane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
1,3-Dichlorobenzene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1 0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
1,4-Dichlorobenzene	N	ug/l	2	3.2	2.6	3 8	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
2-Butanone (MEK)	N	ug/l	5 1	< 5 0 U	< 5 0 U	< 5.0 U	2700 D	60 D	< 50 U	< 25 U	< 25 U	< 50 U	< 50 U	< 50 U
4-Methyl-2-Pentanone	N	ug/l	5	< 5 0 U	< 5 0 U	< 5.0 U	24000 D	< 50 U	< 50 U	< 25 U	< 25 U	< 50 U	< 50 U	< 50 U
Acetone	N	ug/l	15	16	< 5.0 UJ	< 5 0 UJ	4800 D	85 D	< 50 U	30	38	< 50 U	< 50 U	< 50 U
Benzene	N	ug/l	88	100	84	81	160 D	630 D	450 D	430	390	400	370	410
Bromodichloromethane	N	ug/l	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
Bromoform	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Bromomethane	N	ug/l	< 2.0 UJ	< 2.0 UJ	< 2.0 UJ	< 2.0 U	< 20 UJ	< 20 UJ	< 20 UJ	< 10 UJ	< 10 U	< 20 UJ	< 20 UJ	< 20 U
Carbon Disulfide	N	ug/l	< 2.0 U	< 2.0 U	< 2 0 U	< 2.0 U	< 20 U	< 20 U	< 20 U	< 10 U	< 10 U	< 20 U	< 20 U	< 20 U
Carbon Tetrachloride	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
CFC-11	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
CFC-12	N	ug/l	< 2.0 U	< 2.0 U	< 2 0 U	< 2.0 U	< 20 U	< 20 U	< 20 U	< 10 U	< 10 U	< 20 U	< 20 U	< 20 UJ
Chlorobenzene	N	ug/l	6.9	10	8.9	11	< 10 U	< 10 U	< 10 U	3.1 J	3 2 J	< 10 U	< 10 U	< 10 U
Chlorodibromomethane	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Chloroethane	N	ug/l	5.3	4 6	4.4	< 1 0 U	26 D	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 UJ
Chloroform	N	ug/l	< 1.0 U	< 1.0 U	< 1 0 U	< 2.0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 20 U
Chloromethane	N	ug/l	< 1.0 U	< 1 0 U	< 1.0 U	< 1 0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
cis-1,2-Dichloroethene	N	ug/l	< 1 0 U	< 1 0 U	< 1 0 U	< 1.0 U	1100 D	54 JD	26 JD	43	34	19	16	37
cis-1,3-Dichloropropene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Cyclohexane	N	ug/l	75	100	78	110	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Dichloromethane	N	ug/l	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	6300 D	< 50 U	< 50 U	< 25 U	< 25 U	< 50 U	< 50 U	< 50 U
Ethylbenzene	N	ug/l	100	11	2.6	3.1	3400 D	2500 D	1900 D	1200 D	1400 D	1000	970	1300
Isopropylbenzene	N	ug/l	36	51	39	61	43 D	97 D	110 D	75	100	110	110	100
Methyl Acetate	N	ug/l	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 50 U	< 50 U	< 50 U	< 25 U	< 25 U	< 50 U	< 50 U	< 50 U
Methyl N-Butyl Ketone (2-Hexanone)	N	ug/l	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 50 U	< 50 U	< 50 U	< 25 U	< 25 U	< 50 U	< 50 U	< 50 U
Methylcyclohexane	N	ug/l	72	110	76	170	< 10 U	< 10 U	< 10 U	< 5 0 U	< 5 0 U	< 10 U	< 10 U	< 10 U
Methyl-tert-butylether	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Styrene (Monomer)	N	ug/l	4 3	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 UJ	120 JD	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Tetrachloroethene	N	ug/l	< 1.0 U	< 1 0 U	< 1 0 U	< 1.0 U	680 D	< 10 U	< 10 U	< 5 0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Toluene	N	ug/l	150	8 2	1 5	0 82	11000 D	8100 JD	4600 JD	2800 D	2700 D	1700	1500	2600
Total Xylenes	N	ug/l	620 D	67	15	17	19000 D	17000 D	14000 D	8200 D	9800 D	7000	7100	8400
trans-1,2-Dichloroethene	N	ug/l	< 1 0 U	< 1.0 U	< 1 0 U	< 1.0 U	23 D	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
trans-1,3-Dichloropropene	N	ug/l	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 10 U	< 10 U	< 10 U	< 5.0 U	< 5.0 U	< 10 U	< 10 U	< 10 U
Trichloroethene	N	ug/l	< 0.50 U	< 0 50 U	< 0.50 U	< 0 50 U	720 D	< 5.0 U	< 5.0 U	3 7	3 6	< 5.0 U	< 5.0 U	< 5 0 U
Vinyl chloride	N	ug/l	0 7	< 0 50 U	< 0 50 U	< 0.50 U	420 D	15 D	7.1 D	10	11	< 5 0 U	< 5.0 U	11

Groundwater Monitoring Results
Lake Calumet Cluster Site, Chicago, IL

Notes

T/D/N	Total/Dissolved/Not Applicable
mg/L	milligrams per liter
ug/L	micrograms per liter
PCBs	polychlorinated biphenyls
SVOCs	semi-volatile organic compounds
TOC	total organic carbon
VOCs	volatile organic compounds
J	Compound was identified; result is an estimated value
R	Data was rejected during data validation
U	Compound was not detected; result is the compound quantitation limit
UB	Compound considered non-detect at listed value due to blank contamination
UJ	Compound not detected above quantitation limit; reported limit is approximate
D	Concentration based on diluted sample