DATA USABILITY SUMMARY REPORT

BROOKFIELD POWER – SCHOOL STREET SITE

COHOES, NEW YORK

SDG # K084

TCLP VOLATILES, TCLP SEMIVOLATILES, PCB,
TCLP METALS AND MISCELLANEOUS ANALYSES

Analyses performed by:

Severn Trent Laboratories
Edison, New Jersey

Review performed by:

ARCADIS BBL
Infrastructure, environment, facilities

Syracuse, New York
Report #7399R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #K084 for sampling from the Brookfield Power – School Street Site Cohoes, New York. Included with this assessment are the data review check sheets used in the review of the package, corrected sample results and the sample compliance report. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis					
				VOC	SVOC	PCB	TOC	MET	MISC
SED-WC-1	854473	SD	8/16/2007	X	X	X		X	X
V-US_0-0.5	854474	SO	8/15/2007			X	X		
V3-2_0-0.5	854479	SO	8/16/2007			X	X		
V4-2_0-0.5	854480	SO	8/15/2007			X	X		
DUP-1	854482	SO	8/15/2007			X	X		
V4-1_1-1.5	854485	SO	8/15/2007			X	X		
V2-2_0-0.5	854486	SO	8/16/2007			X	X		
V1-2_0-0.5	854488	SO	8/16/2007			X	X		

Notes:

1. Miscellaneous parameters include reactive cyanide and sulfide, ignitability and corrosivity.
2. Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on sample location V4-1_1-1.5 (PCBs only).
3. Sample location DUP-1 (PCBs and TOCs only) is the field duplicate of parent sample location V4-2_0-0.5.

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE (TCLP) VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA SW-846 Method 1311 and 8260 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by gas chromatograph/mass spectrometer (GC/MS).

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.

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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
SW-846 1311/8260	Leachate	14 days from collection to leachate and 14 days from leachate to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance blanks (i.e., method, trip, 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. Trip blanks measure contamination of samples during shipment. Rinse blanks measure contamination of samples during field operations.

No compounds were detected in the associated blanks.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 (15%) 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 then the control limit (20%) and RRF value greater than control limit (0.05).

All calibration criteria were within the 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. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires 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 areas and retention times were within established 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.

A MS/MSD was not performed on a sample location within this SDG.

8. Laboratory Control Sample (LCS) Analysis

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

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

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.
.

10. Compound Identification

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

All identified compounds met the specified criteria.

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

Volatile Organics Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are surrogate recovery forms present?	X		
Are all samples listed on the surrogate recovery form?	X		
Was one or more surrogate recovery outside control limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a MS recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
0 out of 0			
How many RPDs for MS/MSD were outside of QC limits?			
0 out of 0			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each day or for each 20 samples, whichever is more frequent?	X		
Has a blank been analyzed at least once every 12 hours for each system used?	X		
Do any method/instrument blanks have positive results?		X	
Are trip/field/rinse blanks associated with every sample?		X	
Do any trip/field/rinse blanks have positive results?			X

	YES	NO	NA
Tuning and Mass Calibration			
Are the GC/MS tuning forms present for BFB?	X		
Are the bar graph spectrum and mass/charge listing provided for each BFB?	X		
Has a BFB been analyzed for each 12 hours of analysis per instrument?	X		
Have the ion abundance criteria been met for each instrument used?	X		
Target Analytes			
Is an organics analysis data sheet present for each of the following:			
Samples	X		
Matrix spikes	X		
Blanks	X		
Are the reconstructed ion chromatograms present for each of the following:			
Samples	X		
Matrix spikes	X		
Blanks	X		
Is the chromatographic performance acceptable?	X		
Are the mass spectra of the identified compounds present?	X		
Are all ions present in the standard mass spectrum at a relative intensity of 10% or greater also present in the sample spectrum?	X		
Do the samples and standard relative ion intensities agree within 20%?	X		
Tentatively Identified Compounds			
Are all the TIC summary forms present?		X	
Are the mass spectra for the tentatively identified compounds and their associated "best match" spectra present?			X
Are any target compounds listed as TICs?			X
Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?			X
Do the TIC and "best match" spectrum agree within 20%?			X
Quantitation and Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
Standard Data			
Are the quantitation reports and reconstructed ion chromatograms present			

	YES	NO	NA
for the initial and continuing calibration standards?	X		
Initial Calibration			
Are the initial calibration forms present for each instrument used?	X		
Are the response factor RSDs within acceptable limits?	X		
Are the average RRFs minimum requirements met?	X		
Are there any transcription/calculation errors in reporting the RRFs or RSDs?		X	
Continuing Calibration			
Are the continuing calibration forms present for each day and each instrument?	X		
Has a continuing calibration standard been analyzed for each 12 hours of analysis per instrument?	X		
All %D within acceptable limits?	X		
Are all RF minimum requirements met?	X		
Are there any transcription/calculation errors in reporting of RF or %D?		X	
Internal Standards			
Are internal standard areas of every sample within the upper and lower limits for each continuing calibration?	X		
Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
Field Duplicates			
Were field duplicates submitted with the samples?		X	

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE (TCLP) SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA SW-846 Method 1311/8270 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by gas chromatograph/mass spectrometer (GC/MS).

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
SW-846 1311 TCLP and SW-846 8270	Soil	14 days from collection to TCLP; 7 days from TCLP to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 (15%) 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 then the control limit (20%) and RRF value greater than control limit (0.05).

All calibration criteria were within the 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. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

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

All internal standard areas and retention times were within established 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.

A MS/MSD was not performed on a sample location within this SDG.

8. Laboratory Control Sample (LCS) Analysis

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

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

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

10. Compound Identification

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

All identified compounds met the specified criteria.

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

Semivolatile Organics Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are surrogate recovery forms present?	X		
Are all samples listed on the surrogate recovery form?	X		
Were two or more base neutral or acid surrogate recoveries outside control limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a MS recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
0 out of 0			
How many RPDs for MS/MSD were outside of QC limits?			
0 out of 0			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each day or for each 20 samples, whichever is more frequent?	X		
Has a blank been analyzed at least once every 12 hours for each system used?	X		
Do any method/instrument blanks have positive results?		X	
Are field/rinse blanks associated with every sample?		X	
Do any field/rinse blanks have positive results?			X

	YES	NO	NA
Tuning and Mass Calibration			
Are the GC/MS tuning forms present for DFTPP?	X		
Are the bar graph spectrum and mass/charge listing provided for each DFTPP?	X		
Has a DFTPP been analyzed for each 12 hours of analysis per instrument?	X		
Have the ion abundance criteria been met for each instrument used?	X		
Target Analytes			
Is an organics analysis data sheet present for each of the following:			
Samples	X		
Matrix spikes	X		
Blanks	X		
Are the reconstructed ion chromatograms present for each of the following:			
Samples	X		
Matrix spikes	X		
Blanks	X		
Is the chromatographic performance acceptable?	X		
Are the mass spectra of the identified compounds present?	X		
Are all ions present in the standard mass spectrum at a relative intensity of 10% or greater also present in the sample spectrum?	X		
Do the samples and standard relative ion intensities agree within 20%?	X		
Tentatively Identified Compounds			
Are all the TIC summary forms present?		X	
Are the mass spectra for the tentatively identified compounds and their associated "best match" spectra present?			X
Are any target compounds listed as TICs?			X
Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?			X
Do the TIC and "best match" spectrum agree within 20%?			X
Quantitation and Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
Standard Data			
Are the quantitation reports and reconstructed ion chromatograms present			

	YES	NO	NA
for the initial and continuing calibration standards?	X		
Initial Calibration			
Are the initial calibration forms present for each instrument used?	X		
Are the response factor RSDs within acceptable limits?	X		
Are the average RRFs minimum requirements met?	X		
Are there any transcription/calculation errors in reporting the RRFs or RSDs?		X	
Continuing Calibration			
Are the continuing calibration forms present for each day and each instrument?	X		
Has a continuing calibration standard been analyzed for each 12 hours of analysis per instrument?	X		
All %D within acceptable limits?	X		
Are all RF minimum requirements met?	X		
Are there any transcription/calculation errors in reporting of RF or %D?		X	
Internal Standards			
Are internal standard areas of every sample within the upper and lower limits for each continuing calibration?	X		
Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
Field Duplicates			
Were field duplicates submitted with the samples?		X	

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA SW-846 Method 8082 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
SW-846 8082	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 then the control limit (15%).

All calibration criteria were within the 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.

All surrogate recoveries reported from the primary column were within control limits.

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 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.

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

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
DUP-1/V4-2_0-0.5	All Aroclors	ND(110)	ND(100)	AC

ND = Not detected.
AC = The field duplicate is acceptable when the difference between parent sample and field duplicate sample is less than two times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

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 less than 40%.

All sample locations met criteria.

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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits?			
0 out of 4			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
0 out of 2			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Do any field/rinse/equipment blanks have positive results?			X
Are there field/rinse/equipment blanks associated with every sample?		X	

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?	X		
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?	X		
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	

	YES	NO	NA
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?	X		

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 1311/6010B as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

- Concentration (C) Qualifiers

    U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

    B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

    E The reported value is estimated due to the presence of interference.

    N Spiked sample recovery is not within control limits.

    * Duplicate analysis is not within control limits.

- Validation Qualifiers

    J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

    UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

    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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
SW-846 1311/6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cooled @ 4 °C.
SW-846 1311/7470	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
SW-846 1311/7471	Soil	28 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. 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 IDL, with the exception of the analytes listed in the following table. Sample results associated with the following sample locations were qualified.

Sample Locations	Analytes	Sample Result	Qualification
SED-WC-1	Cadmium	Detected blank results >MDL, Sample results ND	No Action

RL = reporting limit

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing 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 and Continuing Calibration

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 control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

A CRDL standard recoveries were within control limits.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

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

4.1 MS Analysis

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

All analytes associated with MS recoveries were within control limits.

4.2 Laboratory Duplicate Analysis

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

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

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences.

The LCS analysis exhibited recoveries within the control limits.

7. Serial Dilution

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.

The serial dilutions performed on sample locations SED-WC-1 exhibited %D within the control limit.

8. Furnace Analysis QC

No furnace analyses were performed on the samples.

9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

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

Inorganic Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Raw Data			
Are the preparation logs present?	X		
Are preparation dates present on sample preparation logs/bench sheets?	X		
Are the measurement read out records present?	X		
Is the data legible?	X		
Is the data properly labeled?	X		
Are pH values listed?	X		
Percent solids calculation present for soils/sediments?	X		
Holding Times			
Were all analyses performed within the specified holding times?	X		
Sample Data			
Are all forms complete?	X		
Are correct units indicated the results sheets?	X		
Are soil sample results for each parameter corrected for percent solids?	X		
Initial Calibration			
Is a record of an initial calibration present?:	X		
Is correlation coefficient less than .995?:	X		
Initial and Continuing Calibration Verification			
Present and complete for all analytes?	X		
Are all calibration standards (initial and continuing) within control limits?:	X		
Was continuing calibration performed every 10 samples or every 2 hours?	X		
Was the ICV for cyanides distilled?			X
Initial and Continuing Calibration Blanks			
Present and complete?	X		
Was an initial calibration blank analyzed?	X		
Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (which ever is more frequent)?	X		

	YES	NO	NA
Are all calibration blanks less than or equal to the RL?	X		
Preparation Blank			
Was one prep. blank analyzed for:			
each batch of digested samples?	X		
each matrix type?	X		
Are all preparation blanks less than the RL?	X		
If no, is the concentration of the sample with the least concentrated analyte less than 10 times the prep. blank?			X
Matrix Spike			
Present and complete for:			
each batch?	X		
each matrix type?	X		
Was field blank used for spiked sample?		X	
Are all recoveries for analytes with sample concentrations less than four times the spike concentration within control limits?	X		
Are results outside the control limits (75-125%) flagged with "N"?			X
Laboratory Duplicates			
Present and complete for:			
each batch?	X		
each matrix type?	X		
Was field blank used for duplicate analysis?		X	
Are all values within control limits?		X	
If no, are all results outside the control limits flagged with an * ?			X
Field Duplicates			
Were field duplicates analyzed?		X	
Aqueous			
is any RPD greater than 50% where sample and duplicate are both greater than or equal to 5 times RL?			X
Is any difference between sample and duplicate greater than RL where sample and/or duplicate is less than 5 times RL?			X
Soil/Sediment			
Is any RPD (where sample and duplicate are both greater than 5 times RL) > 100%?		X	
Is any difference between sample and duplicate (where sample and/or duplicate is less than 5x RL) >2xRL?		X	

	YES	NO	NA
Laboratory Control Sample			
Was one LCS prepared and analyzed for:			
each matrix?	X		
each batch?	X		
Are all recoveries within control limits?	X		
Field Blank			
Is the field blank concentration less than RL for all analytes?			X
If no, was field blank value already rejected due to other QC criteria?			X
Percent Solids			
Are the percent solids in soil/sediment(s):			
< 50%?		X	
< 10%?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) Lloyd Kahn Total Organic Carbon Method, Cyanide by method 9012, Sulfide by Method 9030, Ignitability by Method 1030 and Corrosivity. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

  B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

  E The reported value is estimated due to the presence of interference.

  N Spiked sample recovery is not within control limits.

  * Duplicate analysis is not within control limits.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Soil	14 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of greater than 12.
Sulfide by EPA 9030	Soil	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
Ignitability by 1030	Soil	ASAP	Cooled @ 4 °C.
Corrosivity	Soil	ASAP	Cooled @ 4 °C.
TOC by Lloyd Kahn	Soil	14 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No analytes were detected above the reporting limit in the associated blanks.

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

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

3.1 MS/MSD Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater

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

3.2 Laboratory Duplicate Analysis

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

The laboratory duplicate exhibited RPD within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
V4-2_0-0.5/DUP-1	TOC	23900	24700	3.2%

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

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences.

All LCS recoveries were within control limits, with the exception of the analytes associated with sample locations, as presented in the following table.

Sample Location	Analytes/ LCS Recovery
SED-WC-1	Reactive Cyanide / 12.5%

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

Control limit	Sample Result	Qualification
LCS (water) percent recovery 50% to 79%	Non-detect	UJ
	Detect	J
LCS (water) percent recovery <50%	Non-detect	R
	Detect	J

Control limit	Sample Result	Qualification
LCS (water) percent recovery >120%	Non-detect	No Action
	Detect	J
LCS (soil) percent recovery < lower limit	Non-detect	J
	Detect	J
LCS (soil) percent recovery > upper limit	Non-detect	No Action
	Detect	J

6. System Performance and Overall Assessment

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

DATA VALIDATION CHECKLIST

Data Validation Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?		X	
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?		X	
Calibration			
Are calibrations acceptable?	X		
Raw Data			
Is raw data present and complete for all samples and QC?	X		
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?	X		

CORRECTED SAMPLE ANALYSIS DATA SHEETS

Client ID: **SED-WC-1**
Site: National Grid

Lab Sample No: **854473**
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Prepped: 08/21/07
Date Analyzed: 08/22/07
Lab File ID: b49226.d

Leachate Volume: 5.0 ml
Dilution Factor: 1.0
GC Column: Rtx-VMS
Instrument ID: VOAMS2.i

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

VOLATILE ORGANICS - GC/MS

Parameter	Analytical Result Units: mg/l	Regulatory Level Units: mg/l	Quantitation Limit Units: mg/l
Vinyl Chloride	ND	0.2	0.0050
1,1-Dichloroethene	ND	0.7	0.0020
Chloroform	ND	6.0	0.0050
1,2-Dichloroethane	ND	0.5	0.0020
Methyl Ethyl Ketone	ND	200	0.0050
Carbon Tetrachloride	ND	0.5	0.0020
Trichloroethene	ND	0.5	0.0010
Benzene	ND	0.5	0.0010
Tetrachloroethene	ND	0.7	0.0010
Chlorobenzene	ND	100	0.0050

Client ID: **SED-WC-1**
Site: National Grid

Lab Sample No: **854473**
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Prepped: 08/21/07
Date Extacted: 08/24/07
Date Analyzed: 08/25/07
Lab File ID: s29510.d

Leachate Volume: 250.0 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
GC Column: DB-5
Instrument ID: BNAMS2.i

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

EXTRACTABLE ORGANICS

Parameter	Analytical Result Units: mg/l	Regulatory Level Units: mg/l	Quantitation Limit Units: mg/l
o-Cresol	ND	200(a)	0.040
m&p-Cresol	ND	200(a)	0.040
2,4,6-Trichlorophenol	ND	2.0	0.040
2,4,5-Trichlorophenol	ND	400	0.040
Pentachlorophenol	ND	100	0.12
1,4-Dichlorobenzene	ND	7.5	0.040
Hexachloroethane	ND	3.0	0.0040
Nitrobenzene	ND	2.0	0.0040
Hexachlorobutadiene	ND	0.5	0.0080
2,4-Dinitrotoluene	ND	0.13	0.0080
Hexachlorobenzene	ND	0.13	0.0040
Pyridine	ND	5.0	0.040

(a) If o-, m-, and p-cresol concentrations cannot be differentiated, the total cresol concentration is used. The regulatory level of total cresol is 200 mg/l.

Client ID: **SED-WC-1**
Site: National Grid

Lab Sample ID: **854473**
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423272.d
Rear File ID: vr423272.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 31

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	97	R
Aroclor-1221	ND	97	R
Aroclor-1232	ND	97	R
Aroclor-1242	ND	97	R
Aroclor-1248	ND	97	R
Aroclor-1254	ND	97	R
Aroclor-1260	260	97	R
Aroclor-1262	ND	97	R
Aroclor-1268	ND	97	R

Client ID: **V-US 0-0.5**
Site: National Grid

Lab Sample ID: **854474**
Lab Job No: K084

Date Sampled: 08/15/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423273.d
Rear File ID: vr423273.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 32

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	98	R
Aroclor-1221	ND	98	R
Aroclor-1232	ND	98	R
Aroclor-1242	ND	98	R
Aroclor-1248	ND	98	R
Aroclor-1254	ND	98	R
Aroclor-1260	150	98	R
Aroclor-1262	ND	98	R
Aroclor-1268	ND	98	R

Client ID: **V3-2 0-0.5**
Site: National Grid

Lab Sample ID: **854479**
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423278.d
Rear File ID: vr423278.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 17

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	81	R
Aroclor-1221	ND	81	R
Aroclor-1232	ND	81	R
Aroclor-1242	ND	81	R
Aroclor-1248	ND	81	R
Aroclor-1254	ND	81	R
Aroclor-1260	500	81	R
Aroclor-1262	ND	81	R
Aroclor-1268	ND	81	R

Client ID: **V4-2_0-0.5**
Site: National Grid

Lab Sample ID: **854480**
Lab Job No: K084

Date Sampled: 08/15/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423279.d
Rear File ID: vr423279.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 38

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	110	R
Aroclor-1221	ND	110	R
Aroclor-1232	ND	110	R
Aroclor-1242	ND	110	R
Aroclor-1248	ND	110	R
Aroclor-1254	ND	110	R
Aroclor-1260	ND	110	R
Aroclor-1262	ND	110	R
Aroclor-1268	ND	110	R

Client ID: **DUP-1**
Site: National Grid

Lab Sample ID: **854482**
Lab Job No: K084

Date Sampled: 08/15/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423281.d
Rear File ID: vr423281.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 36

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	100	R
Aroclor-1221	ND	100	R
Aroclor-1232	ND	100	R
Aroclor-1242	ND	100	R
Aroclor-1248	ND	100	R
Aroclor-1254	ND	100	R
Aroclor-1260	ND	100	R
Aroclor-1262	ND	100	R
Aroclor-1268	ND	100	R

Client ID: **V4-1_1-1.5**
Site: National Grid

Lab Sample ID: **854485**
Lab Job No: K084

Date Sampled: 08/15/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423269.d
Rear File ID: vr423269.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 28

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	93	R
Aroclor-1221	ND	93	R
Aroclor-1232	ND	93	R
Aroclor-1242	ND	93	R
Aroclor-1248	ND	93	R
Aroclor-1254	ND	93	R
Aroclor-1260	ND	93	R
Aroclor-1262	ND	93	R
Aroclor-1268	ND	93	R

Client ID: V2-2_0-0.5
Site: National Grid

Lab Sample ID: 854486
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423284.d
Rear File ID: vr423284.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 30

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	95	R
Aroclor-1221	ND	95	R
Aroclor-1232	ND	95	R
Aroclor-1242	ND	95	R
Aroclor-1248	ND	95	R
Aroclor-1254	ND	95	R
Aroclor-1260	140	95	R
Aroclor-1262	ND	95	R
Aroclor-1268	ND	95	R

Client ID: **V1-2_0-0.5**
Site: National Grid

Lab Sample ID: **854488**
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07
Date Extracted: 08/18/07
Date Analyzed: 08/20/07
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf423286.d
Rear File ID: vr423286.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 68

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	210	R
Aroclor-1221	ND	210	R
Aroclor-1232	ND	210	R
Aroclor-1242	ND	210	R
Aroclor-1248	ND	210	R
Aroclor-1254	ND	210	R
Aroclor-1260	ND	210	R
Aroclor-1262	ND	210	R
Aroclor-1268	ND	210	R

Client ID: **SED-WC-1**
Site: **National Grid**

Lab Sample No: 854473
Lab Job No: K084

Date Sampled: 08/16/07
Date Received: 08/17/07

Matrix: LEACHATE
Level: LOW

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

METALS ANALYSIS

Analyte	Analytical Result Units: mg/l	Regulatory Level Units: mg/l	Instrument Detection Limit	Qual	M
Arsenic	ND	5.0	0.016		P
Barium	0.61	100.0	0.0085	B	P
Cadmium	ND	1.0	0.0020		P
Chromium	ND	5.0	0.0080		P
Lead	0.02	5.0	0.013	B	P
Mercury	ND	0.2	0.00010		CV
Selenium	ND	1.0	0.021		P
Silver	ND	5.0	0.0070		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Site: National Grid
Matrix: SOIL

Lab Job No: K084
QA Batch: 1965

Reactive Cyanide

STL Edison Sample #	Client ID	Date Sampled	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/kg
854473	SED-WC-1	08/16/07	08/22/07	08/22/07	2.0	ND J

Quantitation Limit for Reactive Cyanide is 25.0 mg/kg for an undiluted sample.

Site: National Grid | Lab Job No: K084

Matrix: SOIL | QA Batch: 1970

Reactive Sulfide

STL Edison Sample #	Client ID	Date Sampled	Date Extracted	Date Analyzed	Dilution Factor	Analytical Result Units: mg/kg
854473	SED-WC-1	08/16/07	08/22/07	08/22/07	2.0	ND

Quantitation Limit for Reactive Sulfide is 20.0 mg/kg for an undiluted sample.

Site: National Grid
Matrix: SOIL

Lab Job No: K084
QA Batch: 3422

Total Organic Carbon

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Percent Moisture	Dilution Factor	Analytical Result Units: mg/kg
854474	V-US_0-0.5	08/15/07	08/20/07	31.9	1.0	21200
854479	V3-2_0-0.5	08/16/07	08/20/07	17.2	1.0	15900
854480	V4-2_0-0.5	08/15/07	08/20/07	37.9	1.0	23900
854482	DUP-1	08/15/07	08/20/07	35.9	1.0	24700
854485	V4-1_1-1.5	08/15/07	08/20/07	27.8	1.0	15700
854486	V2-2_0-0.5	08/16/07	08/20/07	29.6	1.0	25800
854488	V1-2_0-0.5	08/16/07	08/20/07	67.6	1.0	73100

Quantitation Limit for Total Organic Carbon is 100 mg/kg.

Site: National Grid
Matrix: SOIL

Lab Job No: K084
QA Batch: 3262

Corrosivity (pH)

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Analytical Result Units: std units
854473	SED-WC-1	08/16/07	08/22/07	7.89

Site: National Grid
Matrix: SOIL

Lab Job No: K084
QA Batch: 2068

Ignitability

STL Edison Sample #	Client ID	Date Sampled	Date Analyzed	Analytical Result
854473	SED-WC-1	08/16/07	08/24/07	Non-Igni

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB/ PEST	MET	MISC	
K084	8/16/2007	ASP 2005	SED-WC-1	Sediment	Yes	Yes	Yes	Yes	No	Reactive Cyanide LCS %R
K084	8/15/2007	ASP 2005	V-US_0-0.5	Soil	--	--	Yes	--	--	
K084	8/16/2007	ASP 2005	V3-2_0-0.5	Soil	--	--	Yes	--	--	
K084	8/15/2007	ASP 2005	V4-2_0-0.5	Soil	--	--	Yes	--	--	
K084	8/15/2007	ASP 2005	DUP-1	Soil	--	--	Yes	--	--	
K084	8/15/2007	ASP 2005	V4-1_1-1.5	Soil	--	--	Yes	--	--	
K084	8/16/2007	ASP 2005	V2-2_0-0.5	Soil	--	--	Yes	--	--	
K084	8/16/2007	ASP 2005	V1-2_0-0.5	Soil	--	--	Yes	--	--	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010303

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8227R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010303 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01302008	AL01889	Water	1/30/2008			X		X
SW-DS-01302008	AL01890	Water	1/30/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No analytes were detected above the reporting limit in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010303
ELAP ID No:	11078	LRF ID:	08010303-01
Matrix:	Water	Client ID:	SW-US-01302008
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AL01889
Percent Moisture:	100	Date Received:	01/30/2008
Extraction:	Separatory Funnel	Date Extracted:	01/30/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/30/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-626-18

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010303
ELAP ID No:	11078	LRF ID:	08010303-02
Matrix:	Water	Client ID:	SW-DS-01302008
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AL01890
Percent Moisture:	100	Date Received:	01/30/2008
Extraction:	Separatory Funnel	Date Extracted:	01/30/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/30/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-626-19

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
01/31/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/30/2008 **TIME:** 13:45	**LOCATION:**	COHOES, NY
SAMPLED BY:	N/A	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010303

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01889	SW-US-01302008	EPA 160.2	01/30/2008 12:20	3.71	2.06		mg/L	01/30/2008
AL01890	SW-DS-01302008	EPA 160.2	01/30/2008 12:35	2.40	2.00		mg/L	01/30/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010303	1/30/2008	608/160.2	SW-US-01302008	Water	--	--	Yes	--	Yes	
08010303	1/30/2008	608/160.2	SW-DS-01302008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010289

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8228R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010289 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01292008	AL01811	Water	1/29/2008			X		X
SW-DS-01292008	AL01812	Water	1/29/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

TSS was detected in the associated blank; however, the associated sample results were greater than the BAL; therefore, the sample results were not qualified.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?	X		
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010289
ELAP ID No:	11078	LRF ID:	08010289-01
Matrix:	Water	Client ID:	SW-US-01292008
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AL01811
Percent Moisture:	100	Date Received:	01/29/2008
Extraction:	Separatory Funnel	Date Extracted:	01/29/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/29/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-625-14

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010289
ELAP ID No:	11078	LRF ID:	08010289-02
Matrix:	Water	Client ID:	SW-DS-01292008
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AL01812
Percent Moisture:	100	Date Received:	01/29/2008
Extraction:	Separatory Funnel	Date Extracted:	01/29/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/29/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-625-15

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
01/30/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/29/2008 **TIME:** 12:10	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010289

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01811	SW-US-01292008	EPA 160.2	01/29/2008 11:25	3.60	2.00		mg/L	01/29/2008
AL01812	SW-DS-01292008	EPA 160.2	01/29/2008 11:10	ND	2.00	U	mg/L	01/29/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010289	1/29/2008	608/160.2	SW-US-01292008	Water	--	--	Yes	--	Yes	
08010289	1/29/2008	608/160.2	SW-DS-01292008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010249

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8229R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010249 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01232008	AL01534	Water	1/23/2008			X		X
SW-DS-01232008	AL01535	Water	1/23/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 508 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 508	Water	14 days from collection to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 all Aroclors.

4.2 Continuing Calibration

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

All calibration criteria were within the 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 method-established acceptance limits (70%-130%).

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No analytes were detected above the reporting limit in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010249
ELAP ID No:	11078	LRF ID:	08010249-01
Matrix:	Water	Client ID:	SW-US-01232008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01534
Percent Moisture:	100	Lab File ID:	GC19B-776-14
Extraction:	Separatory Funnel	Date Received:	01/23/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/23/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/24/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-5, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010249
ELAP ID No:	11078	LRF ID:	08010249-01
Matrix:	Water	Client ID:	SW-US-01232008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01534
Percent Moisture:	100	Lab File ID:	GC19F-658-14
Extraction:	Separatory Funnel	Date Received:	01/23/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/23/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/24/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010249
ELAP ID No:	11078	LRF ID:	08010249-02
Matrix:	Water	Client ID:	SW-DS-01232008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01535
Percent Moisture:	100	Lab File ID:	GC19B-776-15
Extraction:	Separatory Funnel	Date Received:	01/23/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/23/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/24/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-5, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010249
ELAP ID No:	11078	LRF ID:	08010249-02
Matrix:	Water	Client ID:	SW-DS-01232008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01535
Percent Moisture:	100	Lab File ID:	GC19F-658-15
Extraction:	Separatory Funnel	Date Received:	01/23/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/23/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/24/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
01/24/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/23/2008 **TIME:** 12:50	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010249

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01534	SW-US-01232008	EPA 160.2	01/23/2008 11:20	ND	2.00	U	mg/L	01/23/2008
AL01535	SW-DS-01232008	EPA 160.2	01/23/2008 11:44	ND	2.00	U	mg/L	01/23/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010249	1/23/2008	508/160.2	SW-US-01232008	Water	--	--	Yes	--	Yes	
08010249	1/23/2008	508/160.2	SW-DS-01232008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010316

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8230R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010316 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01312008	AL01929	Water	1/31/2008			X		X
SW-DS-01312008	AL01930	Water	1/31/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

TSS was detected in the associated blank; however, the associated sample results were greater than the BAL and/or non-detect; therefore, the sample results were not qualified.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?	X		
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010316
ELAP ID No:	11078	LRF ID:	08010316-01
Matrix:	Water	Client ID:	SW-US-01312008
Sample wt(Dry)/vol:	1060 mL	Lab Sample ID:	AL01929
Percent Moisture:	100	Date Received:	01/31/2008
Extraction:	Separatory Funnel	Date Extracted:	01/31/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/31/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-627-11

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010316
ELAP ID No:	11078	LRF ID:	08010316-02
Matrix:	Water	Client ID:	SW-DS-01312008
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL01930
Percent Moisture:	100	Date Received:	01/31/2008
Extraction:	Separatory Funnel	Date Extracted:	01/31/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	01/31/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-627-12

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/01/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/31/2008 **TIME:** 12:20	**LOCATION:**	COHOES, NY
SAMPLED BY:	N/A	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010316

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01929	SW-US-01312008	EPA 160.2	01/31/2008 11:20	2.60	2.00		mg/L	01/31/2008
AL01930	SW-DS-01312008	EPA 160.2	01/31/2008 11:45	ND	1.00	U	mg/L	01/31/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010316	1/29/2008	608/160.2	SW-US-01312008	Water	--	--	Yes	--	Yes	
08010316	1/29/2008	608/160.2	SW-DS-01312008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020002

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8232R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020002 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02012008	AL01993	Water	2/01/2008			X		X
SW-DS-02012008	AL01994	Water	2/01/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

TSS was detected in the associated QA blank. Sample results associated with blank contamination that were greater than the BAL did not result in any qualification of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
SW-US-02012008	TSS	Detected sample results >RL and <BAL	"U" at detected sample concentration

RL = reporting limit

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?	X		
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020002
ELAP ID No:	11078	LRF ID:	08020002-01
Matrix:	Water	Client ID:	SW-US-02012008
Sample wt(Dry)/vol:	1000 mL	Lab Sample ID:	AL01993
Percent Moisture:	100	Date Received:	02/01/2008
Extraction:	Separatory Funnel	Date Extracted:	02/01/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/02/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-629-5

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020002
ELAP ID No:	11078	LRF ID:	08020002-02
Matrix:	Water	Client ID:	SW-DS-02012008
Sample wt(Dry)/vol:	1040 mL	Lab Sample ID:	AL01994
Percent Moisture:	100	Date Received:	02/01/2008
Extraction:	Separatory Funnel	Date Extracted:	02/01/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/02/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-629-6

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/04/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	02/01/2008 **TIME:** 12:45	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08020002

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01993	SW-US-02012008	EPA 160.2	02/01/2008 11:45	1.80	~~1.00~~	U	mg/L	02/01/2008
AL01994	SW-DS-02012008	EPA 160.2	02/01/2008 12:00	4.40	1.00		mg/L	02/01/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020002	2/01/2008	608/160.2	SW-US-02012008	Water	--	--	Yes	--	No	TSS – Blank contamination
08020002	2/01/2008	608/160.2	SW-DS-02012008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020007

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8233R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020007 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02012008-02	AL02034	Water	2/01/2008			X		X
SW-DS-02012008-02	AL02035	Water	2/01/2008			X		X
SW-DS-02012008-02 DUP	AL02035D	Water	2/01/2008			X		X
SW-US-02022008	AL02036	Water	2/02/2008			X		X
SW-DS-02022008	AL02037	Water	2/02/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

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

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-02012008-02/SW-DS-02012008-02 DUP	All Aroclors	U (0.05)	U (0.05)	AC

U = Non-detect.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPDs 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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits?			
0 out of 2			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
0 out of 1			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?	X		

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No target compounds were detected in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-02012008-02/SW-DS-02012008-02 DUP	TSS	3.9	3.8	2.6%

U = Non-detect.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

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

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020007
ELAP ID No:	11078	LRF ID:	08020007-01
Matrix:	Water	Client ID:	SW-US-02012008-02
Sample wt(Dry)/vol:	1060 mL	Lab Sample ID:	AL02034
Percent Moisture:	100	Date Received:	02/02/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/04/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-17

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020007
ELAP ID No:	11078	LRF ID:	08020007-02
Matrix:	Water	Client ID:	SW-DS-02012008-02
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AL02035
Percent Moisture:	100	Date Received:	02/02/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/04/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-18

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020007
ELAP ID No:	11078	LRF ID:	08020007-02DUP
Matrix:	Water	Client ID:	SW-DS-02012008-02 DUP
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL02035D
Percent Moisture:	100	Date Received:	02/02/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/04/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-21

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020007
ELAP ID No:	11078	LRF ID:	08020007-03
Matrix:	Water	Client ID:	SW-US-02022008
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL02036
Percent Moisture:	100	Date Received:	02/02/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/04/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-22

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020007
ELAP ID No:	11078	LRF ID:	08020007-04
Matrix:	Water	Client ID:	SW-DS-02022008
Sample wt(Dry)/vol:	1040 mL	Lab Sample ID:	AL02037
Percent Moisture:	100	Date Received:	02/02/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/05/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-23

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/05/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER		**PROJECT:**	B0036643.0000 TASK 00019	
DATE RECEIVED:	02/02/2008	**TIME:** 12:00	**LOCATION:**	COHOES, NY	
SAMPLED BY:	L. JEFTS		**LAB ELAP#:**	11078	
CUSTOMER PO:	N/A		**NEA LRF:**	08020007	

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL02034	SW-US-02012008-02	EPA 160.2	02/01/2008 15:15	3.13	1.04		mg/L	02/04/2008
AL02035	SW-DS-02012008-02	EPA 160.2	02/01/2008 15:30	3.90	1.00		mg/L	02/04/2008
AL02036	SW-US-02022008	EPA 160.2	02/02/2008 10:40	3.30	1.00		mg/L	02/04/2008
AL02037	SW-DS-02022008	EPA 160.2	02/02/2008 11:00	2.70	1.00		mg/L	02/04/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

TOTAL SUSPENDED SOLIDS LOGBOOK

Start: Batch ID: 371 Date In Oven: 02/04/2008 Temp: 104 degree C Analyst: Christopher Appel

Finish: ERA Lot # 020108B6P65 Date Out Oven: 02/05/2008 Temp: 104 degree C Analyst: Christopher Appel

Prep ID	NEA Sample ID	Alt Sample ID	Matrix	Used	Time In Oven	Time Out Oven	Crucible #	Volume Used (mL)	Initial Wt (g)	Final Wt (g)	TSS Result (mg/L)	Spike Amount (ppm)	% Rec	RPD	Comments
6436	BLANK-96	AL02035B	L	☑	13:30	08:00	12	1000	26.4321	26.4321	0				
6437	LCS-96	AL02035L	L	☑	13:30	08:00	Z2	250	23.5905	23.6152	98.8	100	98.8		
6433	08020007-02	AL02035	L	☑	13:30	08:00	HI	1000	25.9480	25.9519	3.9				
6438	08020007-02DUP	AL02035D	L	☑	13:30	08:00	641	1000	27.3249	27.3287	3.8			2.60	
6432	08020007-01	AL02034	L	☑	13:30	08:00	98	960	23.2346	23.2376	3.13				
6434	08020007-03	AL02036	L	☑	13:30	08:00	RB	1000	25.7803	25.7836	3.3				
6435	08020007-04	AL02037	L	☑	13:30	08:00	X1	1000	26.5184	26.5211	2.7				
6454	08020014-01	AL02084	L	☑	13:30	08:00	H98	970	24.5966	24.6029	6.49				
6455	08020014-02	AL02085	L	☑	13:30	08:00	38	950	25.0931	25.0952	2.21				

Note: LCS Recovery Limits: 85 - 115%.

Analyst Review: CA 2/5/08 QA Review: MP 2/5/08

PrintDate: 02/05/2008

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020007	2/01/2008	608/160.2	SW-US-02012008-02	Water	--	--	Yes	--	Yes	
08020007	2/01/2008	608/160.2	SW-DS-02012008-02	Water	--	--	Yes	--	Yes	
08020007	2/01/2008	608/160.2	SW-DS-02012008-02 DUP	Water	--	--	Yes	--	Yes	
08020007	2/02/2008	608/160.2	SW-US-02022008	Water	--	--	Yes	--	Yes	
08020007	2/02/2008	608/160.2	SW-DS-02022008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020014

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8234R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020014 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02042008	AL02084	Water	2/04/2008			X		X
SW-DS-02042008	AL02085	Water	2/04/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No target compounds were detected in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020014
ELAP ID No:	11078	LRF ID:	08020014-01
Matrix:	Water	Client ID:	SW-US-02042008
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL02084
Percent Moisture:	100	Date Received:	02/04/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/05/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-25

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:

U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020014
ELAP ID No:	11078	LRF ID:	08020014-02
Matrix:	Water	Client ID:	SW-DS-02042008
Sample wt(Dry)/vol:	1050 mL	Lab Sample ID:	AL02085
Percent Moisture:	100	Date Received:	02/04/2008
Extraction:	Separatory Funnel	Date Extracted:	02/04/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/05/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-630-26

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/05/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	02/04/2008 **TIME:** 12:30	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08020014

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL02084	SW-US-02042008	EPA 160.2	02/04/2008 11:15	6.49	1.03		mg/L	02/04/2008
AL02085	SW-DS-02042008	EPA 160.2	02/04/2008 11:30	2.21	1.05		mg/L	02/04/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020014	2/04/2008	608/160.2	SW-US-02042008	Water	--	--	Yes	--	Yes	
08020014	2/04/2008	608/160.2	SW-DS-02042008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020025

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8235R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020025 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02052008	AL02186	Water	2/05/2008			X		X
SW-DS-02052008	AL02187	Water	2/05/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No target compounds were detected in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020025
ELAP ID No:	11078	LRF ID:	08020025-01
Matrix:	Water	Client ID:	SW-US-02052008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL02186
Percent Moisture:	100	Date Received:	02/05/2008
Extraction:	Separatory Funnel	Date Extracted:	02/05/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/05/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-631-10

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

FORM I-CLP-PCB (NEA)

Print Date: 02/20/2008
Nea Lims Version : 4.3.2.2

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020025
ELAP ID No:	11078	LRF ID:	08020025-02
Matrix:	Water	Client ID:	SW-DS-02052008
Sample wt(Dry)/vol:	1060 mL	Lab Sample ID:	AL02187
Percent Moisture:	100	Date Received:	02/05/2008
Extraction:	Separatory Funnel	Date Extracted:	02/05/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/05/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-631-11

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/06/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	02/05/2008 **TIME:** 12:30	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08020025

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL02186	SW-US-02052008	EPA 160.2	02/05/2008 11:15	ND	1.04	U	mg/L	02/05/2008
AL02187	SW-DS-02052008	EPA 160.2	02/05/2008 11:40	4.48	1.04		mg/L	02/05/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020025	2/05/2008	608/160.2	SW-US-02052008	Water	--	--	Yes	--	Yes	
08020025	2/05/2008	608/160.2	SW-DS-02052008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020031

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8236R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020031 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02062008	AL02219	Water	2/06/2008			X		X
SW-DS-02062008	AL02220	Water	2/06/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

TSS was detected in the associated blank; however, the associated sample results were greater than the BAL; therefore, the sample results were not qualified.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?	X		
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020031
ELAP ID No:	11078	LRF ID:	08020031-01
Matrix:	Water	Client ID:	SW-US-02062008
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AL02219
Percent Moisture:	100	Date Received:	02/06/2008
Extraction:	Separatory Funnel	Date Extracted:	02/06/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/06/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-632-15

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020031
ELAP ID No:	11078	LRF ID:	08020031-02
Matrix:	Water	Client ID:	SW-DS-02062008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL02220
Percent Moisture:	100	Date Received:	02/06/2008
Extraction:	Separatory Funnel	Date Extracted:	02/06/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/06/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-632-16

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/07/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER			**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	02/06/2008	**TIME:**	12:45	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS			**LAB ELAP#:**	11078
CUSTOMER PO:	N/A			**NEA LRF:**	08020031

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL02219	SW-US-02062008	EPA 160.2	02/06/2008 09:00	14.6	1.11		mg/L	02/06/2008
AL02220	SW-DS-02062008	EPA 160.2	02/06/2008 09:30	12.6	1.12		mg/L	02/06/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020031	2/06/2008	608/160.2	SW-US-02062008	Water	--	--	Yes	--	Yes	
08020031	2/06/2008	608/160.2	SW-DS-02062008	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08020039

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8237R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08020039 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-02072008	AL02251	Water	2/07/2008			X		X
SW-DS-02072008	AL02252	Water	2/07/2008			X		X
SW-DS-02072008 DUP	AL02252D	Water	2/07/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 608 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 608	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 10% is allowed. Multiple-point calibrations were performed for Aroclor 1016/1260. Single-point calibrations were performed for all other Aroclors. The initial calibrations were evaluated based on three points as specified in Method 608.

4.2 Continuing Calibration

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

All calibration criteria were within the 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.

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

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

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-02072008/SW-DS-02072008 DUP	All Aroclors	U (0.05)	U (0.05)	AC

U = Non-detect.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPDs 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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits?			
0 out of 2			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
0 out of 1			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?	X		

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

TSS was detected in the associated blanks; however, the associated sample results were greater than the BAL; therefore, the sample results were not qualified.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-02072008/SW-DS-02072008 DUP	TSS	186	192	2.9%

U = Non-detect.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

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

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020039
ELAP ID No:	11078	LRF ID:	08020039-01
Matrix:	Water	Client ID:	SW-US-02072008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL02251
Percent Moisture:	100	Date Received:	02/07/2008
Extraction:	Separatory Funnel	Date Extracted:	02/07/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/07/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-633-7

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020039
ELAP ID No:	11078	LRF ID:	08020039-02
Matrix:	Water	Client ID:	SW-DS-02072008
Sample wt(Dry)/vol:	1060 mL	Lab Sample ID:	AL02252
Percent Moisture:	100	Date Received:	02/07/2008
Extraction:	Separatory Funnel	Date Extracted:	02/07/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/07/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-633-8

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08020039
ELAP ID No:	11078	LRF ID:	08020039-02DUP
Matrix:	Water	Client ID:	SW-DS-02072008 DUP
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL02252D
Percent Moisture:	100	Date Received:	02/07/2008
Extraction:	Separatory Funnel	Date Extracted:	02/07/2008
Conc. Extract Volume:	10000 uL	Date Analyzed:	02/07/2008
Method:	EPA Method 608 PCB	Dilution Factor:	1
		Sulfur Cleanup:	YES

Column 1 Information:

GC Column: J&W, NARROWBORE CAPILLARY, DB-1, 30M; ID:0.25mm

Injection Volume: 1.0 uL

Lab File ID: GC11-633-11

Column 2 Information:

GC Column: NA

Injection Volume: NA

Lab File ID: NA

Column Number	CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
1	12674-11-2	Aroclor 1016	0.0500	U
1	11104-28-2	Aroclor 1221	0.0500	U
1	11141-16-5	Aroclor 1232	0.0500	U
1	53469-21-9	Aroclor 1242	0.0500	U
1	12672-29-6	Aroclor 1248	0.0500	U
1	11097-69-1	Aroclor 1254	0.0500	U
1	11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
02/08/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	02/07/2008 **TIME:** 12:30	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08020039

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL02251	SW-US-02072008	EPA 160.2	02/07/2008 11:00	151	5.00		mg/L	02/07/2008
AL02252	SW-DS-02072008	EPA 160.2	02/07/2008 11:25	186	5.00		mg/L	02/07/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

TOTAL SUSPENDED SOLIDS LOGBOOK

Start: Batch ID: 374 Date In Oven: 02/07/2008 Temp: 104 degree C Analyst: Christopher Appel

Finish: ERA Lot # 020108B6P65 Date Out Oven: 02/08/2008 Temp: 104 degree C Analyst: Christopher Appel

Prep ID	NEA Sample ID	Alt Sample ID	Matrix	Used	Time In Oven	Time Out Oven	Crucible #	Volume Used (mL)	Initial Wt (g)	Final Wt (g)	TSS Result (mg/L)	Spike Amount (ppm)	% Rec	RPD	Comments
6475	BLANK-99	AL02196B	L	☑	15:10	08:00	54	1000	27.1940	27.1942	0.2				
6476	LCS-99	AL02196L	L	☑	15:10	08:00	IA2	250	26.9275	26.9538	105	100	105		
6465	08020027-07	AL02196	L	☑	15:10	08:00	001	1000	25.8820	25.8821	0.1				
6477	08020027-07DUP	AL02196D	L	☑	15:10	08:00	61	1000	27.3415	27.3416	0.1			0	
6464	08020027-02	AL02191	L	☑	15:10	08:00	D2	1000	24.2882	24.2883	0.1				
6466	08020027-08	AL02197	L	☑	15:10	08:00	PG	500	23.9471	23.9482	2.2				
6467	08020027-09	AL02198	L	☑	15:10	08:00	LA	1000	24.9142	24.9189	4.7				
6468	08020026-02	AL02189	L	☑	15:10	08:00	410	1015	24.5570	24.5676	10.4				
6472	08020039-01	AL02251	L	☑	15:10	08:00	X	200	24.7783	24.8085	151				
6473	08020039-02	AL02252	L	☑	15:10	08:00	BYE	200	23.5070	23.5442	186				
6474	08020039-02DUP	AL02252D	L	☑	15:10	08:00	CA1	200	24.8604	24.8987	192			2.91	

Note: LCS Recovery Limits: 85 - 115%.

Analyst Review: CA 2/8/08 QA Review: [illegible] 2/8/08

PrintDate: 02/08/2008

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08020039	2/07/2008	608/160.2	SW-US-02072008	Water	--	--	Yes	--	Yes	
08020039	2/07/2008	608/160.2	SW-DS-02072008	Water	--	--	Yes	--	Yes	
08020039	2/07/2008	608/160.2	SW-DS-02072008 DUP	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010267

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8238R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010267 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01252008	AL01682	Water	1/25/2008			X		X
SW-DS-01252008	AL01683RR2	Water	1/25/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 508 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 508	Water	14 days from collection to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 all Aroclors.

4.2 Continuing Calibration

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

All calibration criteria were within the 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 method-established acceptance limits (70%-130%)

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

Sample Locations	Surrogate	Recovery
SW-DS-01252008 (ZB-1)	Tetrachloro-m-xylene	< LL but > 10%
	Decachlorobiphenyl	AC

Lower control limit (LL)
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	J
	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	No Action
	Detect	

Note: Since results associated with sample location SW-DS-01252008 exhibited surrogate recoveries greater than 10% the associated sample results were qualified as estimated.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

A MS/MSD was not performed on a sample location within this SDG.

7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of

matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

A field duplicate was not performed on a sample location within this SDG.

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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?	X		
If yes, were the samples reanalyzed?	X		
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?			X
How many spike recoveries were outside of QC limits?			
NA out of NA			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
NA out of NA			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?		X	

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No analytes were detected above the reporting limit in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method.

A field duplicate analysis was not performed on a sample location within this SDG.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010267
ELAP ID No:	11078	LRF ID:	08010267-01
Matrix:	Water	Client ID:	SW-US-01252008
Sample wt(Dry)/vol:	1060 mL	Lab Sample ID:	AL01682
Percent Moisture:	100	Lab File ID:	GC19F-662-8
Extraction:	Separatory Funnel	Date Received:	01/25/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/25/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/28/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010267
ELAP ID No:	11078	LRF ID:	08010267-02RR2
Matrix:	Water	Client ID:	SW-DS-01252008
Sample wt(Dry)/vol:	1020 mL	Lab Sample ID:	AL01683RR2
Percent Moisture:	100	Lab File ID:	GC19F-662-11
Extraction:	Separatory Funnel	Date Received:	01/25/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/25/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/28/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U J
11104-28-2	Aroclor 1221	0.0500	U J
11141-16-5	Aroclor 1232	0.0500	U J
53469-21-9	Aroclor 1242	0.0500	U J
12672-29-6	Aroclor 1248	0.0500	U J
11097-69-1	Aroclor 1254	0.0500	U J
11096-82-5	Aroclor 1260	0.0500	U J

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
01/28/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/25/2008 **TIME:** 14:45	**LOCATION:**	COHOES, NY
SAMPLED BY:	L. JEFTS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010267

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01682	SW-US-01252008	EPA 160.2	01/25/2008 13:10	2.40	2.00		mg/L	01/25/2008
AL01683	SW-DS-01252008	EPA 160.2	01/25/2008 13:30	4.35	2.17		mg/L	01/25/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010267	1/25/2008	508/160.2	SW-US-01252008	Water	--	--	Yes	--	Yes	
08010267	1/25/2008	508/160.2	SW-DS-01252008	Water	--	--	No	--	Yes	PCB – surrogate

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

DATA USABILITY SUMMARY REPORT

NATIONAL GRID/BROOKFIELD
SCHOOL STREET

COHOES, NEW YORK

SDG #08010258

PCB AND MISCELLANEOUS ANALYSES

Analyses performed by:

Northeast Analytical, Inc.
Schenectady, NY

Review performed by:

ARCADIS
Infrastructure, environment, facilities

Syracuse, New York
Report #8239R

Summary

The following is an assessment of the data package for sample delivery group (SDG) #08010258 for sampling from the National Grid/Brookfield School Street Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
SW-US-01242008	AL01625	Water	1/24/2008			X		X
SW-DS-01242008	AL01626	Water	1/24/2008			X		X
SW-DS-02142008 DUP	AL01626D	Water	1/24/2008			X		X

Note:

1. Miscellaneous analyses include Total Suspended Solids.

POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

Introduction

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 508 as referenced in NYSDEC-ASP. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

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

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

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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.

E The compound was quantitated above the calibration range.

D Concentration is based on a diluted sample analysis.

C Identification confirmed by GC/MS.

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.

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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
EPA 508	Water	14 days from collection to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance 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.

No compounds were detected in the associated blanks.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing 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 all Aroclors.

4.2 Continuing Calibration

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

All calibration criteria were within the 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 method-established acceptance limits (70%-130%).

All surrogate recoveries were within control limits.

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 compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

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

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

7. Laboratory Control Sample (LCS) Analysis

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

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

8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-01242008/SW-DS-01242008 DUP	All Aroclors	ND (0.05)	ND (0.05)	AC

ND = Not detected.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPDs 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%.

No target compounds were identified in 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

PCB Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Have any missing deliverables been received and added to the data package?		X	
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Were recoveries of any surrogate outside of specified limits for any sample or blank?		X	
If yes, were the samples reanalyzed?			X
Are there any transcription/calculation errors between the raw data and the summary form?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits?			
0 out of 4			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
0 out of 2			
Blanks			
Is a method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Do any method/reagent/instrument blanks have positive results?		X	
Are there field/rinse/equipment blanks associated with every sample?		X	
Do any field/rinse/equipment blanks have positive results?			X

	YES	NO	NA
Calibration and GC Performance			
Are the following chromatograms and integration reports present?			
peak resolution check		X	
Aroclor 1016/1260	X		
Aroclors 1221, 1232, 1242, 1248, and 1254	X		
Is a calibration summary form present and complete for each analytical sequence?	X		
Are there any transcription/calculation errors between the raw data and the forms?		X	
Are the %RSD for the initial calibration within specified limits for all analytes?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60%?			X
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	X		
Are there any transcription/calculation errors between the raw data and the form?		X	
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	X		
Analytical Sequence			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Are RT of sample compounds within the established RT windows?	X		
Were all positively identified compounds confirmed on a second column?			X
Was GC/MS confirmation provided when required?			X
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are there any transcription/calculation errors in the Form 1 results?		X	
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?			X

	YES	NO	NA
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?	X		

MISCELLANEOUS ANALYSES

Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) method 160.2. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2002.

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

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

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  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 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.

Data Assessment

1. Holding Times

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

Method	Matrix	Holding Time	Preservation
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation 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 analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

No analytes were detected above the reporting limit in the associated blanks.

3. Laboratory Duplicate Analysis

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

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

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SW-DS-01242008/SW-DS-01242008 DUP	TSS	2.4	2.2	8.7%

ND = Not detected.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPDs were acceptable.

5. 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 Review Checklist

Supplemental Data Review Checklist

	YES	NO	NA
Data Completeness			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the methods utilized notated?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Laboratory Duplicates			
Were duplicates analyzed and were the relative percent differences between results within acceptable limits?	X		
Laboratory Control Samples			
Were LCS analyzed and were recoveries within acceptable limits?	X		
Blanks			
Has a method blank been analyzed for each set of samples or for each 20 samples?	X		
Do any have results above the reporting limit?		X	
Do any field/rinse blanks have positive results?			X
Raw Data			
Is raw data present and complete for all samples and QC?		X	
Compound Quantitation and Reported Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X

CORRECTED SAMPLE ANALYSIS DATA SHEETS

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010258
ELAP ID No:	11078	LRF ID:	08010258-01
Matrix:	Water	Client ID:	SW-US-01242008
Sample wt(Dry)/vol:	1070 mL	Lab Sample ID:	AL01625
Percent Moisture:	100	Lab File ID:	GC19F-659-15
Extraction:	Separatory Funnel	Date Received:	01/24/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/24/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/25/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010258
ELAP ID No:	11078	LRF ID:	08010258-02
Matrix:	Water	Client ID:	SW-DS-01242008
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01626
Percent Moisture:	100	Lab File ID:	GC19F-659-16
Extraction:	Separatory Funnel	Date Received:	01/24/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/24/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/25/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

FORM I-CLP-PCB (NEA)

Print Date: 02/08/2008
Nea Lims Version : 4.3.2.1

1D-1
PCB ANALYSIS DATA SHEET

Laboratory Name:	Northeast Analytical, Inc.	SDG No:	08010258
ELAP ID No:	11078	LRF ID:	08010258-02DUP
Matrix:	Water	Client ID:	SW-DS-01242008 DUP
Sample wt(Dry)/vol:	1080 mL	Lab Sample ID:	AL01626D
Percent Moisture:	100	Lab File ID:	GC19F-659-21
Extraction:	Separatory Funnel	Date Received:	01/24/2008
Conc. Extract Volume:	10000 uL	Date Extracted:	01/24/2008
Injection Volume:	1.0 uL	Date Analyzed:	01/25/2008
Method:	EPA Method 508 (Screen)	Dilution Factor:	1
GC Column:	PHENOMENEX, NARROWBORE CAPILLARY, ZB-1, 30M; ID:0.25mm	Sulfur Cleanup:	YES

CAS NO	COMPOUND NAME	CONCENTRATION UG/L	Q
12674-11-2	Aroclor 1016	0.0500	U
11104-28-2	Aroclor 1221	0.0500	U
11141-16-5	Aroclor 1232	0.0500	U
53469-21-9	Aroclor 1242	0.0500	U
12672-29-6	Aroclor 1248	0.0500	U
11097-69-1	Aroclor 1254	0.0500	U
11096-82-5	Aroclor 1260	0.0500	U

Laboratory Qualifiers:
U - Denotes analyte not detected at concentration greater than or equal to the Practical Quantitation Limit (PQL). PQLs are adjusted for sample weight/volume and dilution factors.

NEA
NORTHEAST ANALYTICAL LABS

CERTIFICATE OF ANALYSIS
01/25/2008
ARCADIS
6723 TOWPATH RD
BOX 66
SYRACUSE, NY 13214
CONTACT: JOHN BRUSSEL

MATRIX:	WATER	**PROJECT:**	B0036643.0000 TASK 00019
DATE RECEIVED:	01/24/2008 **TIME:** 13:40	**LOCATION:**	COHOES, NY
SAMPLED BY:	JEFTS/DOUGLAS	**LAB ELAP#:**	11078
CUSTOMER PO:	N/A	**NEA LRF:**	08010258

NEA ID	CUSTOMER ID	METHOD	DATE-TIME SAMPLED	RESULTS	PQL	FLAG	UNITS	DATE ANALYZED
Total Suspended Solids								
AL01625	SW-US-01242008	EPA 160.2	01/24/2008 12:20	5.60	2.00		mg/L	01/24/2008
AL01626	SW-DS-01242008	EPA 160.2	01/24/2008 12:30	2.40	2.00		mg/L	01/24/2008

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Quality Assurance Officer

Robert E. Wagner
Laboratory Director

2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

TOTAL SUSPENDED SOLIDS LOGBOOK

Start: Batch ID: 365 Date In Oven: 01/24/2008 Temp: 104 degree C Analyst: Christopher Appel

Finish: ERA Lot # 011808b6p64 Date Out Oven: 01/25/2008 Temp: 104 degree C Analyst: Christopher Appel

Prep ID	NEA Sample ID	Alt Sample ID	Matrix	Used	Time In Oven	Time Out Oven	Crucible #	Volume Used (mL)	Initial Wt (g)	Final Wt (g)	TSS Result (mg/L)	Spike Amount (ppm)	% Rec	RPD	Comments
6395	BLANK-90	AL01626B	L	☑	02:15	08:20	HA	1000	27.0538	27.0534	-0.4				
6396	LCS-90	AL01626L	L	☑	02:15	08:20	14	250	23.9970	24.0193	89.2	100	89.2		
6397	08010258-02DUP	AL01626D	L	☑	02:15	08:20	NMR	500	23.1565	23.1576	2.2			8.70	
6394	08010258-02	AL01626	L	☑	02:15	08:20	BLANK	500	23.1093	23.1105	2.4				
6393	08010258-01	AL01625	L	☑	02:15	08:20	23	500	27.8870	27.8898	5.6				

Note: LCS Recovery Limits: 85 - 115%.

Analyst Review: CA 1/25/08

QA Review: MK 1/25/08

PrintDate: 01/25/2008

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
08010258	1/24/2008	508/160.2	SW-US-01242008	Water	--	--	Yes	--	Yes	
08010258	1/24/2008	508/160.2	SW-DS-01242008	Water	--	--	Yes	--	Yes	
08010258	1/24/2008	508/160.2	SW-DS-01242008 DUP	Water	--	--	Yes	--	Yes	

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.