APPENDIX C

Data Quality Control Summary Report

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ACRONYMS AND ABBREVIATIONS

ADR	Automated Data Review
DoD	U.S. Department of Defense
DQA	Data Quality Assessment
FWCUG	Facility-wide Cleanup Goal
FWQAPP	Facility-wide Quality Assurance Project Plan
LCS	Laboratory Control Sample
LNWBG	Landfill North of Winklepeck Burning Grounds
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Ohio EPA	Ohio Environmental Protection Agency
PBA08	Performance-based Acquisition 2008
PBA08 SAP	Performance-based Acquisition 2008 Sampling and Analysis Plan Addendum No. 1
PCB	Polychlorinated Biphenyl
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
REIMS	Ravenna Environmental Information Management System
RI	Remedial Investigation
RPD	Relative Percent Difference
RVAAP	Ravenna Army Ammunition Plant
SVOC	Semi-volatile Organic Compound
TestAmerica	TestAmerica Laboratories, Inc.
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

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C.0 PROJECT QUALITY ASSURANCE SUMMARY

C.1 PURPOSE OF THIS REPORT

Environmental data must always be interpreted relative to its known limitations and its intended use. As can be expected in environmental media, there are areas and data points where the user needs to be cautioned relative to the quality of the project information presented. The data verification process and this data quality assessment (DQA) are performed to assist current and future data users in interpreting these data.

The purpose of this DQA report is to describe:

1. The quality control (QC) procedures followed to ensure data generated by Leidos during the remedial investigations (RIs) at Camp Ravenna meet project requirements,
2. The quality of the data collected, and
3. The problems encountered during the course of the study and their solutions.

A separate Chemical Data Usability Assessment has been completed by the U.S. Army Corps of Engineers (USACE) quality assurance (QA) representative (Attachment 1). This assessment discusses the overall data quality and usability of project data based on a review of this DQA and the findings of the third-party validator contracted by USACE. While there were some differences in the qualifiers assigned by Leidos and the third-party reviewer, the findings were deemed to be compatible.

This DQA report assesses the analytical information gathered during the implementation of the RI at the Landfill North of Winklepeck Burning Grounds (LNWBG). It documents the quality of the data utilized for the RI Report and assesses if QA/QC objectives were met. Evaluation of field and laboratory QC measures will constitute the majority of this assessment; however, references will also be directed toward those QA procedures that establish data credibility. The primary intent of this assessment is to illustrate that, except as noted, data generated for this investigation can withstand scientific scrutiny; are appropriate for their intended purpose; are technically defensible; and are of known and acceptable sensitivity, precision, and accuracy.

Multiple activities were performed to achieve the desired data quality for this project. As discussed in the RI Report, decisions were made during the initial scoping of the RI to define the quality and quantity of data required. Data quality objectives were established to guide the implementation of the field sampling and laboratory analysis [refer to the *Performance-based Acquisition 2008 Supplemental Investigation Sampling and Analysis Plan Addendum No. 1*, (USACE 2009), herein referred to as the PBA08 SAP]. A QA program was established to standardize procedures and document activities [refer to the *Facility-wide Quality Assurance Project Plan for Environmental Investigations*, herein referred to as FWQAPP (USACE 2001) and Part II of the PBA08 SAP]. This program provided a means to detect and correct any deficiencies in the process. Upon receipt by the project team, data were subjected to verification and validation review by an automated data review (ADR) process to identify and qualify problems related to the analysis. These review steps

contributed to this final DQA where data used in the investigation are identified as having met the criteria and are being utilized appropriately.

C.2 QUALITY ASSURANCE PROGRAM

The FWQAPP and Part II of the PBA08 SAP were developed to guide the RI for LNWBG. The purposes of these documents were to enumerate the quantity and type of samples to be taken to inspect the area of concern and define the quantity and type of QA/QC samples to be used to evaluate the quality of the data obtained. The FWQAPP established requirements for field and laboratory QC procedures. In general, field QC duplicates and QA split samples were required for each environmental sample matrix collected in the area being investigated; volatile organic compound (VOC) trip blanks were to accompany each cooler containing water samples for VOC determinations; and analytical laboratory QC duplicates, matrix spikes (MSs), laboratory control samples (LCSs), and method blanks were required for each preparation batch of 20 samples or less for each matrix and analyte.

A primary goal of the former RVAAP QA program was to ensure that the quality of results for all environmental measurements was appropriate for their intended use. To this end, the FWQAPP and standardized field procedures were compiled to guide the investigation. Through the process of readiness review, training, equipment calibration, QC implementation, and detailed documentation, the project has successfully accomplished the goals set for the QA program.

C.2.1 Monthly Progress Reports

Monthly progress reports were completed by the Leidos Project Manager for the duration of the project. The monthly progress reports contained the information on work completed, problems encountered, corrective actions/solutions, summary of findings, and upcoming work. These reports were issued to the USACE Louisville District Project Manager by e-mail with copies forwarded to the Ohio Environmental Protection Agency (Ohio EPA). Access to these reports can be obtained through the USACE Louisville District Project Manager.

C.2.2 Daily Activity Logs

The Field Team Leader completed daily activity logs. These include information such as, but not limited to, on-site sub-tier contractors, on-site equipment, work performed summaries, QC activities, health and safety activities, problems encountered, and corrective actions.

C.2.3 Laboratory "Definitive" Level Data Reporting

The Quality Assurance Project Plan (QAPP) for this project identified requirements for laboratory data reporting and identified TestAmerica Laboratories, Inc. (TestAmerica) of North Canton, Ohio (a subcontractor to White Water Associates Inc., Amasa, Michigan), as the laboratory for the project. During project execution, the TestAmerica facility in North Canton, Ohio, performed all of the

analyses, except explosives and propellants, which were performed at the TestAmerica facility in West Sacramento, California. Collected QA split samples were analyzed by USACE's contracted QA laboratory, RTI Laboratories, Inc., of Livonia, Michigan. TestAmerica and RTI Laboratories, Inc. are accredited by the U.S. Department of Defense (DoD). All analytical procedures were completed in accordance with applicable professional standards; U.S. Environmental Protection Agency (USEPA) requirements; government regulations and guidelines; the DoD Quality Systems Manual, Version 3; USACE Louisville District analytical QA guidelines; and specific project goals and requirements. USEPA "definitive" data have been reported and include the following basic information:

- Laboratory case narratives,
- Sample results (soil/sediment reported per dry weight),
- Laboratory method blank results,
- LCS results,
- Laboratory sample MS recoveries,
- Laboratory duplicate results,
- Surrogate recoveries [VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and explosives],
- Initial and continuing calibrations,
- Sample preparation dates, and
- Sample analysis dates.

This information from the laboratory, along with field information, provides the basis for subsequent data evaluation relative to sensitivity, precision, accuracy, representativeness, and completeness. These are presented in Section C.4.

C.3 DATA VERIFICATION

The objective when evaluating the project data quality is to determine its usability. The evaluation is based on the interpretation of laboratory QC measures, field QC measures, and project data quality objectives. This project implemented ADR software to facilitate laboratory data review. The ADR output was reviewed by the project-designated verification staff.

C.3.1 Field Data Verification

Field-generated documents such as sampling logs, boring logs, daily health and safety summaries, daily safety inspections, equipment calibration and maintenance logs, and sample management logs were peer-reviewed on site.

C.3.2 Laboratory Data Verification

Analytical data generated for this project have been subjected to a process of automated data verification and review. The following describes this systematic process and the evaluation activities performed. Several criteria have been established against which the data were compared and from

which a judgment was rendered regarding the acceptance and qualification of the data. Because it is beyond the scope of this report to cite those criteria, the reader is directed to the following documents for specific detail:

- PBA08 SAP (USACE 2009).
- DoD – Quality Systems Manual for Environmental Laboratories, Version 3, January, 2006.
- USACE Louisville District, *Louisville DoD Quality Systems Manual Supplement*, Version 1, March, 2007.
- USEPA – Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA-540/R-99/008, October, 1999.
- USEPA – Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540/R-94/013, February, 1994.
- Leidos Technical Support Contractor QA Technical Procedure (TP-DM-300-7), *Data Verification and Validation*.

Upon receiving field and analytical data, verification staff performed a systematic examination of the reports, including ADR software, to ensure the content, presentation, and administrative validity of 100% of the data. Discrepancies identified during this process were recorded and documented utilizing ADR. Any discrepancies were resolved prior to database flag entry. As part of data verification, standardized laboratory electronic data deliverables were subjected to review. This technical evaluation ensured that all contract-specified requirements had been met, and that electronic information conformed to reported hardcopy data. Outlier reports from the ADR software review are included as Attachment 2 to this appendix. QA Program Nonconformance Report and Corrective Action systems were implemented as required.

During the verification phase of the review and evaluation process, data were subjected to a systematic technical review by examining all field and analytical QC results and laboratory documentation following USEPA functional guidelines, DoD Quality Systems Manual criteria, and Leidos internal procedures for laboratory data review. These data review guidelines define the technical review criteria, methods for evaluating the criteria, and actions to be taken resulting from the review of these criteria. The primary objectives of this phase were to assess and summarize the quality and reliability of the data for the intended use and to document factors that may affect the usability of the data. This process did not include in-depth review of raw data instrument output or re-calculation of results from the primary instrument output. This data verification and analytical review process included, but was not necessarily limited to, the following parameters:

- Data completeness;
- Analytical holding times and sample preservation;
- Calibration (initial and continuing);
- Method blanks;
- Sample results verification;
- Surrogate recovery;
- LCS analysis;

- Internal standard performance;
- MS recovery;
- Duplicate analysis comparison;
- Reported detection limits;
- Compound, element, and isotope quantification;
- Reported detection levels;
- Method reporting levels; and
- Secondary dilutions.

As an end result of this phase of the review, the data were qualified based on the technical assessment of the verification criteria. Qualifiers were applied by the ADR to each field and analytical result to indicate the usability of the data for its intended purpose.

C.3.3 Definitions of Data Qualifiers (Flags)

During the data verification process, all laboratory data were assigned appropriate data qualification flags and reason codes. Qualification flags are defined as follows:

- "U" Indicates the analyte was analyzed for, but not detected above, the level of the associated value.
- "J" Indicates the analyte was positively identified; however, the associated numerical value is an approximate concentration of the analyte in the sample.
- "UJ" Indicates the analyte was analyzed for, but not detected above, the associated value; however, the reported value is an estimate and demonstrates a decreased knowledge of its accuracy or precision.
- "R" Indicates the analyte value reported is unusable. The integrity of the analyte's identification, accuracy, precision, or sensitivity has raised significant questions as to the reality of the information presented.

C.3.4 Data Acceptability

A total of 21 environmental sediment, soil, and surface water samples were collected with approximately 1,890 discrete analyses (i.e., analytes) being obtained, reviewed, and integrated into the assessment (these totals do not include field measurements and field descriptions). Under the direction of the PBA08 SAP and USACE Louisville District, the project successfully collected RI samples and produced acceptable results for 99.1% of the sample analyses performed. No sediment or soil data were rejected. Data that were rejected are relegated to 16 SVOC acid extractable non-detectable concentration levels in surface water sample LNWSW-086-5279-SW.

Table C-1 summarizes all targeted field QC and QA split samples collected during the investigation. Cross-references for duplicate and QA split sample pair numbers are presented on Table C-2 along with the requested parameters for each sample. Table C-3 summarizes the results rejected during review, Table C-4 summarizes the qualified analyses grouped by media and analyte category, and

Table C-5 shows the individual results qualified during review. The majority of the estimated values were based on values observed between the laboratory method detection limits (MDLs) and the project reporting levels (values determined in this region have an inherently higher variability and need to be considered estimated at best), exceeded holding times, MS recoveries, surrogate recoveries, continuing calibrations, and LCS recoveries.

For the PBA08 RI, one field duplicate was analyzed for LNWBG soil media. No sediment or surface water field duplicates were collected. One trip blank was collected and analyzed for this project. Two equipment rinsates and one deionized source water blank were collected for the entire field cycle. The potable water source was previously tested for use by Ohio EPA and USACE. Approval documentation is referenced under the Performance-based Acquisition 2008 (PBA08) Sharon Conglomerate Well Installation task. The project goal for blanks is to achieve concentrations less than the reporting levels. Table C-6 summarizes analytes that were detected in these blanks. The potable water blank (SCFqc-001-0001) showed detected concentrations for 12 metals and 8 miscellaneous general chemistry analytes. Of these, barium, calcium, iron, magnesium, manganese, nickel, potassium, sodium, and the general chemistry analytes exceeded their reporting limits. As noted, the results have been previously reviewed and accepted by Ohio EPA and USACE.

Toluene was the only analyte detected in the PBA08 field blank (PBA08-QC-6000-FB) and it was well below the laboratory reporting limit. The PBA08 RI equipment rinsate blanks (PBA08-QC-6001-ER and PBA08-QC-6002-ER) showed detections for eight metals, five SVOCs, and three VOCs. Of the metals, only manganese and nickel in one rinsate and zinc in both rinsates exceeded the reporting limit, but all except nickel were below two times the reporting limit. Only one VOC and one SVOC were detected slightly above the reporting limit. These analytes [acetone and bis(2-ethylhexyl)phthalate] are common laboratory contaminants. In general, the field blank and rinsate blank results indicate that the equipment decontamination procedure was effective and the potential for sample contamination due to ambient field conditions is very low.

Table C-1. Number of Samples Taken at the Landfill North of Winklepeck Burning Grounds

Media	Environmental Samples	Field Duplicates	USACE Split Samples	Trip Blanks	Equipment Rinse Blanks[a]	Source Water Blanks[b]
Sediment	4	0	0	0		
Soil	13	1	1	0	2	2
Surface Water	4	0	0	1	0	0

[a]Equipment rinse blanks were collected at a frequency of 2 per field cycle for the entire Performance-based Acquisition 2008 (PBA08) Remedial Investigation (RI) for the 17 areas of concern (AOCs) as presented in Section 4.6 of the PBA08 Sampling and Analysis Plan (PBA08 SAP).

[b]Source water blanks for deionized and potable water used during equipment decontamination were evaluated for the entire PBA08 RI for the 17 AOCs as presented in Section 4.6 of the PBA08 SAP.

USACE = U.S. Army Corps of Engineers.

Table C-2. Identification of Regular and QC Samples Taken at the Landfill North of Winklepeck Burning Grounds

Environmental Samples	Laboratory SDG	Field Duplicates	USACE Split Samples	Trip Blanks[a]	Metals	Explosives	SVOCs	Propellants[b]	VOCs	Pesticides	PCBs	PAHs	Hexavalent Chromium	Total Chromium
Sediment														
LNWSD-083-5272-SD	A0C310489	NS	NS	NS	X	X	X	X	X	X	X			
LNWSD-084-5273-SD	A0C310489	NS	NS	NS	X	X	X							
LNWSD-085-5274-SD	A0C310489	NS	NS	NS	X	X	X							
LNWSD-086-5275-SD	A0C310489	NS	NS	NS	X	X	X							
Soil														
LNWSS-070M-5280-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-071M-5281-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-072M-5282-SO	A0D020496	LNWSS-072M-6103-FD	LNWSS-072M-6102-QA	NS	X	X						X		
LNWSS-073M-5283-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-074M-5284-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-075M-5285-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-076M-5286-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-077M-5287-SO	A0D020496	NS	NS	NS	X	X	X	X	X	X	X			
LNWSS-078M-5288-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-079M-5289-SO	A0D020496	NS	NS	NS	X	X						X		
LNWSS-080-5290-SO	A0D020496	NS	NS	NS									X	X

Table C-2. Identification of Regular and QC Samples Taken at the Landfill North of Winklepeck Burning Grounds (continued)

Environmental Samples	Laboratory SDG	Field Duplicates	USACE Split Samples	Trip Blanks[a]	Metals	Explosives	SVOCs	Propellants[b]	VOCs	Pesticides	PCBs	PAHs	Hexavalent Chromium	Total Chromium
LNWSS-081-5291-SO	A0D020496	NS	NS	NS									X	X
LNWSS-082-5292-SO	A0D020496	NS	NS	NS									X	X
Surface Water														
LNWSW-083-5276-SW	A0C310489	NS	NS	PBA08-QC-6021-TB	X	X	X	X	X	X	X			
LNWSW-084-5277-SW	A0C310489	NS	NS	PBA08-QC-6021-TB	X	X	X	X	X	X	X			
LNWSW-085-5278-SW	A0C310489	NS	NS	PBA08-QC-6021-TB	X	X	X	X	X	X	X			
LNWSW-086-5279-SW	A0C310489	NS	NS	PBA08-QC-6021-TB	X	X	X	X	X	X	X			

Equipment rinse blanks were collected at a frequency of 2 per field cycle for the entire Performance-based Acquisition 2008 (PBA08) Remedial Investigation for the 17 areas of concern as presented in Section 4.6 of the PBA08 Sampling and Analysis Plan.

[a]Trip blanks only accompany samples for VOCs in water.

[b]Propellants include nitrocellulose and nitroguanidine.

NS = Not sampled.

PAH = Polycyclic aromatic hydrocarbon.

PCB = Polychlorinated biphenyl.

USACE = U.S. Army Corps of Engineers.

QC = Quality control.

SDG = Sample delivery group.

SVOC = Semi-volatile organic compound.

VOC = Volatile organic compound.

Table C-3. Results Rejected in Verification for Samples from the Landfill North of Winklepeck Burning Grounds

SDG	Sample ID	Station	Chemical	Results	Reporting Limit	Laboratory Qualifier	Validation Qualifier	Validation Code
Semi-volatile Organic Compounds (µg/L)								
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2,4,5-Trichlorophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2,4,6-Trichlorophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2,4-Dichlorophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2,4-Dimethylphenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2,4-Dinitrophenol	25	25	U	R	Surr-R, LCS-UJ
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2-Chlorophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2-Methylphenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	2-Nitrophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	3-Methylphenol/4-methylphenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	4,6-Dinitro-2-methylphenol	25	25	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	4-Chloro-3-methylphenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	4-Nitrophenol	25	25	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	Benzoic Acid	25	25	U	R	Surr-R, LCS-UJ
A0C310489	LNWSW-086-5279-SW	LNWsw-086	Benzenemethanol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	Pentachlorophenol	10	10	U	R	Surr-R
A0C310489	LNWSW-086-5279-SW	LNWsw-086	Phenol	10	10	U	R	Surr-R

Data Qualifiers: R = Rejected, U = Not detected, and UJ = Not detected and reporting limit estimated
Validation Reason Codes: LCS = Laboratory Control Sample and Surr = Surrogate recovery.
ID = Identification.
µg/L = Micrograms per liter.
SDG = Sample Delivery Group.

Table C-4. Summary of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds

Analysis Group	Validation Qualifier[a]	Validation Reason Code[b]	Number Qualified	Total Number of Analyses	Percent Qualified
Sediment					
All Analyses	J	--	58	485	12
	UJ	--	4	485	0.82
	None	--	423	485	87
Metals	J	MS-J	12	92	13
	J	MS-J, RepLimit-J	3	92	3.3
	J	ProJudge-J	4	92	4.3
	J	RepLimit-J	13	92	14
	UJ	MS-UJ	1	92	1.1
	UJ	RepLimit-J, CalBlk-U	1	92	1.1
	None	None	58	92	63
Explosives	J	RepLimit-J	1	64	1.6
	None	None	63	64	98
Propellants	None	None	2	2	100
SVOCs	J	RepLimit-J	24	264	9.1
	None	None	240	264	91
Pesticides	None	None	21	21	100
PCBs	None	None	7	7	100
VOCs	J	RepLimit-J	1	35	2.9
	UJ	MB-U, RepLimit-J	2	35	5.7
	None	None	32	35	91
Soil					
All Analyses	J	--	115	726	16
	UJ	--	84	726	12
	None	--	527	726	73

Table C-4. Summary of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Analysis Group	Validation Qualifier[a]	Validation Reason Code[b]	Number Qualified	Total Number of Analyses	Percent Qualified
	J	LCS-J	11	256	4.3
	J	MS-J	11	256	4.3
	J	MS-J, RepLimit-J	11	256	4.3
	J	ProJudge-J	22	256	8.6
	J	RepLimit-J	40	256	16
	UJ	RepLimit-J, CalBlk-U	8	256	3.1
Metals	None	None	153	256	60
	J	RepLimit-J	1	3	33
Hexavalent Chromium	None	None	2	3	67
	J	RepLimit-J	2	176	1.1
Explosives	None	None	174	176	99
Propellants	J	RepLimit-J	2	2	100
	None	None	165	226	73
	J	HT-J, RepLimit-J	15	226	6.6
SVOCs	UJ	HT-UJ	46	226	20
	UJ	HT-J, CCV-UJ	1	21	4.8
	UJ	HT-J, MS-J, CCV-UJ	1	21	4.8
	UJ	HT-UJ	3	21	14
Pesticides	UJ	HT-UJ, CCV-UJ	16	21	76
PCBs	UJ	Surr-UJ	7	7	100
	UJ	CCV-UJ	1	35	2.9
	UJ	MB-U, RepLimit-J	1	35	2.9
VOCs	None	None	33	35	94
Surface Water					
	R	--	16	680	2.4
	J	--	40	680	5.9
	UJ	--	48	680	7.1
All Analyses	None	--	576	680	85

Table C-4. Summary of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Analysis Group	Validation Qualifier[a]	Validation Reason Code[b]	Number Qualified	Total Number of Analyses	Percent Qualified
Metals	J	RepLimit-J	32	92	35
	None	None	60	92	65
Explosives	None	None	64	64	100
Propellants	J	RepLimit-J	1	8	13
	None	None	7	8	88
SVOCs	R	Surr-R	14	264	5.3
	R	Surr-R, LCS-UJ	2	264	0.76
	J	RepLimit-J	3	264	1.1
	UJ	LCS-UJ	6	264	2.3
	None	None	239	264	91
Pesticides	UJ	Surr-UJ	21	84	25
	None	None	63	84	75
PCBs	UJ	Surr-UJ	21	28	75
	None	None	7	28	25
VOCs	J	RepLimit-J	4	140	2.9
	None	None	136	140	97

[a]Validation Qualifiers: J = Estimated, U = Not detected, UJ = Not detected and reporting limit estimated, and R = Rejected.
[b]Validation Reason Codes: CalBlk = Calibration Blank, CCV = Continuing Calibration Verification, HT = Holding Time, LCS = Laboratory Control Sample, MB = Method Blank, MS = Matrix Spike, ProJudge = Professional Judgment, RptLimit = Reporting Limit, and Surr = Surrogate recovery.
PCB = Polychlorinated biphenyl.
SVOC = Semi-volatile organic compound.
VOC = Volatile organic compound.

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Metals							
Sediment (mg/kg)							
Antimony	A0C310489	LNWSD-083-5272-SD	0.090	0.70	J	J	MS-J, RepLimit-J
Antimony	A0C310489	LNWSD-084-5273-SD	0.24	1.0	J	J	MS-J, RepLimit-J
Antimony	A0C310489	LNWSD-085-5274-SD	0.61	0.61	U	UJ	MS-UJ
Antimony	A0C310489	LNWSD-086-5275-SD	0.20	0.87	J	J	MS-J, RepLimit-J
Cadmium	A0C310489	LNWSD-085-5274-SD	0.11	0.25	J	J	RepLimit-J
Copper	A0C310489	LNWSD-083-5272-SD	14.9	0.70	--	J	ProJudge-J
Copper	A0C310489	LNWSD-084-5273-SD	20.2	1.0	--	J	ProJudge-J
Copper	A0C310489	LNWSD-085-5274-SD	11.4	0.61	--	J	ProJudge-J
Copper	A0C310489	LNWSD-086-5275-SD	14.7	0.87	--	J	ProJudge-J
Lead	A0C310489	LNWSD-083-5272-SD	16.4	0.42	--	J	MS-J
Lead	A0C310489	LNWSD-084-5273-SD	30.0	0.62	--	J	MS-J
Lead	A0C310489	LNWSD-085-5274-SD	9.4	0.37	--	J	MS-J
Lead	A0C310489	LNWSD-086-5275-SD	24.1	0.52	--	J	MS-J
Magnesium	A0C310489	LNWSD-083-5272-SD	2,670	140	--	J	MS-J
Magnesium	A0C310489	LNWSD-084-5273-SD	2,460	208	--	J	MS-J
Magnesium	A0C310489	LNWSD-085-5274-SD	1,560	123	--	J	MS-J
Magnesium	A0C310489	LNWSD-086-5275-SD	2,300	173	--	J	MS-J
Mercury	A0C310489	LNWSD-086-5275-SD	0.047	0.17	J	J	RepLimit-J
Nickel	A0C310489	LNWSD-083-5272-SD	19.3	1.4	--	J	MS-J
Nickel	A0C310489	LNWSD-084-5273-SD	20.6	2.1	--	J	MS-J
Nickel	A0C310489	LNWSD-085-5274-SD	22.1	1.2	--	J	MS-J
Nickel	A0C310489	LNWSD-086-5275-SD	17.6	1.7	--	J	MS-J
Silver	A0C310489	LNWSD-083-5272-SD	0.038	0.70	J	J	RepLimit-J
Silver	A0C310489	LNWSD-084-5273-SD	0.041	1.0	J	J	RepLimit-J
Silver	A0C310489	LNWSD-085-5274-SD	0.018	0.61	J	UJ	RepLimit-J, CalBlk-U

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Silver	A0C310489	LNWSD-086-5275-SD	0.040	0.87	J	J	RepLimit-J
Sodium	A0C310489	LNWSD-083-5272-SD	45.6	140	J	J	RepLimit-J
Sodium	A0C310489	LNWSD-084-5273-SD	54.4	208	J	J	RepLimit-J
Sodium	A0C310489	LNWSD-085-5274-SD	48.2	123	J	J	RepLimit-J
Sodium	A0C310489	LNWSD-086-5275-SD	45.7	173	J	J	RepLimit-J
Thallium	A0C310489	LNWSD-083-5272-SD	0.16	0.28	J	J	RepLimit-J
Thallium	A0C310489	LNWSD-084-5273-SD	0.19	0.42	J	J	RepLimit-J
Thallium	A0C310489	LNWSD-085-5274-SD	0.096	0.25	J	J	RepLimit-J
Thallium	A0C310489	LNWSD-086-5275-SD	0.19	0.35	J	J	RepLimit-J
Soil (mg/kg)							
Aluminum	A0D020496	LNWSS-070M-5280-SO	9,670	10.2	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-071M-5281-SO	9,050	10.2	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-072M-5282-SO	7,640	10.2	E	J	ProJudge-J
Aluminum	A0D020496	LNWSS-072M-6103-FD	8,900	10.2	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-073M-5283-SO	10,200	102	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-074M-5284-SO	11,700	102	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-075M-5285-SO	7,930	101	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-076M-5286-SO	6,660	101	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-077M-5287-SO	7,230	102	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-078M-5288-SO	9,590	102	--	J	ProJudge-J
Aluminum	A0D020496	LNWSS-079M-5289-SO	10,100	102	--	J	ProJudge-J
Antimony	A0D020496	LNWSS-070M-5280-SO	0.14	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-071M-5281-SO	0.44	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-072M-5282-SO	0.25	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-072M-6103-FD	0.30	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-073M-5283-SO	0.11	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-074M-5284-SO	0.14	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-075M-5285-SO	0.19	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-076M-5286-SO	0.11	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-077M-5287-SO	0.11	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-078M-5288-SO	0.18	0.51	J	J	MS-J, RepLimit-J
Antimony	A0D020496	LNWSS-079M-5289-SO	0.13	0.51	J	J	MS-J, RepLimit-J
Cadmium	A0D020496	LNWSS-073M-5283-SO	0.12	0.20	J	J	RepLimit-J
Cadmium	A0D020496	LNWSS-074M-5284-SO	0.15	0.20	J	J	RepLimit-J
Cadmium	A0D020496	LNWSS-076M-5286-SO	0.12	0.20	J	J	RepLimit-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Cadmium	A0D020496	LNWSS-078M-5288-SO	0.16	0.20	J	J	RepLimit-J
Cadmium	A0D020496	LNWSS-079M-5289-SO	0.17	0.20	J	J	RepLimit-J
Chromium	A0D020496	LNWSS-070M-5280-SO	18.2	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-071M-5281-SO	19.2	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-072M-5282-SO	21.1	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-072M-6103-FD	19.7	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-073M-5283-SO	15.3	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-074M-5284-SO	17.8	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-075M-5285-SO	13.0	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-076M-5286-SO	13.8	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-077M-5287-SO	16.9	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-078M-5288-SO	14.2	0.51	--	J	MS-J
Chromium	A0D020496	LNWSS-079M-5289-SO	16.0	0.51	--	J	MS-J
Copper	A0D020496	LNWSS-070M-5280-SO	15.5	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-071M-5281-SO	13.4	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-072M-5282-SO	23.1	0.51	E	J	ProJudge-J
Copper	A0D020496	LNWSS-072M-6103-FD	24.4	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-073M-5283-SO	12.2	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-074M-5284-SO	16.7	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-075M-5285-SO	20.5	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-076M-5286-SO	15.2	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-077M-5287-SO	10.3	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-078M-5288-SO	11.3	0.51	--	J	ProJudge-J
Copper	A0D020496	LNWSS-079M-5289-SO	9.7	0.51	--	J	ProJudge-J
Mercury	A0D020496	LNWSS-070M-5280-SO	0.046	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-071M-5281-SO	0.040	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-072M-5282-SO	0.036	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-072M-6103-FD	0.055	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-073M-5283-SO	0.034	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-074M-5284-SO	0.025	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-075M-5285-SO	0.018	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-077M-5287-SO	0.026	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-078M-5288-SO	0.041	0.10	J	J	RepLimit-J
Mercury	A0D020496	LNWSS-079M-5289-SO	0.047	0.10	J	J	RepLimit-J
Selenium	A0D020496	LNWSS-070M-5280-SO	0.87	0.51	--	J	LCS-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Selenium	A0D020496	LNWSS-071M-5281-SO	0.85	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-072M-5282-SO	0.86	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-072M-6103-FD	0.99	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-073M-5283-SO	0.74	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-074M-5284-SO	0.94	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-075M-5285-SO	0.81	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-076M-5286-SO	0.69	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-077M-5287-SO	0.70	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-078M-5288-SO	0.83	0.51	--	J	LCS-J
Selenium	A0D020496	LNWSS-079M-5289-SO	0.89	0.51	--	J	LCS-J
Silver	A0D020496	LNWSS-070M-5280-SO	0.028	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-071M-5281-SO	0.058	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-072M-5282-SO	0.18	0.51	J	J	RepLimit-J
Silver	A0D020496	LNWSS-072M-6103-FD	0.23	0.51	J	J	RepLimit-J
Silver	A0D020496	LNWSS-073M-5283-SO	0.032	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-074M-5284-SO	0.036	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-075M-5285-SO	0.13	0.51	J	J	RepLimit-J
Silver	A0D020496	LNWSS-076M-5286-SO	0.027	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-077M-5287-SO	0.028	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-078M-5288-SO	0.037	0.51	J	UJ	RepLimit-J, CalBlk-U
Silver	A0D020496	LNWSS-079M-5289-SO	0.042	0.51	J	UJ	RepLimit-J, CalBlk-U
Sodium	A0D020496	LNWSS-070M-5280-SO	50.5	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-071M-5281-SO	40.4	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-072M-5282-SO	41.0	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-072M-6103-FD	48.4	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-073M-5283-SO	35.3	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-074M-5284-SO	68.4	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-075M-5285-SO	39.8	101	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-076M-5286-SO	30.0	101	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-077M-5287-SO	32.1	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-078M-5288-SO	42.8	102	J	J	RepLimit-J
Sodium	A0D020496	LNWSS-079M-5289-SO	33.3	102	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-070M-5280-SO	0.13	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-071M-5281-SO	0.16	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-072M-5282-SO	0.12	0.20	J	J	RepLimit-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Thallium	A0D020496	LNWSS-072M-6103-FD	0.14	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-073M-5283-SO	0.16	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-074M-5284-SO	0.16	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-075M-5285-SO	0.12	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-076M-5286-SO	0.11	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-077M-5287-SO	0.12	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-078M-5288-SO	0.13	0.20	J	J	RepLimit-J
Thallium	A0D020496	LNWSS-079M-5289-SO	0.15	0.20	J	J	RepLimit-J
Surface Water (µg/L)							
Antimony	A0C310489	LNWSW-084-5277-SW	0.23	5.0	J	J	RepLimit-J
Arsenic	A0C310489	LNWSW-083-5276-SW	0.81	5.0	J	J	RepLimit-J
Arsenic	A0C310489	LNWSW-084-5277-SW	0.91	5.0	J	J	RepLimit-J
Arsenic	A0C310489	LNWSW-085-5278-SW	1.0	5.0	J	J	RepLimit-J
Arsenic	A0C310489	LNWSW-086-5279-SW	1.9	5.0	J	J	RepLimit-J
Cadmium	A0C310489	LNWSW-084-5277-SW	0.043	2.0	J	J	RepLimit-J
Cadmium	A0C310489	LNWSW-086-5279-SW	0.057	2.0	J	J	RepLimit-J
Chromium	A0C310489	LNWSW-084-5277-SW	0.67	5.0	J	J	RepLimit-J
Chromium	A0C310489	LNWSW-085-5278-SW	3.1	5.0	J	J	RepLimit-J
Chromium	A0C310489	LNWSW-086-5279-SW	0.77	5.0	J	J	RepLimit-J
Cobalt	A0C310489	LNWSW-083-5276-SW	0.19	5.0	J	J	RepLimit-J
Cobalt	A0C310489	LNWSW-084-5277-SW	0.23	5.0	J	J	RepLimit-J
Cobalt	A0C310489	LNWSW-085-5278-SW	0.25	5.0	J	J	RepLimit-J
Cobalt	A0C310489	LNWSW-086-5279-SW	1.3	5.0	J	J	RepLimit-J
Copper	A0C310489	LNWSW-084-5277-SW	1.5	5.0	J	J	RepLimit-J
Copper	A0C310489	LNWSW-085-5278-SW	1.4	5.0	J	J	RepLimit-J
Copper	A0C310489	LNWSW-086-5279-SW	1.4	5.0	J	J	RepLimit-J
Lead	A0C310489	LNWSW-083-5276-SW	0.42	3.0	J	J	RepLimit-J
Lead	A0C310489	LNWSW-084-5277-SW	0.52	3.0	J	J	RepLimit-J
Lead	A0C310489	LNWSW-085-5278-SW	0.59	3.0	J	J	RepLimit-J
Lead	A0C310489	LNWSW-086-5279-SW	1.0	3.0	J	J	RepLimit-J
Nickel	A0C310489	LNWSW-083-5276-SW	1.2	10.0	J	J	RepLimit-J
Nickel	A0C310489	LNWSW-084-5277-SW	1.1	10.0	J	J	RepLimit-J
Nickel	A0C310489	LNWSW-085-5278-SW	2.0	10.0	J	J	RepLimit-J
Nickel	A0C310489	LNWSW-086-5279-SW	1.1	10.0	J	J	RepLimit-J
Selenium	A0C310489	LNWSW-086-5279-SW	0.20	5.0	J	J	RepLimit-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Silver	A0C310489	LNWSW-084-5277-SW	0.028	5.0	J	J	RepLimit-J
Thallium	A0C310489	LNWSW-084-5277-SW	0.38	2.0	J	J	RepLimit-J
Vanadium	A0C310489	LNWSW-083-5276-SW	0.86	10.0	J	J	RepLimit-J
Vanadium	A0C310489	LNWSW-084-5277-SW	0.93	10.0	J	J	RepLimit-J
Vanadium	A0C310489	LNWSW-085-5278-SW	1.2	10.0	J	J	RepLimit-J
Vanadium	A0C310489	LNWSW-086-5279-SW	1.2	10.0	J	J	RepLimit-J
Hexavalent Chromium							
Soil (mg/kg)							
Chromium, hexavalent	A0D020496	LNWSS-082-5292-SO	0.92	1.1	J	J	RepLimit-J
Explosives							
Sediment (mg/kg)							
1,3,5-Trinitrobenzene	A0C310489	LNWSD-086-5275-SD	0.023	0.25	J PG	J	RepLimit-J
Soil (mg/kg)							
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	A0D020496	LNWSS-079M-5289-SO	0.016	0.25	J PG	J	RepLimit-J
Nitroglycerin	A0D020496	LNWSS-073M-5283-SO	0.14	0.50	J PG	J	RepLimit-J
Propellants							
Soil (mg/kg)							
Nitrocellulose	A0D020496	LNWSS-077M-5287-SO	0.81	5.1	B	J	RepLimit-J
Nitroguanidine	A0D020496	LNWSS-077M-5287-SO	0.11	0.25	J	J	RepLimit-J
Surface Water (mg/L)							
Nitrocellulose	A0C310489	LNWSW-086-5279-SW	0.13	0.50	B	J	RepLimit-J
PAHs							
Sediment (µg/kg)							
Acenaphthylene	A0C310489	LNWSD-083-5272-SD	15	70	J	J	RepLimit-J
Benz(*a*)anthracene	A0C310489	LNWSD-083-5272-SD	37	70	J	J	RepLimit-J
Benz(*a*)anthracene	A0C310489	LNWSD-084-5273-SD	14	100	J	J	RepLimit-J
Benzo(*a*)pyrene	A0C310489	LNWSD-083-5272-SD	44	70	J	J	RepLimit-J
Benzo(*a*)pyrene	A0C310489	LNWSD-084-5273-SD	14	100	J	J	RepLimit-J
Benzo(*a*)pyrene	A0C310489	LNWSD-085-5274-SD	15	61	J	J	RepLimit-J
Benzo(*b*)fluoranthene	A0C310489	LNWSD-085-5274-SD	39	61	J	J	RepLimit-J
Benzo(*ghi*)perylene	A0C310489	LNWSD-083-5272-SD	30	70	J	J	RepLimit-J
Benzo(*ghi*)perylene	A0C310489	LNWSD-085-5274-SD	29	61	J	J	RepLimit-J
Benzo(*k*)fluoranthene	A0C310489	LNWSD-083-5272-SD	38	70	J	J	RepLimit-J
Chrysene	A0C310489	LNWSD-083-5272-SD	49	70	J	J	RepLimit-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Chrysene	A0C310489	LNWSD-084-5273-SD	16	100	J	J	RepLimit-J
Fluoranthene	A0C310489	LNWSD-083-5272-SD	66	70	J	J	RepLimit-J
Fluoranthene	A0C310489	LNWSD-084-5273-SD	25	100	J	J	RepLimit-J
Fluoranthene	A0C310489	LNWSD-085-5274-SD	17	61	J	J	RepLimit-J
Fluoranthene	A0C310489	LNWSD-086-5275-SD	12	87	J	J	RepLimit-J
Fluorene	A0C310489	LNWSD-085-5274-SD	16	61	J	J	RepLimit-J
Indeno(1,2,3-*cd*)pyrene	A0C310489	LNWSD-083-5272-SD	29	70	J	J	RepLimit-J
Phenanthrene	A0C310489	LNWSD-083-5272-SD	16	70	J	J	RepLimit-J
Pyrene	A0C310489	LNWSD-083-5272-SD	52	70	J	J	RepLimit-J
Pyrene	A0C310489	LNWSD-084-5273-SD	19	100	J	J	RepLimit-J
Pyrene	A0C310489	LNWSD-085-5274-SD	27	61	J	J	RepLimit-J
Soil (µg/kg)							
Benz(*a*)anthracene	A0D020496	LNWSS-077M-5287-SO	11	51	J	J	RepLimit-J
Benzo(*a*)pyrene	A0D020496	LNWSS-077M-5287-SO	11	51	J	J	RepLimit-J
Benzo(*b*)fluoranthene	A0D020496	LNWSS-077M-5287-SO	22	51	J	J	RepLimit-J
Benzo(*ghi*)perylene	A0D020496	LNWSS-077M-5287-SO	9.8	51	J	J	RepLimit-J
Benzo(*k*)fluoranthene	A0D020496	LNWSS-077M-5287-SO	7.7	51	J	J	RepLimit-J
Chrysene	A0D020496	LNWSS-077M-5287-SO	12	51	J	J	RepLimit-J
Fluoranthene	A0D020496	LNWSS-077M-5287-SO	20	51	J	J	RepLimit-J
Indeno(1,2,3-*cd*)pyrene	A0D020496	LNWSS-077M-5287-SO	9.0	51	J	J	RepLimit-J
Naphthalene	A0D020496	LNWSS-077M-5287-SO	9.1	51	J	J	RepLimit-J
Phenanthrene	A0D020496	LNWSS-077M-5287-SO	19	51	J	J	RepLimit-J
Pyrene	A0D020496	LNWSS-077M-5287-SO	17	51	J	J	RepLimit-J
SVOCs							
Sediment (µg/kg)							
2-Methylnaphthalene	A0C310489	LNWSD-085-5274-SD	150	400	J	J	RepLimit-J
Bis(2-ethylhexyl) phthalate	A0C310489	LNWSD-083-5272-SD	420	460	J	J	RepLimit-J
Soil (µg/kg)							
1,2,4-Trichlorobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
1,2-Dichlorobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
1,3-Dichlorobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
1,4-Dichlorobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2,4,5-Trichlorophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2,4,6-Trichlorophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2,4-Dichlorophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
2,4-Dimethylphenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2,4-Dinitrophenol	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
2,4-Dinitrotoluene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2,6-Dinitrotoluene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2-Chloronaphthalene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2-Chlorophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2-Methylnaphthalene	A0D020496	LNWSS-077M-5287-SO	10	340	J	J	HT-J, RepLimit-J
2-Methylphenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
2-Nitroaniline	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
2-Nitrophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
3,3'-Dichlorobenzidine	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
3-Nitroaniline	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
3-Methylphenol/4-methylphenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
4,6-Dinitro-2-methylphenol	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
4-Bromophenyl phenyl ether	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
4-Chloro-3-methylphenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
4-Chloroaniline	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
4-Chlorophenyl phenyl ether	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
4-Nitroaniline	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
4-Nitrophenol	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
Benzoic Acid	A0D020496	LNWSS-077M-5287-SO	810	810	U	UJ	HT-UJ
Benzenemethanol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Bis(2-chloroisopropyl) ether	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Butyl benzyl phthalate	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Carbazole	A0D020496	LNWSS-077M-5287-SO	51	51	U	UJ	HT-UJ
Di-n-butyl phthalate	A0D020496	LNWSS-077M-5287-SO	32	340	J	J	HT-J, RepLimit-J
Di-n-octyl phthalate	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Dibenzofuran	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Diethyl phthalate	A0D020496	LNWSS-077M-5287-SO	22	340	J	J	HT-J, RepLimit-J
Dimethyl phthalate	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Hexachlorocyclopentadiene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Hexachlorobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Hexachlorobutadiene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Hexachloroethane	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Isophorone	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
N-Nitrosodi-n-propylamine	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
N-Nitrosodiphenylamine	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Nitrobenzene	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Pentachlorophenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Phenol	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Bis(2-chloroethoxy)methane	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Bis(2-chloroethyl) ether	A0D020496	LNWSS-077M-5287-SO	340	340	U	UJ	HT-UJ
Bis(2-ethylhexyl) phthalate	A0D020496	LNWSS-077M-5287-SO	23	340	J	J	HT-J, RepLimit-J
Surface Water (µg/L)							
2,4,5-Trichlorophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2,4,6-Trichlorophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2,4-Dichlorophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2,4-Dimethylphenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2,4-Dinitrophenol	A0C310489	LNWSW-083-5276-SW	25	25	U	UJ	LCS-UJ
2,4-Dinitrophenol	A0C310489	LNWSW-084-5277-SW	25	25	U	UJ	LCS-UJ
2,4-Dinitrophenol	A0C310489	LNWSW-085-5278-SW	25	25	U	UJ	LCS-UJ
2,4-Dinitrophenol	A0C310489	LNWSW-086-5279-SW	25	25	U	R	Surr-R, LCS-UJ
2-Chlorophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2-Methylphenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
2-Nitrophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
3-Methylphenol/4-methylphenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
4,6-Dinitro-2-methylphenol	A0C310489	LNWSW-086-5279-SW	25	25	U	R	Surr-R
4-Chloro-3-methylphenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
4-Nitrophenol	A0C310489	LNWSW-086-5279-SW	25	25	U	R	Surr-R
Benzoic Acid	A0C310489	LNWSW-083-5276-SW	25	25	U	UJ	LCS-UJ
Benzoic Acid	A0C310489	LNWSW-084-5277-SW	25	25	U	UJ	LCS-UJ
Benzoic Acid	A0C310489	LNWSW-085-5278-SW	25	25	U	UJ	LCS-UJ
Benzoic Acid	A0C310489	LNWSW-086-5279-SW	25	25	U	R	Surr-R, LCS-UJ
Benzenemethanol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
Pentachlorophenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
Phenol	A0C310489	LNWSW-086-5279-SW	10	10	U	R	Surr-R
Bis(2-ethylhexyl) phthalate	A0C310489	LNWSW-083-5276-SW	0.90	10	J	J	RepLimit-J
Bis(2-ethylhexyl) phthalate	A0C310489	LNWSW-085-5278-SW	5.0	10	J	J	RepLimit-J

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Bis(2-ethylhexyl) phthalate	A0C310489	LNWSW-086-5279-SW	4.8	10	J	J	RepLimit-J
Pesticides							
Soil (µg/kg)							
4,4'-DDD	A0D020496	LNWSS-077M-5287-SO	2.0	2.0	U	UJ	HT-UJ, CCV-UJ
4,4'-DDE	A0D020496	LNWSS-077M-5287-SO	1.7	1.7	U	UJ	HT-UJ, CCV-UJ
4,4'-DDT	A0D020496	LNWSS-077M-5287-SO	2.0	2.0	U	UJ	HT-UJ, CCV-UJ
Aldrin	A0D020496	LNWSS-077M-5287-SO	4.1	4.1	U	UJ	HT-UJ, CCV-UJ
Dieldrin	A0D020496	LNWSS-077M-5287-SO	1.7	1.7	U	UJ	HT-UJ, CCV-UJ
Endosulfan I	A0D020496	LNWSS-077M-5287-SO	1.7	1.7	U	UJ	HT-UJ, CCV-UJ
Endosulfan II	A0D020496	LNWSS-077M-5287-SO	2.5	2.5	U	UJ	HT-UJ, CCV-UJ
Endosulfan Sulfate	A0D020496	LNWSS-077M-5287-SO	3.1	3.1	U	UJ	HT-UJ
Endrin	A0D020496	LNWSS-077M-5287-SO	1.7	1.7	U	UJ	HT-UJ, CCV-UJ
Endrin Aldehyde	A0D020496	LNWSS-077M-5287-SO	3.1	3.1	U	UJ	HT-UJ, CCV-UJ
Endrin Ketone	A0D020496	LNWSS-077M-5287-SO	2.0	2.0	U	UJ	HT-UJ
Heptachlor	A0D020496	LNWSS-077M-5287-SO	3.6	3.6	U	UJ	HT-UJ, CCV-UJ
Heptachlor Epoxide	A0D020496	LNWSS-077M-5287-SO	2.5	2.5	U	UJ	HT-UJ, CCV-UJ
Methoxychlor	A0D020496	LNWSS-077M-5287-SO	5.1	5.1	U	UJ	HT-UJ, CCV-UJ
Toxaphene	A0D020496	LNWSS-077M-5287-SO	68	68	U	UJ	HT-UJ
alpha-BHC	A0D020496	LNWSS-077M-5287-SO	2.5	2.5	U	UJ	HT-UJ, CCV-UJ
alpha-Chlordane	A0D020496	LNWSS-077M-5287-SO	5.3	3.1	U	UJ	HT-J, MS-J, CCV-UJ
beta-BHC	A0D020496	LNWSS-077M-5287-SO	4.1	3.6	PG	UJ	HT-J, CCV-UJ
delta-BHC	A0D020496	LNWSS-077M-5287-SO	4.1	4.1	U	UJ	HT-UJ, CCV-UJ
gamma-BHC (Lindane)	A0D020496	LNWSS-077M-5287-SO	2.5	2.5	U	UJ	HT-UJ, CCV-UJ
gamma-Chlordane	A0D020496	LNWSS-077M-5287-SO	1.7	1.7	U	UJ	HT-UJ, CCV-UJ
Surface Water (µg/L)							
4,4'-DDD	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
4,4'-DDE	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
4,4'-DDT	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Aldrin	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Dieldrin	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Endosulfan I	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Endosulfan II	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Endosulfan Sulfate	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Endrin	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Endrin Aldehyde	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Endrin Ketone	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Heptachlor	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Heptachlor Epoxide	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
Methoxychlor	A0C310489	LNWSW-084-5277-SW	0.10	0.10	U	UJ	Surr-UJ
Toxaphene	A0C310489	LNWSW-084-5277-SW	2.0	2.0	U	UJ	Surr-UJ
alpha-BHC	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
alpha-Chlordane	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
beta-BHC	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
delta-BHC	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
gamma-BHC (lindane)	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
gamma-Chlordane	A0C310489	LNWSW-084-5277-SW	0.050	0.050	U	UJ	Surr-UJ
PCBs							
Soil (µg/kg)							
Aroclor 1016	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1221	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1232	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1242	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1248	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1254	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Aroclor 1260	A0D020496	LNWSS-077M-5287-SO	34	34	U	UJ	Surr-UJ
Surface Water (µg/L)							
Aroclor 1016	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1016	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1016	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1221	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1221	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1221	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1232	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1232	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1232	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1242	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1242	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1242	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1248	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1248	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ

Table C-5. Detailed Listing of Qualified Results for Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Chemical	SDG	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Aroclor 1248	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1254	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1254	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1254	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1260	A0C310489	LNWSW-083-5276-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1260	A0C310489	LNWSW-084-5277-SW	0.50	0.50	U	UJ	Surr-UJ
Aroclor 1260	A0C310489	LNWSW-086-5279-SW	0.50	0.50	U	UJ	Surr-UJ
VOCs							
Sediment (µg/kg)							
2-Butanone (MEK)	A0C310489	LNWSD-083-5272-SD	5.4	28	J	J	RepLimit-J
Acetone	A0C310489	LNWSD-083-5272-SD	28	28	J B	UJ	MB-U, RepLimit-J
Methylene Chloride	A0C310489	LNWSD-083-5272-SD	7.0	7.0	J B	UJ	MB-U, RepLimit-J
Soil (µg/kg)							
Carbon Tetrachloride	A0D020496	LNWSS-077M-5287-SO	6.4	6.4	U	UJ	CCV-UJ
Methylene Chloride	A0D020496	LNWSS-077M-5287-SO	6.4	6.4	J B	UJ	MB-U, RepLimit-J
Surface Water (µg/L)							
Acetone	A0C310489	LNWSW-083-5276-SW	2.7	10	J	J	RepLimit-J
Acetone	A0C310489	LNWSW-084-5277-SW	1.6	10	J	J	RepLimit-J
Acetone	A0C310489	LNWSW-085-5278-SW	1.7	10	J	J	RepLimit-J
Acetone	A0C310489	LNWSW-086-5279-SW	2.1	10	J	J	RepLimit-J

[a]Laboratory Qualifiers: B = Analyte was detected in the associated blank as well as the sample, E = Inorganic result estimated because of the presence of interference, J = Estimated because result is between the method detection limit and the reporting level, PG = More than 40% difference between primary and confirmation analysis, and U = Not detected.

[b]Validation Qualifiers: J = Estimated, R = Rejected, U = Not detected, and UJ = Not detected and reporting limit estimated.

[c]Validation Reason Codes: CalBlk = Calibration Blank, CCV = Continuing Calibration Verification, HT = Holding Time, LCS = Laboratory Control Sample, MB = Method Blank, MS = Matrix Spike, ProJudge = Professional Judgment, RptLimit = Reporting Limit, and Surr = Surrogate recovery.

BHC = Hexachlorocyclohexane.
DDD = Dichlorodiphenyldichloroethane.
DDE = Dichlorodiphenyldichloroethylene.
DDT = Dichlorodiphenyltrichloroethane.
ID = Identification.
µg/kg = Micrograms per kilogram.
µg/L = Micrograms per liter.
mg/kg = Milligram per kilogram.
PAH = Polycyclic aromatic hydrocarbon.
PCB = Polychlorinated biphenyl.
SDG = Sample delivery group.
SVOC = Semi-volatile organic compound.
VOC = Volatile organic compound.

Table C-6. Results for Analytes Detected in Field Blanks or Equipment Rinsate Samples

Sample ID	CAS Number	Project Reporting Level	SCFqc-001-0001-FB	PBA08-QC-6000-FB	PBA08-QC-6001-ER	PBA08-QC-6002-ER
Date			02/06/09	02/18/10	02/18/10	04/01/10
Sample Type			Potable Water Blank	Deionized Water Blank	Equipment Rinse Blank	Equipment Rinse Blank
Analyte (mg/L)						
Metals						
Antimony	7440-36-0	0.005	0.00019 J	<0.005 U	<0.005 U	<0.005 U
Arsenic	7440-38-2	0.005	0.0012 J	<0.005 U	<0.005 U	<0.005 U
Barium	7440-39-3	0.01	0.0472	<0.01 U	<0.01 U	<0.01 U
Calcium	7440-70-2	0.1	65.6	<2 U	<2 U	<2 U
Chromium	7440-47-3	0.005	<0.005 U	<0.005 U	<0.005 U	0.0012 J
Cobalt	7440-48-4	0.005	<0.005 U	<0.005 U	<0.005 U	0.00006 J
Copper	7440-50-8	0.005	0.00057 J	<0.005 U	<0.005 U	<0.005 U
Iron	7439-89-6	0.1	0.78	<0.15 U	<0.15 U	0.0957 J
Magnesium	7439-95-4	0.1	28.3	<1 U	<1 U	<1 U
Manganese	7439-96-5	0.01	0.0919	<0.01 U	<0.01 U	0.0155
Nickel	7440-02-0	0.0002	0.00035 J	<0.01 U	<0.01 U	0.0012 J
Potassium	7440-09-7	0.2	2.86	<1 U	<1 U	<1 U
Sodium	7440-23-5	0.2	40.1	<1 U	<1 U	<1 U
Thallium	7440-28-0	0.002	0.00036 J	<0.002 U	<0.002 U	<0.002 U
Vanadium	7440-62-2	0.01	<0.01 U	<0.01 U	0.00053 J	<0.01 U
Zinc	7440-66-6	0.01	<0.0049 UJ	<0.04 U	0.0104 J	0.0104 J
Semi-volatile Organic Compounds						
Benzenemethanol	100-51-6	0.01	<0.01 U	<0.01 U	<0.01 U	0.00078 J
Bis(2-ethylhexyl)phthalate	117-81-7	0.01	<0.01 U	<0.01 UJ	<0.01 UJ	0.014
Di-n-butyl phthalate	84-74-2	0.01	<0.01 U	<0.01 U	<0.01 U	0.00068 J

Table C-6. Results for Analytes Detected in Field Blanks or Equipment Rinsate Samples (continued)

Sample ID	CAS Number	Project Reporting Level	SCFqc-001-0001-FB	PBA08-QC-6000-FB	PBA08-QC-6001-ER	PBA08-QC-6002-ER
Date			02/06/09	02/18/10	02/18/10	04/01/10
Sample Type			Potable Water Blank	Deionized Water Blank	Equipment Rinse Blank	Equipment Rinse Blank
Analyte (mg/L)						
Volatile Organic Compounds						
2-Butanone	78-93-3	0.01	<0.01 U	<0.01 U	0.00072 J	<0.01 U
Acetone	67-64-1	0.01	<0.01 U	<0.01 U	0.004 J	0.017
Toluene	108-88-3	0.001	<0.001 U	0.00053 J	0.00042 J	0.00034 J
Miscellaneous						
Alkalinity	NA	1.0	250 J	NA	NA	NA
Bicarbonate	71-52-3	1.0	250 J	NA	NA	NA
Bromide	24959-67-9	0.2	0.3	NA	NA	NA
Chloride	16887-00-6	0.2	85.9	NA	NA	NA
Fluoride	16984-48-8	0.1	0.1	NA	NA	NA
Orthophosphate	14265-44-2	0.1	0.2	NA	NA	NA
Phosphorous (total)	NA	0.1	0.11	NA	NA	NA
Sulfate	14808-79-8	1.0	51.6	NA	NA	NA

Explosives, propellants, pesticides, and polychlorinated biphenyls were analyzed for and not detected.
Sample Type: FB = Source water blank and ER = Equipment rinse blank.
Data Qualifiers: J = Estimated, U = Not detected, and UJ = Not detected and reporting limit estimated.
CAS = Chemical Abstract Service.
ID = Identification.
mg/L = Milligrams per liter.
NA = Not applicable.
< = Less than.

C.4 DATA QUALITY EVALUATION

C.4.1 Metals Analysis

C.4.1.1 Sediment and Soil

Analytical holding times were met for all samples. Initial and continuing calibration criteria were achieved for all elements analyzed. Method blanks were acceptable for soil and sediment and did not impact the data. Due to instrument blank contamination, one data point in sediment (1.1% of sediment data) and eight data points in soil (3.1% of soil data) were qualified as not detected below the reporting levels "UJ." All LCS recovery criteria were met for sediment matrices. However, soil LCS recovery deviations caused various analyte results for 11 data points to be qualified as estimated "J" and represented 4.3% of the soil data. Due to MS/matrix spike duplicate (MSD) recoveries being outside control limit criteria for several analytes, 16 data points in sediment (17.4% of sediment data) and 22 data points in soil (8.6% of soil data) were qualified as estimated "J" or estimated non-detectable concentration "UJ." Other metals exhibited acceptable recoveries and were not qualified. Professional judgment (laboratory duplicate or serial dilution deviations) resulted in 4 sediment data points (4.3% of sediment data) and 22 soil data points (8.6% of soil data) being qualified as estimated "J." Reporting levels are considered to be acceptable relative to QAPP goals. Due to elevated target levels present, seven soil samples required dilutions for aluminum while no sediment samples required dilutions. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in the Ravenna Environmental Information Management System (REIMS).

C.4.1.2 Surface Water

Analytical holding times were met for all samples. Initial and continuing calibration criteria were achieved for all elements analyzed. Method blank and instrument blanks were acceptable and did not impact the data. LCS determinations were acceptable. MS recoveries were acceptable. Serial dilution and duplicate comparisons were acceptable within the data set. Reporting levels are considered to be consistent with QAPP goals. Some data were qualified as estimated because the values were between the detection levels and reporting levels. No dilutions were required. No data were rejected. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.2 Volatile Organic Analysis

C.4.2.1 Sediment and Soil

Analytical holding times were met for all samples. Initial and continuing calibration criteria were achieved for all sediment analyses. Initial calibrations for soil were acceptable. Due to soil continuing calibration percent differences less than -20%, one soil data point (2.9% of VOC soil data) was qualified as estimated non-detectable concentration "UJ." Surrogate recoveries were acceptable for all sediment and soil analyses. Internal standard area counts and compound retention times were acceptable throughout the sample analyses. Method blanks contained low levels of various common laboratory contaminants, which caused two data points in sediment (5.7% of VOC sediment data) and one soil data point (2.9% of VOC soil data) to be qualified as not detected "UJ," as required in the associated samples. All LCS recoveries were within criteria. MS/MSD recoveries and relative percent difference (RPD) values were acceptable. No sediment or soil samples required dilutions. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report, and can be found in REIMS.

C.4.2.2 Surface Water

Analytical holding times were met for all samples. Initial and continuing calibration criteria were acceptable for all analyses. All surrogate recoveries and internal standard areas were acceptable. Internal standard areas and retention times were acceptable for all analyses. Method blanks and the associated trip blank were free of contamination and had no impact on the sample data. LCS recoveries were acceptable. MS/MSD recovery criteria were met. No dilutions were required. No data were rejected for any reason. Although some analyses were flagged as estimated because analyte results were between the detection limit and the reporting level, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.3 Semi-volatile Organic Analysis

C.4.3.1 Sediment and Soil

Analytical holding times were met for all SVOC sediment samples. Due to a difficult sample matrix, soil SVOC sample LNWSS-077M-5287-SO was re-extracted outside of holding times, thus resulting in 61 SVOC data points (26.6% of SVOC soil data) being qualified as estimated "J" or estimated non-detectable concentration "UJ" as required. Surrogate recoveries were acceptable. Internal standard area counts and compound retention times were acceptable throughout the data analyses. Initial and continuing calibration criteria were met for all compounds. All SVOC sediment and soil method blanks were non-detectable concentrations and did not impact the data. All LCS recoveries were

within criteria. MS/MSD recoveries and RPD values were acceptable. No soil or sediment samples required dilutions. However, a total of three soil samples required re-analysis. No sediment or soil data were rejected for any reason. Although some SVOC analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.3.2 Surface Water

Analytical holding times were met for all surface water samples. Due to very poor surrogate recoveries (less than 10%), 16 non-detectable concentration acid extractable analytes (6.1% of SVOC water data) were qualified as rejected "R." Internal standard areas and retention time criteria were acceptable in all analyses. Initial and continuing calibration criteria were met for all analytes. All method blanks were free of contamination and had no impact on the data. Low LCS recoveries resulted in eight non-detectable concentration acid extractable results being qualified as estimated non-detectable concentration "UJ" and represented 3% of SVOC water data. MS/MSD recoveries and RPD determinations were acceptable. No water samples required dilutions. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Rejected data were relegated to 16 non-detected acid extractable analytes. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.4 Pesticide Analysis

C.4.4.1 Sediment and Soil

Analytical holding times were met for all sediment samples. However, sample LNWSS-077M-5287-SO was re-extracted outside of holding times, thus resulting in all 21 data points (100% of pesticides soil data) being qualified as estimated non-detectable concentration "UJ." Surrogate recoveries were within acceptance criteria for all sediment and soil samples. Initial calibration criteria were acceptable for sediment and soil matrices. Continuing calibrations exceeded the 20% difference limit for several analytes, which caused results for 18 soil data points (85.6% of pesticides soil data) to be qualified as estimated non-detectable concentration "UJ." All method blanks were free of contamination and had no impact on the sample data. All LCS recoveries were within acceptance criteria. MS/MSD recoveries and RPD values were acceptable for most analytes in sediment and soil with the exception of one pesticide soil data point (4.8% of pesticide soil data) that was qualified as estimated non-detectable concentration "UJ." No sediment or soil samples required dilutions; however, one soil sample was re-extracted and re-analyzed due to matrix interference. No sediment or soil data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.4.2 Surface Water

Analytical holding times were met for all samples. All initial and continuing calibration criteria were met for all analytes. All method blanks were free of contamination and had no impact on the data. Due to low surrogate recovery, 21 data points (25% of pesticides surface water data) were qualified as estimated non-detectable concentrations "UJ." All LCS recoveries were within criteria. MS/MSD recoveries and RPD values were acceptable. Due to matrix interferences, sample LNWSW-086-5279-SW was reported at a 1:2 dilution. All reporting levels remained below FWCUGs with the exception of aldrin. While the reporting level for aldrin was above the FWCUG, the MDL was well below. Concentrations detected between the MDL and the reporting limit would have been reported by the laboratory as estimated values. Data are considered acceptable for its intended use. No data were rejected for any reason. Although some analyses were qualified as estimated because values were less than the reporting limits, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.5 Polychlorinated Biphenyl Analysis

C.4.5.1 Sediment and Soil

Analytical holding times were met for all sediment and soil samples. Surrogate recovery criteria were acceptable for sediment. However, low surrogate recoveries resulted in seven PCB data points (100% of PCB soil data) being qualified as estimated non-detectable concentration "UJ." Initial and continuing calibration criteria were met for all compounds in sediment and soil. All method blanks were free of contamination and had no impact on the sample data. All sediment and soil LCS recoveries were within acceptance criteria. MS/MSD recoveries and RPD values were acceptable for all analytes in sediment and soil. No PCB sediment or soil samples required dilutions. No sediment or soil data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.5.2 Surface Water

Analytical holding times were met for all samples. All initial and continuing calibration criteria were met for all analytes. All method blanks were free of contamination and had no impact on the data. Due to low surrogate recoveries, 21 data points (75% of PCB surface water data) were qualified as estimated non-detectable concentration "UJ." All LCS recoveries were within criteria. MS/MSD recoveries and RPD values were acceptable. No water samples required dilutions. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.6 Explosives and Nitroglycerin Analyses

C.4.6.1 Sediment and Soil

Analytical holding times were met for all samples. Surrogate recoveries were within acceptance criteria. Initial and continuing calibration criteria were acceptable for sediment and soil. All sediment and soil method blanks were free of contamination and had no impact on the sample data. All LCS recoveries were within criteria. MS/MSD recoveries and RPD values also were acceptable. No explosives sediment or soil samples required dilutions or re-analyses. No data were rejected for any reason. Although some analyses were qualified as estimated because values were between the detection limits and the reporting levels, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.6.2 Surface Water

Analytical holding times were met for all samples. Initial and continuing calibration criteria were acceptable for all explosives analytes. All method blanks were free of contamination and had no impact on the sample data. Surrogate recoveries were acceptable throughout the data set. All LCS and MS/MSD recoveries and RPD values were within acceptance criteria. No explosives water samples required dilutions. No data were rejected or estimated for any reason. The data are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.7 Nitroguanidine, Nitrocellulose, and Hexavalent Chromium Analyses

C.4.7.1 Sediment and Soil

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were free of contamination. All LCS recoveries were within criteria. Sediment and soil MS/MSD recoveries and RPD values were acceptable for all applicable analytes. No sediment or soil dilutions were required. No data were rejected for any reason. Although three data points were estimated "J" because the results were less than the reporting levels, the deviations observed should not have a primary influence on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.7.2 Surface Water

Holding times were acceptable for all analyses. Initial and continuing calibration criteria were met for all analytes. Method blanks were free of contamination and had no impact on the sample data. All MS and LCS recoveries were within acceptance criteria. No dilutions were required for any samples. No data were rejected. One data point was estimated because the result was between the detection limit and the reporting level. The deviation observed should not have a primary influence on the results, and all results are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in REIMS.

C.4.8 Precision

Field duplicate samples were collected to ascertain the contribution to variability (i.e., precision) due to the combination of environmental media, sampling consistency, and analytical precision. Field duplicate samples were collected from the same spatial and temporal conditions as the primary environmental sample. Soil samples were collected after homogenization for all analytes except VOCs.

Field duplicate comparison information is presented in Table C-7. If a given analyte was not detected in both the regular and field duplicate sample, precision was considered acceptable and results were not included in the table. The RPD was calculated only when both samples were greater than five times the reporting level. When one or both sample values were between the reporting level and five times the reporting level, the absolute difference (D) was evaluated. Tables 3-1 and 3-2 of the FWQAPP set the RPD criteria at 50% for soil and sediment and at 30% for water, while the absolute difference is set at one times the reporting limit for all matrices. In general, field duplicate comparisons are considered good. Only 2 of 33 comparisons were outside the specified field duplicate criteria. The highest deviations observed were benzo(*a*)pyrene and fluoranthene, both with absolute difference values of 1.3% in soil field duplicate pair LNWSS-072M-5282-SO/LNWSS-072M-6103-FD, while all RPD comparisons were acceptable.

Table C-7. Field Duplicate Pair Comparisons for Analytes Detected in Samples from the Landfill North of Winklepeck Burning Grounds

Sample ID Numbers	Chemical	Regular Result	Duplicate Result	RPD % or (Absolute Difference)[a]	Test[b]
Metals					
Soil (mg/kg)					
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Aluminum	7,640 J	8,900 J	15%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Antimony	0.25 J	0.3 J	(0.10)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Arsenic	11.5	12.4	8%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Barium	51.2	67.8	28%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Beryllium	0.45	0.49	(0.40)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Cadmium	0.25	0.33	(0.40)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Calcium	1,530	1,790	16%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Chromium	21.1 J	19.7 J	7%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Cobalt	8.2	8.7	6%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Copper	23.1 J	24.4 J	6%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Iron	22,700	24,400	7%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Lead	18.4	20.5	11%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Magnesium	2,480	2,730	10%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Manganese	491	621	23%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Mercury	0.036 J	0.055 J	(0.19)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Nickel	22.5	22.3	1%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Potassium	671	793	17%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Selenium	0.86 J	0.99 J	(0.25)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Silver	0.18 J	0.23 J	(0.10)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Sodium	41 J	48.4 J	(0.07)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Thallium	0.12 J	0.14 J	(0.10)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Vanadium	14.1	16.6	16%	RPD
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Zinc	76	104	31%	RPD

Table C-7. Field Duplicate Pair Comparisons for Analytes Detected in Samples from the Landfill North of Winklepeck Burning Grounds (continued)

Sample ID Numbers	Chemical	Regular Result	Duplicate Result	RPD % or (Absolute Difference)[a]	Test[b]
PAHs					
Soil (mg/kg)					
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Benz(*a*)anthracene	0.014	0.017	(0.44)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Benzo(*a*)pyrene	0.011	0.019	(1.20)	D *
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Benzo(*b*)fluoranthene	0.024	0.03	(0.88)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Benzo(*k*)fluoranthene	0.0068 U	0.012	(0.76)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Chrysene	0.017	0.022	(0.74)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Fluoranthene	0.024	0.033	(1.30)	D *
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Indeno(1,2,3-*cd*)pyrene	0.0095	0.0068 U	(0.40)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Naphthalene	0.0072	0.0068 U	(0.06)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Phenanthrene	0.015	0.015	(0.00)	D
LNWSS-072M-5282-SO/ LNWSS-072M-6103-FD	Pyrene	0.018	0.023	(0.74)	D

[a]RPD is calculated as 100x |R-D|/(R-D)/2, where R is the concentration of the regular sample and D is the concentration of the duplicate. The absolute difference (D) is calculated as |R-D|/L, where L is the average reporting limit of the two samples. Values followed by a "%" are RPD values. Values in parentheses are absolute difference values.

[b]The test used to evaluate the duplicate comparison is the RPD if both sample results were more than five times the reporting limit or D if any result was less than five times the reporting limit.

Data Qualifiers: J = Estimated and U = Not detected.

*RPD or D outside criteria.

ID = Identification.

Mg/kg = Milligrams per kilogram.

PAH = Polycyclic aromatic hydrocarbon.

RPD = Relative percent difference.

C.4.9 Sensitivity

Determining minimum detectable values allows the investigation to assess the relative confidence that can be placed in a value relative to the magnitude or level of analyte concentration observed. The closer a measured value comes to the minimum detectable concentration, the less confidence and more variation the measurement will have. Individual analyte reporting levels can vary due to matrix differences, contaminant analyte concentrations, and inherent moisture content variability. Project sensitivity goals were expressed as quantitation level goals in the QAPP. These levels were achieved or exceeded throughout the analytical process, with the exception of one pesticide water sample that was analyzed at a 1:2 dilution due to matrix interferences. All reporting limits remained below FWCUGs with the exception of aldrin; however, the MDLs remained below FWCUG. Seven metals soil samples required dilutions to bring analyte concentrations within the calibration range of the instrument. Reporting level variations are considered adequate for their intended use and have been considered during data interpretation and statistical applications.

Method blank determinations were performed with each analytical sample batch for each analyte under investigation. These blanks were evaluated during data review to determine their potential impact on individual data points, if any. Review action levels are set at 5 times the reporting level for all analytes, except those designated as common laboratory contaminants (methylene chloride, acetone, toluene, 2-butanone, and phthalate compounds) with action levels set at 10 times reporting levels. During data review, reported sample concentrations are assessed against method blank action levels, and the following qualifications are made when reportable quantities of analytes were observed in the associated method blank:

- When the analyte sample concentration is above 5 or 10 times the action level, the data are not qualified and it is considered a positive value.
- When inorganic analyte sample concentrations are determined to be below 5 or 10 times the action level, the data are considered impacted by the method blank and the value reported is qualified as a non-detectable concentration at the analyte value reported. These data are then qualified as "U."
- When organic analyte sample concentrations are determined to be below 5 or 10 times the action level, the data are considered impacted by the method blank and the value reported is qualified as a non-detectable concentration. If the reported value is below the reporting level, the result is qualified as a non-detectable concentration at the reporting level. If the result is above the reporting limit, it is qualified as a non-detectable concentration at the analyte value reported. These data are then qualified as "U."

No data were rejected as a result of method blank contamination; however, various analytes were qualified as non-detectable concentration "U" according to the validation in Table C-5.

VOC trip blank PBA08-QC-6021-TB was non-detectable concentration for all targeted analytes. It is, therefore, determined that VOC analyses were not affected through the transportation and storage

process and that the procedures and precautions employed were effective in preserving the integrity of the sample analysis.

C.4.10 Representativeness and Comparability

Representativeness expresses the degree to which data accurately reflect the analyte or parameter of interest for the environmental area of concern and is the qualitative term most concerned with the proper design of the sampling program. Factors that affect the representativeness of analytical data include ensuring proper preservation and holding times, using standard sampling and analytical methods, and determining matrix or analyte interferences. Samples were hand-delivered to the laboratory by the TestAmerica courier and were received within temperature specifications and in good condition. Holding times were exceeded for one pesticide soil sample and one SVOC soil sample; however, they were extracted within two times the holding time, and the data are considered usable but estimated. No other holding time deviations were observed.

Comparability, like representativeness, is a qualitative term relative to an individual project data set. The RI employed appropriate sampling methodologies, sample containers and preservation, site surveillance, standard sampling devices, uniform training, sampling documentation, standard analytical protocols/procedures, QC checks with standard control limits, and universally accepted data reporting units to ensure comparability to other data sets. By properly implementing and documenting these standard practices, the project has established the confidence that the data will be comparable to other project and programmatic information. Tables C-8 and C-9 present the standardized parameter groups, sample containers, preservation techniques, and associated holding times for environmental media.

C.4.11 Completeness

Usable data are defined as those data that pass individual scrutiny during the verification and validation process and are accepted for unrestricted application to the human health risk assessment evaluation or equivalent-type applications. Estimated data have been determined to be acceptable for RVAAP project objectives.

The completeness goal for analytical data is 90% as defined in Tables 3-1 and Table 3-2 of the FWQAPP. The project achieved this goal by collecting all samples presented in the PBA08 SAP and producing usable results for 99.1% of all samples analyses performed.

C.5 DATA QUALITY ASSESSMENT SUMMARY

In concurrence with the USACE Chemical Data Quality Assessment presented in Attachment 1, the overall quality of the LNWBG RI information meets or exceeds the established project objectives. Through proper implementation of the project data verification and assessment process, project information has been determined to be acceptable for use.

Data, as presented, have been qualified as usable or estimated "J" or "UJ" or rejected "R." Rejected data were relegated to 16 non-detectable concentration SVOC acid extractable surface water results for sample LNWSW-086-5279-SW due to poor surrogate performance. Data that have been estimated provide indications of accuracy, precision, or sensitivity being less than desired but adequate for interpretation. All undetected analytes were reported at detection levels that were adequate for use during data interpretation and statistical applications. Qualifiers have been applied to data and should be viewed with caution.

Data produced for this project demonstrate they can withstand scientific scrutiny; are appropriate for its intended purpose; are technically defensible; and are of known and acceptable sensitivity, precision, and accuracy. Data integrity has been documented through proper implementation of QA and QC measures. The environmental information presented has an established confidence that allows utilization for the project objectives and provides data for future needs.

Table C-8. Container Requirements for Soil and Sediment Samples

Analyte Group	Container	Minimum Sample Size	Preservative	Holding Time
Volatile Organic Compounds	One 2-oz glass jar with septum cap (no headspace)	20 g	Cool, 4°C	14 days
Semi-volatile Organic Compounds	4-oz glass	30 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Pesticide Compounds	4-oz glass	30 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Polychlorinated Biphenyls	4-oz glass	30 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Polycyclic Aromatic Hydrocarbon Compounds	4-oz glass	30 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Explosive Compounds	4-oz glass	10 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Nitroguanidine	4-oz glass	10 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Nitrocellulose	4-oz glass	10 g	Cool, 4°C	14 days (extraction) 40 days (analysis)
Metals (TAL)	4-oz glass or plastic	20 g	Cool, 4°C	180 days; Hg at 28 days
Hexavalent Chromium	4-oz glass	20 g	Cool, 4°C	24 hr (extraction) 24 hr (analysis)
Geotechnical Parameters	Moisture/Density/Porosity/K – Shelby tube TOC – no special container Grain Size Fraction – no special container	Various 100 g 5,000 g	Air tight, cool Cool NA	NA

Hg = Mercury.
g = Grams.
hr = Hours.
K= Permeability.
NA = Not applicable.
oz = Ounces.
TAL = Target analyte list.
TOC = Total organic carbon.

Table C-9. Container Requirements for Surface Water Samples

Analyte Group	Container	Minimum Sample Size	Preservative	Holding Time
Volatile Organic Compounds	Three 40-mL glass vial	Two 40 mL	HCl to pH <2 Cool, 4°C	14 days
Semi-volatile Organic Compounds	Two 1-L amber glass	1 L	Cool, 4°C	7 days (extraction) 40 days (analysis)
Pesticide Compounds	Two 1-L amber glass	1 L	Cool, 4°C	7 days (extraction) 40 days (analysis)
Polychlorinated Biphenyls	Two 1-L amber glass	1 L	Cool, 4°C	7 days (extraction) 40 days (analysis)
Polycyclic Aromatic Hydrocarbon Compounds	Two 1-L amber glass	1 L	Cool, 4°C	7 days (extraction) 40 days (analysis)
Explosive Compounds	Two 1-L amber glass	1 L	Cool, 4°C	7 days (extraction) 40 days (analysis)
Nitroguanidine	500-mL amber glass	10 mL	Cool, 4°C	7 days (extraction) 40 days (analysis)
Nitrocellulose	500-mL amber glass	100 mL	Cool, 4°C	7 days (extraction) 40 days (analysis)
Nitrate	250-mL poly	50 mL	Cool, 4°C	48 hr
Metals (TAL)	1-L HNO_3 poly	300 mL	HNO_3 to pH <2 Cool, 4°C	180 days; Hg at 28 days

HCl = Hydrochloric acid.
Hg = Mercury.
HNO_3 = Nitric acid.
hr = Hours.
L = Liter.
mL = Milliliter.
TAL = Target analyte list.
< = Less than.

C.6 REFERENCES

DoD (U.S. Department of Defense) 2006. *Quality Systems Manual for Environmental Laboratories*. Environmental Data Quality Workgroup. Version 3. January 2006.

USACE (U.S. Army Corps of Engineers) 2001. *Facility-wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio*. Final. March 2001.

USACE 2007. *Louisville DoD Quality Systems Manual Supplement*. Version 1. March 2007.

USACE 2009. *Performance-based Acquisition 2008 Supplemental Investigation Sampling and Analysis Plan Addendum No. 1, Ravenna Army Ammunition Plant, Ravenna, Ohio*. Final. December 2009.

USACE 2010. *Facility-wide Human Health Cleanup Goals for the Ravenna Army Ammunition Plant, Ravenna, Ohio*. March 2010.

USEPA (U.S. Environmental Protection Agency) 1994. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. EPA-540/R-94/013. Final. February 1994.

USEPA 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-99/008. Final. October 1999.

ATTACHMENT 1

Chemical Data Usability Assessment Report

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MEMORANDUM FOR RECORD 7 November 2013

SUBJECT: FINAL CHEMICAL DATA USABILITY ASSESSMENT

PROJECT: Ravenna Army Ammunition Plant, Ravenna, Ohio
18 Areas of Concern (PBA08)
Landfill North of Winklepeck Burning Grounds Remedial Investigation

1. Purpose:

   This memorandum represents and documents the evaluation of the quality and usability of the analytical data obtained during the Remedial Investigation (RI) of the Landfill North of Winklepeck Burning Grounds (RVAAP-19). This includes determination of contract compliance, data usability, and data quality objective attainment in accordance with EM 200-1-6, Chapter 5 (October 2006).

2. References:

   2.1 Data Quality Control Summary Report, Appendix C of the *Draft Remedial Investigation/Feasibility Study Report for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds*, prepared by SAIC, February 17, 2012.

   2.2 *Final Data Validation Report, Ravenna Army Ammunition Plant 18 Areas of Concern 2010 Sampling, Ravenna, Ohio*, prepared by MEC^{x}, LP, March 2013.

   2.3 *PBA 2008 Supplemental Investigation Sampling and Analysis Plan Addendum No. 1* (PBA08 SAP) prepared by SAIC, December 2009.

   2.4 *Facility-Wide Quality Assurance Project Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Appendix , Ravenna, Ohio* (FWQAPP), prepared by SAIC, March 2001.

   2.5 *DoD Quality Systems Manual for Environmental Laboratories*, Department of Defense (DoD QSM), Environmental Data Quality Workgroup, Version 3, January 2006.

   2.6 *Louisville DoD Quality Systems Manual Supplement, Version 1*, prepared by USACE –Louisville District, March 2007.

   2.7 EM 200-1-6, Chapter 5, Chemical Quality Assurance for Hazardous, Toxic and Radioactive Waste (HTRW) Projects, October 1997.

3. Project Description:

   The purpose of the PBA 08 RI at the Landfill North of Winklepeck Burning Grounds was to supplement the data from previous sampling events to delineate the nature and extent of contamination, evaluate contaminant fate and transport, and complete a human health risk assessment (HHRA) and ecological risk assessment (ERA) to support remedial decisions. Depending on the results of the RI, a recommendation would be provided for either no further action (NFA) or a Feasibility Study (FS) that would evaluate potential remedies and future actions.

   Sampling was conducted between February and April 2010 by Science Application International Corporation (SAIC). Twenty-one environmental soil, sediment, and surface water samples were collected and analyzed for one or more of the following parameters: metals, explosives, propellants (nitrocellulose and nitroguanidine), pesticides, polychlorinated biphenyls (PCBs), semivolatile

organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), volatiles (VOCs), hexavalent chromium, and total chromium. Analytical services were provided by TestAmerica (TA-North Canton, OH and TA-West Sacramento, CA).

4. Analytical Program Overview:
Below are excerpts from Section 4.5 of the PBA08 SAP.

4.1 Data Quality Objectives

Data quality objective (DQO) summaries for this investigation will follow Tables 3-1 and 3-2 in the Facility-Wide QAPP. All QC parameters stated in the specific U.S. Environmental Protection Agency (USEPA) SW-846 methods will be adhered to for each chemical listed. The SW-846 method references found in the Facility-Wide QAPP have been revised to the Update III methods, as appropriate. Laboratories are required to comply with all methods as written; recommendations are considered requirements. Concurrence with the DoD QSM for Environmental Laboratories (DoD, 2006), and the Louisville QSM Supplement is expected.

4.2 Level of Quality Control Effort

QC efforts will follow Section 3.2 of the Facility-Wide QAPP. Field QC measurements will include field source water blanks, trip blanks, field duplicates, surrogates, and equipment rinsate blanks. Laboratory QC measurements will include method blanks, laboratory control samples (LCSs), laboratory duplicates, and matrix spike/matrix spike duplicate (MS/MSD) samples. LCS measurements will include the standard mid-level analyte concentration, plus a QC/method reporting level (MRL) low-level concentration. It is recognized that the laboratory will routinely perform and monitor the QC/MRL; however, guidance check limits will be utilized, as advisory and corrective action will not be required for individual analyte variances. The QC/MRL will be successfully analyzed at the beginning of the analytical sequences as required by the QSM. Additionally, the lab will analyze the QC/MRL sample at the close of the analytical sequence.

4.3 Accuracy, Precision, and Sensitivity of Analysis

Accuracy, precision, and sensitivity goals identified in Section 3.3 and Tables 3-1 through 3-9 of the Facility-Wide QAPP will be imposed for this investigation. As stated above, some of the analytical methods numbers have been updated (refer to Table 2-1 of this QAPP). Quality objectives related to individual method QC protocol will also follow requirements given in the DoD QSM for Environmental Laboratories and the Louisville QSM Supplement. Laboratories will make all reasonable attempts to meet the program and project reporting levels in Tables 3-1 through 3-9 of the Facility-Wide QAPP for each individual sample analysis.

4.4 Completeness, Representativeness, and Comparability

Completeness, representativeness, and comparability goals identified in Section 3.4 and Tables 3-1 and 3-2 of the Facility-Wide QAPP will be imposed for this investigation. The completeness goal for analytical data is 90%, as defined in Tables 3-1 and 3-2 of the FWQAPP.

5. Chemical Data Quality and Usability Assessment:
This assessment of the overall quality and usability of project data is based upon a thorough review of the associated Data Quality Control Summary Report as presented in Appendix C of the *Draft Remedial Investigation/Feasibility Study Report for Soil, Sediment, and Surface Water at RVAAP-19*

Landfill North of Winklepeck Burning Grounds, (SAIC, 2012) and Section 18 of the *Final Data Validation Report, Ravenna Army Ammunition Plant 18 Areas of Concern 2010 Sampling* (MEC^x, 2013).

The Data Quality Control Summary Report represents the findings of the Level III data review of 100% of the primary data as performed by the contractor, SAIC. As a result of this review process, the data are qualified based on the technical assessment of the verification criteria. Qualifiers indicate the usability of the data.

Data validation was performed by MEC^x, a USACE-Louisville District contracted third-party. The Data Validation Report details their findings from the Level IV validation of 10% of the primary sample data, analysis of field duplicate results, and the determination of data. This evaluation includes review of the same QC elements as the primary contractor's review in addition to an in-depth look into the verification of sample results, target compound identification, and raw data. The intent is to verify the quality and the reliability of the primary data for its intended use.

The data were evaluated in the context of the data quality objective (DQOs) and measurement quality objectives (MQOs) as specified in the PBA08 SAP and FWQAPP referenced in items 2 and 4 above.

The subsections below present the U.S. Army Corps of Engineers – Louisville District's assessment of the chemical data quality for the Landfill North of Winklepeck Burning Grounds, including determination of contract compliance, data usability, and data quality objective attainment.

5.1 Contract Compliance

Samples were collected and analyzed in accordance with the procedures specified in the project QAPPs. With minor exceptions, data met the QC specifications outlined in the DoD QSM and project QAPPs. Specific non-conformances and their impact on data usability are noted and described in the associated data evaluation reports.

Some analytes had method detection levels (MDLs) and/or reporting limits (RLs) that exceeded the criteria in Table 3-1 of the SAP or in Table 3-3 of the FWQAPP, if no criteria were listed in the SAP. The failure to achieve reporting limits (RLs) less than applicable criteria for some analytes was anticipated due to analytical limitations. Results with RLs/MDLs exceeding project criteria may still be usable during risk assessment; however, it is incumbent upon the final data user to make this determination on a case by case basis.

5.2 Data Quality Attainment

The quality of data generated for the Landfill North of Winklepeck Burning Grounds RI met the project DQOs. Usable definitive data of known and documented quality was produced for 98.9% of the sample analyses performed. This includes data qualified as estimated (J) due to QC outliers. The J qualifier indicates that accuracy, precision, or sensitivity is less than desired; however, the results are of sufficient quality to be considered usable.

During the contractor's 100% Level III evaluation, rejected data were relegated to 16 nondetectable semivolatile (SVOC) acid extractable compounds in surface water sample

LNWSW-086-5279-SW. Four additional SVOC results were rejected during the 10% Level IV data validation performed by MEC[x]. Nondetected results for hexachlorocyclopentadiene and 2,4-dinitrophenol were rejected in two samples.

Landfill North of Winklepeck Burning Grounds

Rejected Data

Sample	SDG	Analyte	Reason	Review
LNWSW-086-5279-SW	A0C310489	2,4,5-Trichlorophenol	Surrogate Recovery (<10%)	Level III (100%)
		2,4,6-Trichlorophenol		
		2,4-Dichlorophenol		
		2,4-Dimethylphenol		
		2,4-Dinitrophenol		
		2-Chlorophenol		
		2-Methylphenol		
		2-Nitrophenol		
		3-Methylphenol/4-Methylphenol		
		4,6-Dinitro-2-methylphenol		
		4-Chloro-3-methylphenol		
		4-Nitrophenol		
		Benzoic Acid		
		Benzenemethanol		
		Pentachlorophenol		
		Phenol		
LNWSD-086-5275-SD	A0C310489	Hexaclorocyclopentadiene	MRL Recovery (<30%)	Level IV (10%)
		2,4-Dinitrophenol		
LNWSW-083-5276-SW	A0C310489	Hexaclorocyclopentadiene		
		2,4-Dinitrophenol		

5.3 Data Usability

Data were consistently reviewed and qualified by both the primary contractor and the third-party validator. Overall findings were compatible. Although differences in professional opinion may have resulted in some data being qualified as estimated (J) by one reviewer and not the other, this rarely adversely impacted the usability of the data. This occurred primarily in regards to qualification of data due to MRL recovery outliers. Section 3.2 of the FWQAPP considers the QC limits "guidance". As such, SAIC notes the outliers but doesn't qualify based upon them. Based upon professional opinion, MECx qualifies data associated with missing MRL standards or those with recovery outliers.

6.0 Conclusion:

Through the proper implementation of the project data review, verification, and validation process that is outlined in the FWQAPP, the data for the Landfill North of the Winklepeck Burning Grounds RI are deemed acceptable for use with some exceptions. Rejected and unusable data are relegated to 20 sample results (all nondetects) out of approximately 1,890 results. Based upon this assessment, 98.9% of the analytical results are usable as qualified to meet the project DQOs; can withstand

scientific scrutiny; are technically defensible; and are of known and acceptable quality in terms of sensitivity, precision, and accuracy.

Kathy Krantz
Project Chemist
USACE – Louisville District

ATTACHMENT 2

Automated Data Review Outlier Reports

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QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
LNWSD-083-5272-SD	A0C310489016	353.2 Modified	SO	1.8	2.0	6.0
LNWSW-084-5277-SW	A0C310489021	353.2 Modified	AQ	0.4	2.0	6.0
WSASW-040-5659-SW	A0C310489026	353.2 Modified	AQ	1.0	2.0	6.0
WSASW-040-6199-FD	A0C310489027	353.2 Modified	AQ	1.8	2.0	6.0
LNWSD-083-5272-SD	A0C310489016	8081A	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8081A	AQ	0.4	2.0	
WSASW-040-5659-SW	A0C310489026	8081A	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8081A	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8082	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8082	AQ	0.4	2.0	
WSASW-040-5659-SW	A0C310489026	8082	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8082	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8260B	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8260B	AQ	0.4	2.0	
WSASW-040-5659-SW	A0C310489026	8260B	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8260B	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8270C	SO	1.8	2.0	
LNWSD-084-5273-SD	A0C310489017	8270C	SO	1.8	2.0	
LNWSD-085-5274-SD	A0C310489018	8270C	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8270C	AQ	0.4	2.0	
WSASD-040-5652-SD	A0C310489025	8270C	SO	1.8	2.0	
WSASW-040-5659-SW	A0C310489026	8270C	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8270C	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8270C PAH	SO	1.8	2.0	
LNWSD-084-5273-SD	A0C310489017	8270C PAH	SO	1.8	2.0	
LNWSD-085-5274-SD	A0C310489018	8270C PAH	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8270C PAH	AQ	0.4	2.0	
WSASD-040-5652-SD	A0C310489025	8270C PAH	SO	1.8	2.0	
WSASW-040-5659-SW	A0C310489026	8270C PAH	AQ	1.0	2.0	

QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
WSASW-040-6199-FD	A0C310489027	8270C PAH	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8330B	SO	1.8	2.0	
LNWSD-084-5273-SD	A0C310489017	8330B	SO	1.8	2.0	
LNWSD-085-5274-SD	A0C310489018	8330B	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8330B	AQ	0.4	2.0	
WSASD-040-5652-SD	A0C310489025	8330B	SO	1.8	2.0	
WSASW-040-5659-SW	A0C310489026	8330B	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8330B	AQ	1.8	2.0	
LNWSD-083-5272-SD	A0C310489016	8330M	SO	1.8	2.0	
LNWSW-084-5277-SW	A0C310489021	8330M	AQ	0.4	2.0	
WSASW-040-5659-SW	A0C310489026	8330M	AQ	1.0	2.0	
WSASW-040-6199-FD	A0C310489027	8330M	AQ	1.8	2.0	

Temperature Outlier Report

Lab Report Batch: **Lab ID:**

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temp (C)	Temperature Criteria (C)			Between High and Gross Exceedence			Above Gross Exceedence		
								Detect Quals		Non-Detect Qual(s)	Detect Quals		Non-Detect Qual(s)
					Low	High	Gross Exceed	Non-Biased	Biased		Non-Biased	Biased	

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0090313 **Analysis Method :** 8270C **Analysis Date :** 04/19/2010

Preparation Batch : 0090313 **Preparation Type :** 3540C **Preparation Date :** 04/01/2010

Lab Reporting Batch : A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
ASYSB-061-5722-SOMS	A0C310489006S	SO	3,3'-Dichlorobenzidine	2.9		0.00	10.00	130.00	56.00
			4-Nitroaniline	33		0.00	35.00	115.00	30.00
ASYSB-061-5722-SOMS	A0C310489006D		3,3'-Dichlorobenzidine	5.7	65	0.00	10.00	130.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
ASYSB-061-5722-SO	A0C310489006

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0091028 **Analysis Method :** 6020 **Analysis Date :** 04/13/2010

Preparation Batch : 0091028 **Preparation Type :** 3050B **Preparation Date :** 04/01/2010

Lab Reporting Batch : A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
ASYSB-061-5722-SOMS	A0C310489006S	SO	Antimony	31		30.00	75.00	125.00	20.00
ASYSB-061-5722-SOMS	A0C310489006D		Antimony	30		30.00	75.00	125.00	20.00
			Cobalt	119		30.00	55.00	110.00	20.00
			Magnesium	139		30.00	70.00	130.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
ASYSB-059-5714-SO	A0C310489001
ASYSB-059-5715-SO	A0C310489002
ASYSB-059-5717-SO	A0C310489003
ASYSB-059-6220-FD	A0C310489014
ASYSB-060-5718-SO	A0C310489004
ASYSB-060-5719-SO	A0C310489005
ASYSB-061-5722-SO	A0C310489006
ASYSB-061-5723-SO	A0C310489007
ASYSB-062-5726-SO	A0C310489008
ASYSB-062-5727-SO	A0C310489009
ASYSB-062-6218-FD	A0C310489012
ASYSB-064-5734-SO	A0C310489010
ASYSB-064-5735-SO	A0C310489011
ASYSB-064-6219-FD	A0C310489013
LL11SB-065-5576-SO	A0C310489015
LNWSD-083-5272-SD	A0C310489016
LNWSD-084-5273-SD	A0C310489017
LNWSD-085-5274-SD	A0C310489018
LNWSD-086-5275-SD	A0C310489019
WSASD-040-5652-SD	A0C310489025

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 0090315 **Analysis Method :** 8270C **Analysis Date :** 04/21/2010

Preparation Batch : 0090315 **Preparation Type :** 3520C **Preparation Date :** 04/01/2010

Lab Reporting Batch : A0C310489 **Lab ID:** TALCAN

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	**Matrix**	**Analyte Name**	**Percent Recovery**	**RPD**	**Rejection Point**	**Lower Limit**	**Upper Limit**	**RPD**
A0C310000315L	AQ	2,4-Dinitrophenol	52	35	10.00	15.00	140.00	34.00
		Benzoic acid	26	54	0.00	0.00	125.00	20.00

Associated Samples

Client Sample ID	Lab Sample ID
LNWSW-083-5276-SW	A0C310489020
LNWSW-084-5277-SW	A0C310489021
LNWSW-085-5278-SW	A0C310489022
LNWSW-086-5279-SW	A0C310489023
WSASW-040-5659-SW	A0C310489026
WSASW-040-6199-FD	A0C310489027

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-059-5717-SO	A0C310489003	7471A	SO	Mercury	U	0.12	0.11904762	mg/kg
ASYSB-059-6220-FD	A0C310489014	7471A	SO	Mercury	U	0.13	0.125	mg/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.01175	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.29375	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.29375	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.29375	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.29375	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.29375	mg/kg
				2-Nitrotoluene	U	0.24	0.29375	mg/kg
				3-Nitrotoluene	U	0.24	0.29375	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.29375	mg/kg
				Nitrobenzene	U	0.24	0.29375	mg/kg
ASYSB-060-5718-SO	A0C310489004	6020	SO	Antimony	U	0.69	0.68493151	mg/kg
		7471A		Mercury	U	0.14	0.13698630	mg/kg
ASYSB-061-5723-SO	A0C310489007	7471A	SO	Mercury	U	0.13	0.12987013	mg/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.01220779	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.30519481	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.30519481	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.30519481	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.30519481	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.30519481	mg/kg
				2-Nitrotoluene	U	0.24	0.30519481	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.30519481	mg/kg
				Nitrobenzene	U	0.24	0.30519481	mg/kg
ASYSB-062-5726-SO	A0C310489008	8081A	SO	Aldrin	U	25	24.6913580	ug/kg
				beta-BHC	U	22	21.6049383	ug/kg
				delta-BHC	U	25	24.6913580	ug/kg
				Heptachlor	U	22	21.6049383	ug/kg
				Methoxychlor	U	31	30.8641975	ug/kg
		8082		Aroclor 1016	U	41	2.09876543	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-5726-SO	A0C310489008	8082	SO	Aroclor 1221	U	41	2.09876543	ug/kg
				Aroclor 1232	U	41	2.09876543	ug/kg
				Aroclor 1242	U	41	2.09876543	ug/kg
				Aroclor 1248	U	41	2.09876543	ug/kg
				Aroclor 1254	U	41	2.09876543	ug/kg
				Aroclor 1260	U	41	2.09876543	ug/kg
		8260B		2-Butanone (MEK)	U	25	24.6913580	ug/kg
				2-Hexanone	U	25	24.6913580	ug/kg
				4-methyl-2-pentanone (MIBK)	U	25	24.6913580	ug/kg
				Acetone	U	25	24.6913580	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	410	407.407407	ug/kg
				1,2-Dichlorobenzene	U	410	407.407407	ug/kg
				1,3-Dichlorobenzene	U	410	407.407407	ug/kg
				1,4-Dichlorobenzene	U	410	407.407407	ug/kg
				2,4,5-Trichlorophenol	U	410	407.407407	ug/kg
				2,4,6-Trichlorophenol	U	410	407.407407	ug/kg
				2,4-Dichlorophenol	U	410	407.407407	ug/kg
				2,4-Dimethylphenol	U	410	407.407407	ug/kg
				2,4-Dinitrotoluene	U	410	407.407407	ug/kg
				2,6-Dinitrotoluene	U	410	407.407407	ug/kg
				2-Chloronaphthalene	U	410	407.407407	ug/kg
				2-Chlorophenol	U	410	407.407407	ug/kg
				2-Methylphenol	U	410	407.407407	ug/kg
				2-Nitrophenol	U	410	407.407407	ug/kg
				3,3'-Dichlorobenzidine	U	410	407.407407	ug/kg
				3-methylphenol/4-methylphenol	U	410	#Error	ug/kg
				4-Bromophenyl phenyl ether	U	410	407.407407	ug/kg
				4-Chloro-3-methylphenol	U	410	407.407407	ug/kg
				4-Chloroaniline	U	410	407.407407	ug/kg
				4-Chlorophenyl phenyl ether	U	410	407.407407	ug/kg
				Benzyl alcohol	U	410	407.407407	ug/kg
				bis(2-Chloroethoxy)methane	U	410	407.407407	ug/kg
				bis(2-Chloroethyl) ether	U	410	407.407407	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-5726-SO	A0C310489008	8270C	SO	Bis(2-chloroisopropyl) ether	U	410	407.407407	ug/kg
				bis(2-Ethylhexyl) phthalate	U	410	407.407407	ug/kg
				Butyl benzyl phthalate	U	410	407.407407	ug/kg
				Dibenzofuran	U	410	407.407407	ug/kg
				Diethyl phthalate	U	410	407.407407	ug/kg
				Dimethyl phthalate	U	410	407.407407	ug/kg
				Di-n-butyl phthalate	U	410	407.407407	ug/kg
				Di-n-octyl phthalate	U	410	407.407407	ug/kg
				Hexachlorobenzene	U	410	407.407407	ug/kg
				Hexachlorobutadiene	U	410	407.407407	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	410	#Error	ug/kg
				Hexachloroethane	U	410	407.407407	ug/kg
				Isophorone	U	410	407.407407	ug/kg
				Nitrobenzene	U	410	407.407407	ug/kg
				N-Nitrosodi-n-propylamine	U	410	407.407407	ug/kg
				N-Nitrosodiphenylamine	U	410	407.407407	ug/kg
				Pentachlorophenol	U	410	407.407407	ug/kg
				Phenol	U	410	407.407407	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.0117284	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.29320988	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.29320988	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.29320988	mg/kg
				2-Nitrotoluene	U	0.24	0.29320988	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				4-Nitrotoluene	U	0.48	0.58641975	mg/kg
				Nitrobenzene	U	0.24	0.29320988	mg/kg
		8330M		Nitroguanidine	U	0.25	0.30555556	mg/kg
ASYSB-062-5727-SO	A0C310489009	353.2 Modified	SO	Nitrocellulose	U	6.2	6.17283951	mg/kg
		6020		Antimony	U	0.62	0.61728395	mg/kg
		8081A		Aldrin	U	25	24.6913580	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-5727-SO	A0C310489009	8081A	SO	beta-BHC	U	22	21.6049383	ug/kg
				delta-BHC	U	25	24.6913580	ug/kg
				Heptachlor	U	22	21.6049383	ug/kg
				Methoxychlor	U	31	30.8641975	ug/kg
		8082		Aroclor 1016	U	41	2.09876543	ug/kg
				Aroclor 1221	U	41	2.09876543	ug/kg
				Aroclor 1232	U	41	2.09876543	ug/kg
				Aroclor 1242	U	41	2.09876543	ug/kg
				Aroclor 1248	U	41	2.09876543	ug/kg
				Aroclor 1254	U	41	2.09876543	ug/kg
				Aroclor 1260	U	41	2.09876543	ug/kg
		8260B		1,1,1-Trichloroethane	U	6.2	6.17283951	ug/kg
				1,1,2,2-Tetrachloroethane	U	6.2	6.17283951	ug/kg
				1,1,2-Trichloroethane	U	6.2	6.17283951	ug/kg
				1,1-Dichloroethane	U	6.2	6.17283951	ug/kg
				1,1-Dichloroethene	U	6.2	6.17283951	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	6.2	6.17283951	ug/kg
				1,2-Dichloroethane	U	6.2	6.17283951	ug/kg
				1,2-Dichloroethene (total)	U	6.2	6.17283951	ug/kg
				1,2-Dichloropropane	U	6.2	6.17283951	ug/kg
				2-Butanone (MEK)	U	25	24.6913580	ug/kg
				2-Hexanone	U	25	24.6913580	ug/kg
				4-methyl-2-pentanone (MIBK)	U	25	24.6913580	ug/kg
				Benzene	U	6.2	6.17283951	ug/kg
				Bromochloromethane	U	6.2	6.17283951	ug/kg
				Bromodichloromethane	U	6.2	6.17283951	ug/kg
				Bromoform	U	6.2	6.17283951	ug/kg
				Bromomethane (Methyl bromide)	U	6.2	6.17283951	ug/kg
				Carbon tetrachloride	U	6.2	6.17283951	ug/kg
				Chlorobenzene	U	6.2	6.17283951	ug/kg
				Chlorodibromomethane	U	6.2	6.17283951	ug/kg
				Chloroethane	U	6.2	6.17283951	ug/kg
				Chloroform	U	6.2	6.17283951	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-5727-SO	A0C310489009	8260B	SO	Chloromethane	U	6.2	6.17283951	ug/kg
				cis-1,3-Dichloropropene	U	6.2	6.17283951	ug/kg
				Ethylbenzene	U	6.2	6.17283951	ug/kg
				Styrene	U	6.2	6.17283951	ug/kg
				Tetrachloroethene	U	6.2	6.17283951	ug/kg
				Toluene	U	6.2	6.17283951	ug/kg
				trans-1,3-Dichloropropene	U	6.2	6.17283951	ug/kg
				Trichloroethene	U	6.2	6.17283951	ug/kg
				Vinyl chloride	U	6.2	6.17283951	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	410	407.407407	ug/kg
				1,2-Dichlorobenzene	U	410	407.407407	ug/kg
				1,3-Dichlorobenzene	U	410	407.407407	ug/kg
				1,4-Dichlorobenzene	U	410	407.407407	ug/kg
				2,4,5-Trichlorophenol	U	410	407.407407	ug/kg
				2,4,6-Trichlorophenol	U	410	407.407407	ug/kg
				2,4-Dichlorophenol	U	410	407.407407	ug/kg
				2,4-Dimethylphenol	U	410	407.407407	ug/kg
				2,4-Dinitrotoluene	U	410	407.407407	ug/kg
				2,6-Dinitrotoluene	U	410	407.407407	ug/kg
				2-Chloronaphthalene	U	410	407.407407	ug/kg
				2-Chlorophenol	U	410	407.407407	ug/kg
				2-Methylnaphthalene	U	410	407.407407	ug/kg
				2-Methylphenol	U	410	407.407407	ug/kg
				2-Nitrophenol	U	410	407.407407	ug/kg
				3,3'-Dichlorobenzidine	U	410	407.407407	ug/kg
				3-methylphenol/4-methylphenol	U	410	#Error	ug/kg
				4-Bromophenyl phenyl ether	U	410	407.407407	ug/kg
				4-Chloro-3-methylphenol	U	410	407.407407	ug/kg
				4-Chloroaniline	U	410	407.407407	ug/kg
				4-Chlorophenyl phenyl ether	U	410	407.407407	ug/kg
				Benzyl alcohol	U	410	407.407407	ug/kg
				bis(2-Chloroethoxy)methane	U	410	407.407407	ug/kg
				bis(2-Chloroethyl) ether	U	410	407.407407	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-5727-SO	A0C310489009	8270C	SO	Bis(2-chloroisopropyl) ether	U	410	407.407407	ug/kg
				bis(2-Ethylhexyl) phthalate	U	410	407.407407	ug/kg
				Butyl benzyl phthalate	U	410	407.407407	ug/kg
				Carbazole	U	62	61.7283951	ug/kg
				Dibenzofuran	U	410	407.407407	ug/kg
				Diethyl phthalate	U	410	407.407407	ug/kg
				Dimethyl phthalate	U	410	407.407407	ug/kg
				Di-n-butyl phthalate	U	410	407.407407	ug/kg
				Di-n-octyl phthalate	U	410	407.407407	ug/kg
				Hexachlorobenzene	U	410	407.407407	ug/kg
				Hexachlorobutadiene	U	410	407.407407	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	410	#Error	ug/kg
				Hexachloroethane	U	410	407.407407	ug/kg
				Isophorone	U	410	407.407407	ug/kg
				Nitrobenzene	U	410	407.407407	ug/kg
				N-Nitrosodi-n-propylamine	U	410	407.407407	ug/kg
				N-Nitrosodiphenylamine	U	410	407.407407	ug/kg
				Pentachlorophenol	U	410	407.407407	ug/kg
				Phenol	U	410	407.407407	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.0117284	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.29320988	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.29320988	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.29320988	mg/kg
				2-Nitrotoluene	U	0.24	0.29320988	mg/kg
				3-Nitrotoluene	U	0.24	0.29320988	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.29320988	mg/kg
				4-Nitrotoluene	U	0.48	0.58641975	mg/kg
				Nitrobenzene	U	0.24	0.29320988	mg/kg
ASYSB-062-6218-FD	A0C310489012	7471A	SO	Mercury	U	0.13	0.12658228	mg/kg
		8081A		4,4'-DDD	U	13	12.6582278	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-6218-FD	A0C310489012	8081A	SO	4,4'-DDE	U	11	10.7594937	ug/kg
				4,4'-DDT	U	13	12.6582278	ug/kg
				alpha-BHC	U	16	15.8227848	ug/kg
				alpha-Chordane	U	19	18.9873418	ug/kg
				Dieldrin	U	11	10.7594937	ug/kg
				Endosulfan I	U	11	10.7594937	ug/kg
				Endosulfan II	U	16	15.8227848	ug/kg
				Endosulfan sulfate	U	19	18.9873418	ug/kg
				Endrin	U	11	10.7594937	ug/kg
				Endrin aldehyde	U	19	18.9873418	ug/kg
				Endrin ketone	U	13	12.6582278	ug/kg
				gamma-BHC (Lindane)	U	16	15.8227848	ug/kg
				gamma-Chlordane	U	11	10.7594937	ug/kg
				Heptachlor epoxide	U	16	15.8227848	ug/kg
		8082		Aroclor 1016	U	42	2.15189873	ug/kg
				Aroclor 1221	U	42	2.15189873	ug/kg
				Aroclor 1232	U	42	2.15189873	ug/kg
				Aroclor 1242	U	42	2.15189873	ug/kg
				Aroclor 1248	U	42	2.15189873	ug/kg
				Aroclor 1254	U	42	2.15189873	ug/kg
				Aroclor 1260	U	42	2.15189873	ug/kg
		8260B		Xylene (Total)	U	13	12.6582278	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	420	417.721519	ug/kg
				1,2-Dichlorobenzene	U	420	417.721519	ug/kg
				1,3-Dichlorobenzene	U	420	417.721519	ug/kg
				1,4-Dichlorobenzene	U	420	417.721519	ug/kg
				2,4,5-Trichlorophenol	U	420	417.721519	ug/kg
				2,4,6-Trichlorophenol	U	420	417.721519	ug/kg
				2,4-Dichlorophenol	U	420	417.721519	ug/kg
				2,4-Dimethylphenol	U	420	417.721519	ug/kg
				2,4-Dinitrotoluene	U	420	417.721519	ug/kg
				2,6-Dinitrotoluene	U	420	417.721519	ug/kg
				2-Chloronaphthalene	U	420	417.721519	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-6218-FD	A0C310489012	8270C	SO	2-Chlorophenol	U	420	417.721519	ug/kg
				2-Methylnaphthalene	U	420	417.721519	ug/kg
				2-Methylphenol	U	420	417.721519	ug/kg
				2-Nitrophenol	U	420	417.721519	ug/kg
				3,3'-Dichlorobenzidine	U	420	417.721519	ug/kg
				3-methylphenol/4-methylphenol	U	420	#Error	ug/kg
				4-Bromophenyl phenyl ether	U	420	417.721519	ug/kg
				4-Chloro-3-methylphenol	U	420	417.721519	ug/kg
				4-Chloroaniline	U	420	417.721519	ug/kg
				4-Chlorophenyl phenyl ether	U	420	417.721519	ug/kg
				Benzyl alcohol	U	420	417.721519	ug/kg
				bis(2-Chloroethoxy)methane	U	420	417.721519	ug/kg
				bis(2-Chloroethyl) ether	U	420	417.721519	ug/kg
				Bis(2-chloroisopropyl) ether	U	420	417.721519	ug/kg
				bis(2-Ethylhexyl) phthalate	U	420	417.721519	ug/kg
				Butyl benzyl phthalate	U	420	417.721519	ug/kg
				Dibenzofuran	U	420	417.721519	ug/kg
				Diethyl phthalate	U	420	417.721519	ug/kg
				Dimethyl phthalate	U	420	417.721519	ug/kg
				Di-n-butyl phthalate	U	420	417.721519	ug/kg
				Di-n-octyl phthalate	U	420	417.721519	ug/kg
				Hexachlorobenzene	U	420	417.721519	ug/kg
				Hexachlorobutadiene	U	420	417.721519	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	420	#Error	ug/kg
				Hexachloroethane	U	420	417.721519	ug/kg
				Isophorone	U	420	417.721519	ug/kg
				Nitrobenzene	U	420	417.721519	ug/kg
				N-Nitrosodi-n-propylamine	U	420	417.721519	ug/kg
				N-Nitrosodiphenylamine	U	420	417.721519	ug/kg
				Pentachlorophenol	U	420	417.721519	ug/kg
				Phenol	U	420	417.721519	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.01202532	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.30063291	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
ASYSB-062-6218-FD	A0C310489012	8330B	SO	2,4,6-Trinitrotoluene (TNT)	U	0.24	0.30063291	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.30063291	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.30063291	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.30063291	mg/kg
				2-Nitrotoluene	U	0.24	0.30063291	mg/kg
				3-Nitrotoluene	U	0.24	0.30063291	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.30063291	mg/kg
				4-Nitrotoluene	U	0.48	0.60126582	mg/kg
				Nitrobenzene	U	0.24	0.30063291	mg/kg
ASYSB-064-5734-SO	A0C310489010	6020	SO	Thallium	U G	3.4	3.38983051	mg/kg
ASYSB-064-5735-SO	A0C310489011	7471A	SO	Mercury	U	0.13	0.12987013	mg/kg
ASYSB-064-6219-FD	A0C310489013	7471A	SO	Mercury	U	0.13	0.12658228	mg/kg
LL11SB-065-5576-SO	A0C310489015	7471A	SO	Mercury	U	0.12	0.11627907	mg/kg
LNWSD-083-5272-SD	A0C310489016	8081A	SO	4,4'-DDE	U	2.4	2.3943662	ug/kg
				Dieldrin	U	2.4	2.3943662	ug/kg
				Endosulfan I	U	2.4	2.3943662	ug/kg
				Endrin	U	2.4	2.3943662	ug/kg
				gamma-Chlordane	U	2.4	2.3943662	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.01394366	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.34859155	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.34859155	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.34859155	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.34859155	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.34859155	mg/kg
				2-Nitrotoluene	U	0.25	0.34859155	mg/kg
				3-Nitrotoluene	U	0.25	0.34859155	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.34859155	mg/kg
				4-Nitrotoluene	U	0.50	0.6971831	mg/kg
				Nitrobenzene	U	0.25	0.34859155	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSD-084-5273-SD	A0C310489017	7471A	SO	Mercury	U	0.21	0.20833333	mg/kg
		8270C		1,2,4-Trichlorobenzene	U	690	687.5	ug/kg
				1,2-Dichlorobenzene	U	690	687.5	ug/kg
				1,3-Dichlorobenzene	U	690	687.5	ug/kg
				1,4-Dichlorobenzene	U	690	687.5	ug/kg
				2,4,5-Trichlorophenol	U	690	687.5	ug/kg
				2,4,6-Trichlorophenol	U	690	687.5	ug/kg
				2,4-Dichlorophenol	U	690	687.5	ug/kg
				2,4-Dimethylphenol	U	690	687.5	ug/kg
				2,4-Dinitrophenol	U	1700	1666.66667	ug/kg
				2,4-Dinitrotoluene	U	690	687.5	ug/kg
				2,6-Dinitrotoluene	U	690	687.5	ug/kg
				2-Chloronaphthalene	U	690	687.5	ug/kg
				2-Chlorophenol	U	690	687.5	ug/kg
				2-Methylnaphthalene	U	690	687.5	ug/kg
				2-Methylphenol	U	690	687.5	ug/kg
				2-Nitroaniline	U	1700	1666.66667	ug/kg
				2-Nitrophenol	U	690	687.5	ug/kg
				3,3'-Dichlorobenzidine	U	690	687.5	ug/kg
				3-methylphenol/4-methylphenol	U	690	#Error	ug/kg
				3-Nitroaniline	U	1700	1666.66667	ug/kg
				4,6-Dinitro-2-methylphenol	U	1700	1666.66667	ug/kg
				4-Bromophenyl phenyl ether	U	690	687.5	ug/kg
				4-Chloro-3-methylphenol	U	690	687.5	ug/kg
				4-Chloroaniline	U	690	687.5	ug/kg
				4-Chlorophenyl phenyl ether	U	690	687.5	ug/kg
				4-Nitroaniline	U	1700	1666.66667	ug/kg
				4-Nitrophenol	U	1700	1666.66667	ug/kg
				Benzoic acid	U	1700	1666.66667	ug/kg
				Benzyl alcohol	U	690	687.5	ug/kg
				bis(2-Chloroethoxy)methane	U	690	687.5	ug/kg
				bis(2-Chloroethyl) ether	U	690	687.5	ug/kg
				Bis(2-chloroisopropyl) ether	U	690	687.5	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSD-084-5273-SD	A0C310489017	8270C	SO	bis(2-Ethylhexyl) phthalate	U	690	687.5	ug/kg
				Butyl benzyl phthalate	U	690	687.5	ug/kg
				Dibenzofuran	U	690	687.5	ug/kg
				Diethyl phthalate	U	690	687.5	ug/kg
				Dimethyl phthalate	U	690	687.5	ug/kg
				Di-n-butyl phthalate	U	690	687.5	ug/kg
				Di-n-octyl phthalate	U	690	687.5	ug/kg
				Hexachlorobenzene	U	690	687.5	ug/kg
				Hexachlorobutadiene	U	690	687.5	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	690	#Error	ug/kg
				Hexachloroethane	U	690	687.5	ug/kg
				Isophorone	U	690	687.5	ug/kg
				Nitrobenzene	U	690	687.5	ug/kg
				N-Nitrosodi-n-propylamine	U	690	687.5	ug/kg
				N-Nitrosodiphenylamine	U	690	687.5	ug/kg
				Pentachlorophenol	U	690	687.5	ug/kg
				Phenol	U	690	687.5	ug/kg
LNWSD-085-5274-SD	A0C310489018	6020	SO	Antimony	U	0.61	0.6097561	mg/kg
		8270C		2,4-Dinitrophenol	U	980	975.609756	ug/kg
				2-Nitroaniline	U	980	975.609756	ug/kg
				3-Nitroaniline	U	980	975.609756	ug/kg
				4,6-Dinitro-2-methylphenol	U	980	975.609756	ug/kg
				4-Nitroaniline	U	980	975.609756	ug/kg
				4-Nitrophenol	U	980	975.609756	ug/kg
				Benzoic acid	U	980	975.609756	ug/kg
				Carbazole	U	61	60.9756098	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.24	0.01146341	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.28658537	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.28658537	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.28658537	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.28658537	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.24	0.28658537	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSD-085-5274-SD	A0C310489018	8330B	SO	2-Nitrotoluene	U	0.24	0.28658537	mg/kg
				3-Nitrotoluene	U	0.24	0.28658537	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.28658537	mg/kg
				Nitrobenzene	U	0.24	0.28658537	mg/kg
LNWSD-086-5275-SD	A0C310489019	8270C	SO	1,2,4-Trichlorobenzene	U	570	568.965517	ug/kg
				1,2-Dichlorobenzene	U	570	568.965517	ug/kg
				1,3-Dichlorobenzene	U	570	568.965517	ug/kg
				1,4-Dichlorobenzene	U	570	568.965517	ug/kg
				2,4,5-Trichlorophenol	U	570	568.965517	ug/kg
				2,4,6-Trichlorophenol	U	570	568.965517	ug/kg
				2,4-Dichlorophenol	U	570	568.965517	ug/kg
				2,4-Dimethylphenol	U	570	568.965517	ug/kg
				2,4-Dinitrophenol	U	1400	1379.31034	ug/kg
				2,4-Dinitrotoluene	U	570	568.965517	ug/kg
				2,6-Dinitrotoluene	U	570	568.965517	ug/kg
				2-Chloronaphthalene	U	570	568.965517	ug/kg
				2-Chlorophenol	U	570	568.965517	ug/kg
				2-Methylnaphthalene	U	570	568.965517	ug/kg
				2-Methylphenol	U	570	568.965517	ug/kg
				2-Nitroaniline	U	1400	1379.31034	ug/kg
				2-Nitrophenol	U	570	568.965517	ug/kg
				3,3'-Dichlorobenzidine	U	570	568.965517	ug/kg
				3-methylphenol/4-methylphenol	U	570	#Error	ug/kg
				3-Nitroaniline	U	1400	1379.31034	ug/kg
				4,6-Dinitro-2-methylphenol	U	1400	1379.31034	ug/kg
				4-Bromophenyl phenyl ether	U	570	568.965517	ug/kg
				4-Chloro-3-methylphenol	U	570	568.965517	ug/kg
				4-Chloroaniline	U	570	568.965517	ug/kg
				4-Chlorophenyl phenyl ether	U	570	568.965517	ug/kg
				4-Nitroaniline	U	1400	1379.31034	ug/kg
				4-Nitrophenol	U	1400	1379.31034	ug/kg
				Benzoic acid	U	1400	1379.31034	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSD-086-5275-SD	A0C310489019	8270C	SO	Benzyl alcohol	U	570	568.965517	ug/kg
				bis(2-Chloroethoxy)methane	U	570	568.965517	ug/kg
				bis(2-Chloroethyl) ether	U	570	568.965517	ug/kg
				Bis(2-chloroisopropyl) ether	U	570	568.965517	ug/kg
				bis(2-Ethylhexyl) phthalate	U	570	568.965517	ug/kg
				Butyl benzyl phthalate	U	570	568.965517	ug/kg
				Carbazole	U	87	86.2068966	ug/kg
				Dibenzofuran	U	570	568.965517	ug/kg
				Diethyl phthalate	U	570	568.965517	ug/kg
				Dimethyl phthalate	U	570	568.965517	ug/kg
				Di-n-butyl phthalate	U	570	568.965517	ug/kg
				Di-n-octyl phthalate	U	570	568.965517	ug/kg
				Hexachlorobenzene	U	570	568.965517	ug/kg
				Hexachlorobutadiene	U	570	568.965517	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	570	#Error	ug/kg
				Hexachloroethane	U	570	568.965517	ug/kg
				Isophorone	U	570	568.965517	ug/kg
				Nitrobenzene	U	570	568.965517	ug/kg
				N-Nitrosodi-n-propylamine	U	570	568.965517	ug/kg
				N-Nitrosodiphenylamine	U	570	568.965517	ug/kg
				Pentachlorophenol	U	570	568.965517	ug/kg
				Phenol	U	570	568.965517	ug/kg
LNWSW-083-5276-SW	A0C310489020	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L
				2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSW-083-5276-SW	A0C310489020	8330B	AQ	Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
LNWSW-084-5277-SW	A0C310489021	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L
				2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L
				Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
LNWSW-085-5278-SW	A0C310489022	8330B	AQ	1,3,5-Trinitrobenzene	U	0.11	0.106	ug/L
				1,3-Dinitrobenzene	U	0.16	0.159	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.16	0.159	ug/L
				2,4-Dinitrotoluene	U	0.16	0.159	ug/L
				2,6-Dinitrotoluene	U	0.16	0.159	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.32	0.318	ug/L
				2-Nitrotoluene	U	0.16	0.159	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.16	0.159	ug/L
				4-Nitrotoluene	U	1.1	1.06	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.16	0.159	ug/L
				Nitrobenzene	U	0.16	0.159	ug/L
				Nitroglycerin	U	1.1	1.06	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.16	0.159	ug/L
				PETN	U	1.1	1.06	ug/L
LNWSW-086-5279-SW	A0C310489023	8330B	AQ	1,3-Dinitrobenzene	U	0.16	0.1575	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.16	0.1575	ug/L
				2,4-Dinitrotoluene	U	0.16	0.1575	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSW-086-5279-SW	A0C310489023	8330B	AQ	2,6-Dinitrotoluene	U	0.16	0.1575	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.32	0.315	ug/L
				2-Nitrotoluene	U	0.16	0.1575	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.16	0.1575	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.16	0.1575	ug/L
				Nitrobenzene	U	0.16	0.1575	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.16	0.1575	ug/L
WSASD-040-5652-SD	A0C310489025	6020	SO	Antimony	U	0.58	0.57471264	mg/kg
				Thallium	U	0.23	0.22988506	mg/kg
		7471A		Mercury	U	0.12	0.11494253	mg/kg
		8270C		1,2,4-Trichlorobenzene	U	380	379.310345	ug/kg
				1,2-Dichlorobenzene	U	380	379.310345	ug/kg
				1,3-Dichlorobenzene	U	380	379.310345	ug/kg
				1,4-Dichlorobenzene	U	380	379.310345	ug/kg
				2,4,5-Trichlorophenol	U	380	379.310345	ug/kg
				2,4,6-Trichlorophenol	U	380	379.310345	ug/kg
				2,4-Dichlorophenol	U	380	379.310345	ug/kg
				2,4-Dimethylphenol	U	380	379.310345	ug/kg
				2,4-Dinitrophenol	U	920	919.54023	ug/kg
				2,4-Dinitrotoluene	U	380	379.310345	ug/kg
				2,6-Dinitrotoluene	U	380	379.310345	ug/kg
				2-Chloronaphthalene	U	380	379.310345	ug/kg
				2-Chlorophenol	U	380	379.310345	ug/kg
				2-Methylnaphthalene	U	380	379.310345	ug/kg
				2-Methylphenol	U	380	379.310345	ug/kg
				2-Nitroaniline	U	920	919.54023	ug/kg
				2-Nitrophenol	U	380	379.310345	ug/kg
				3,3'-Dichlorobenzidine	U	380	379.310345	ug/kg
				3-methylphenol/4-methylphenol	U	380	#Error	ug/kg
				3-Nitroaniline	U	920	919.54023	ug/kg
				4,6-Dinitro-2-methylphenol	U	920	919.54023	ug/kg
				4-Bromophenyl phenyl ether	U	380	379.310345	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
WSASD-040-5652-SD	A0C310489025	8270C	SO	4-Chloro-3-methylphenol	U	380	379.310345	ug/kg
				4-Chloroaniline	U	380	379.310345	ug/kg
				4-Chlorophenyl phenyl ether	U	380	379.310345	ug/kg
				4-Nitroaniline	U	920	919.54023	ug/kg
				4-Nitrophenol	U	920	919.54023	ug/kg
				Benzoic acid	U	920	919.54023	ug/kg
				Benzyl alcohol	U	380	379.310345	ug/kg
				bis(2-Chloroethoxy)methane	U	380	379.310345	ug/kg
				bis(2-Chloroethyl) ether	U	380	379.310345	ug/kg
				Bis(2-chloroisopropyl) ether	U	380	379.310345	ug/kg
				Butyl benzyl phthalate	U	380	379.310345	ug/kg
				Carbazole	U	58	57.4712644	ug/kg
				Dibenzofuran	U	380	379.310345	ug/kg
				Diethyl phthalate	U	380	379.310345	ug/kg
				Dimethyl phthalate	U	380	379.310345	ug/kg
				Di-n-butyl phthalate	U	380	379.310345	ug/kg
				Di-n-octyl phthalate	U	380	379.310345	ug/kg
				Hexachlorobenzene	U	380	379.310345	ug/kg
				Hexachlorobutadiene	U	380	379.310345	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	380	#Error	ug/kg
				Hexachloroethane	U	380	379.310345	ug/kg
				Isophorone	U	380	379.310345	ug/kg
				Nitrobenzene	U	380	379.310345	ug/kg
				N-Nitrosodi-n-propylamine	U	380	379.310345	ug/kg
				N-Nitrosodiphenylamine	U	380	379.310345	ug/kg
				Pentachlorophenol	U	380	379.310345	ug/kg
				Phenol	U	380	379.310345	ug/kg
WSASW-040-5659-SW	A0C310489026	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
WSASW-040-5659-SW	A0C310489026	8330B	AQ	2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L
				Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
WSASW-040-6199-FD	A0C310489027	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.147	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.147	ug/L
				2,4-Dinitrotoluene	U	0.15	0.147	ug/L
				2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				2-Nitrotoluene	U	0.15	0.147	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.147	ug/L
				Nitrobenzene	U	0.15	0.147	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.147	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
ASYSB-059-5714-SO	A0C310489001	6020	SO	Antimony	J	0.27	0.61	mg/kg
				Silver	J	0.043	0.61	mg/kg
				Thallium	J	0.12	0.24	mg/kg
		8330B		PETN	J PG	0.065	0.50	mg/kg
ASYSB-059-5715-SO	A0C310489002	6020		Cadmium	J	0.086	0.25	mg/kg
				Silver	J	0.011	0.62	mg/kg
				Sodium	J	51.5	124	mg/kg
				Thallium	J	0.17	0.25	mg/kg
ASYSB-059-5717-SO	A0C310489003			Antimony	J	0.081	0.60	mg/kg
				Cadmium	J	0.078	0.24	mg/kg
				Silver	J	0.025	0.60	mg/kg
				Thallium	J	0.15	0.24	mg/kg
ASYSB-059-6220-FD	A0C310489014			Antimony	J	0.10	0.63	mg/kg
				Cadmium	J	0.077	0.25	mg/kg
				Silver	J	0.031	0.63	mg/kg
				Sodium	J	86.2	125	mg/kg
				Thallium	J	0.19	0.25	mg/kg
ASYSB-060-5718-SO	A0C310489004			Cadmium	J	0.039	0.28	mg/kg
				Silver	J	0.020	0.69	mg/kg
				Sodium	J	47.4	138	mg/kg
				Thallium	J	0.15	0.28	mg/kg
		8330B		3-Nitrotoluene	J	0.17	0.25	mg/kg
ASYSB-060-5719-SO	A0C310489005	6020		Antimony	J	0.088	0.61	mg/kg
				Cadmium	J	0.042	0.24	mg/kg
				Silver	J	0.020	0.61	mg/kg
				Sodium	J	84.8	121	mg/kg
				Thallium	J	0.18	0.24	mg/kg
ASYSB-061-5722-SO	A0C310489006			Antimony	J	0.12	0.70	mg/kg
				Cadmium	J	0.16	0.28	mg/kg
				Silver	J	0.049	0.70	mg/kg
				Sodium	J	39.5	140	mg/kg
				Thallium	J	0.20	0.28	mg/kg
		7471A		Mercury	J	0.030	0.14	mg/kg
ASYSB-061-5723-SO	A0C310489007	6020		Antimony	J	0.12	0.65	mg/kg
				Cadmium	J	0.088	0.26	mg/kg
				Silver	J	0.031	0.65	mg/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
ASYSB-061-5723-SO	A0C310489007	6020	SO	Sodium	J	55.2	130	mg/kg
				Thallium	J	0.25	0.26	mg/kg
		8330B		3-Nitrotoluene	J	0.021	0.24	mg/kg
ASYSB-062-5726-SO	A0C310489008	353.2 Modified		Nitrocellulose	B	1.6	6.1	mg/kg
		6020		Antimony	J	0.14	0.61	mg/kg
				Cadmium	J	0.17	0.25	mg/kg
				Silver	J	0.058	0.61	mg/kg
				Sodium	J	72.4	123	mg/kg
				Thallium	J	0.16	0.25	mg/kg
		7471A		Mercury	J	0.034	0.12	mg/kg
		8260B		Carbon disulfide	J	0.87	6.1	ug/kg
				Methylene chloride	J B	3.4	6.1	ug/kg
				Toluene	J	0.65	6.1	ug/kg
		8270C		2-Methylnaphthalene	J	50	410	ug/kg
		8330B		3-Nitrotoluene	J PG	0.017	0.24	mg/kg
ASYSB-062-5727-SO	A0C310489009	6020		Cadmium	J	0.026	0.25	mg/kg
				Silver	J	0.025	0.62	mg/kg
				Sodium	J	33.8	123	mg/kg
				Thallium	J	0.15	0.25	mg/kg
		8260B		Carbon disulfide	J	1.1	6.2	ug/kg
				Methylene chloride	J B	3.5	6.2	ug/kg
ASYSB-062-6218-FD	A0C310489012	6020		Antimony	J	0.12	0.63	mg/kg
				Cadmium	J	0.032	0.25	mg/kg
				Silver	J	0.027	0.63	mg/kg
				Sodium	J	44.2	126	mg/kg
				Thallium	J	0.18	0.25	mg/kg
		8260B		Carbon disulfide	J	1.5	6.3	ug/kg
				Methylene chloride	J B	3.3	6.3	ug/kg
ASYSB-064-5734-SO	A0C310489010	7471A		Mercury	J	0.12	0.17	mg/kg
ASYSB-064-5735-SO	A0C310489011	6020		Antimony	J	0.085	0.65	mg/kg
				Cadmium	J	0.028	0.26	mg/kg
				Silver	J	0.035	0.65	mg/kg
				Sodium	J	83.1	129	mg/kg
				Thallium	J	0.22	0.26	mg/kg
ASYSB-064-6219-FD	A0C310489013			Antimony	J	0.10	0.64	mg/kg
				Cadmium	J	0.059	0.25	mg/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
ASYSB-064-6219-FD	A0C310489013	6020	SO	Silver	J	0.046	0.64	mg/kg
				Thallium	J	0.21	0.25	mg/kg
LL11SB-065-5576-SO	A0C310489015			Antimony	J	0.078	0.58	mg/kg
				Cadmium	J	0.039	0.23	mg/kg
				Silver	J	0.021	0.58	mg/kg
				Sodium	J	52.5	116	mg/kg
				Thallium	J	0.11	0.23	mg/kg
LNWSD-083-5272-SD	A0C310489016			Antimony	J	0.090	0.70	mg/kg
				Silver	J	0.038	0.70	mg/kg
				Sodium	J	45.6	140	mg/kg
				Thallium	J	0.16	0.28	mg/kg
		8260B		2-Butanone (MEK)	J	5.4	28	ug/kg
				Acetone	J B	23	28	ug/kg
				Methylene chloride	J B	2.7	7.0	ug/kg
		8270C		bis(2-Ethylhexyl) phthalate	J	420	460	ug/kg
LNWSD-084-5273-SD	A0C310489017	6020		Antimony	J	0.24	1.0	mg/kg
				Silver	J	0.041	1.0	mg/kg
				Sodium	J	54.4	208	mg/kg
				Thallium	J	0.19	0.42	mg/kg
LNWSD-085-5274-SD	A0C310489018			Cadmium	J	0.11	0.25	mg/kg
				Silver	J	0.018	0.61	mg/kg
				Sodium	J	48.2	123	mg/kg
				Thallium	J	0.096	0.25	mg/kg
		8270C		2-Methylnaphthalene	J	150	400	ug/kg
LNWSD-086-5275-SD	A0C310489019	6020		Antimony	J	0.20	0.87	mg/kg
				Silver	J	0.040	0.87	mg/kg
				Sodium	J	45.7	173	mg/kg
				Thallium	J	0.19	0.35	mg/kg
		7471A		Mercury	J	0.047	0.17	mg/kg
		8330B		1,3,5-Trinitrobenzene	J PG	0.023	0.25	mg/kg
LNWSW-083-5276-SW	A0C310489020	6020	AQ	Arsenic	J	0.81	5.0	ug/L
				Cobalt	J	0.19	5.0	ug/L
				Lead	J	0.42	3.0	ug/L
				Nickel	J	1.2	10.0	ug/L
				Vanadium	J	0.86	10.0	ug/L
		8260B		Acetone	J	2.7	10	ug/L

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
LNWSW-083-5276-SW	A0C310489020	8270C	AQ	bis(2-Ethylhexyl) phthalate	J	0.90	10	ug/L
LNWSW-084-5277-SW	A0C310489021	6020		Antimony	J	0.23	5.0	ug/L
				Arsenic	J	0.91	5.0	ug/L
				Cadmium	J	0.043	2.0	ug/L
				Chromium	J	0.67	5.0	ug/L
				Cobalt	J	0.23	5.0	ug/L
				Copper	J	1.5	5.0	ug/L
				Lead	J	0.52	3.0	ug/L
				Nickel	J	1.1	10.0	ug/L
				Silver	J	0.028	5.0	ug/L
				Thallium	J	0.38	2.0	ug/L
				Vanadium	J	0.93	10.0	ug/L
		8260B		Acetone	J	1.6	10	ug/L
LNWSW-085-5278-SW	A0C310489022	6020		Arsenic	J	1.0	5.0	ug/L
				Chromium	J	3.1	5.0	ug/L
				Cobalt	J	0.25	5.0	ug/L
				Copper	J	1.4	5.0	ug/L
				Lead	J	0.59	3.0	ug/L
				Nickel	J	2.0	10.0	ug/L
				Vanadium	J	1.2	10.0	ug/L
		8260B		Acetone	J	1.7	10	ug/L
		8270C		bis(2-Ethylhexyl) phthalate	J	5.0	10	ug/L
LNWSW-086-5279-SW	A0C310489023	353.2 Modified		Nitrocellulose	B	0.13	0.50	mg/L
		6020		Arsenic	J	1.9	5.0	ug/L
				Cadmium	J	0.057	2.0	ug/L
				Chromium	J	0.77	5.0	ug/L
				Cobalt	J	1.3	5.0	ug/L
				Copper	J	1.4	5.0	ug/L
				Lead	J	1.0	3.0	ug/L
				Nickel	J	1.1	10.0	ug/L
				Selenium	J	0.20	5.0	ug/L
				Vanadium	J	1.2	10.0	ug/L
		8260B		Acetone	J	2.1	10	ug/L
		8270C		bis(2-Ethylhexyl) phthalate	J	4.8	10	ug/L
WSASD-040-5652-SD	A0C310489025	6020	SO	Cadmium	J	0.097	0.23	mg/kg
				Selenium	J	0.51	0.58	mg/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
WSASD-040-5652-SD	A0C310489025	6020	SO	Silver	J	0.0030	0.58	mg/kg
				Sodium	J	26.0	115	mg/kg
		8270C		bis(2-Ethylhexyl) phthalate	J	34	380	ug/kg
WSASW-040-5659-SW	A0C310489026	6020	AQ	Arsenic	J	0.78	5.0	ug/L
				Cobalt	J	0.12	5.0	ug/L
				Lead	J	0.27	3.0	ug/L
				Nickel	J	0.90	10.0	ug/L
				Vanadium	J	0.66	10.0	ug/L
		8260B		Acetone	J	2.3	10	ug/L
WSASW-040-6199-FD	A0C310489027	6020		Arsenic	J	0.55	5.0	ug/L
				Cobalt	J	0.12	5.0	ug/L
				Lead	J	0.28	3.0	ug/L
				Nickel	J	0.98	10.0	ug/L
				Vanadium	J	0.73	10.0	ug/L
		8260B		Acetone	J	2.7	10	ug/L
		8270C		bis(2-Ethylhexyl) phthalate	J	2.0	10	ug/L

Method Blank Outlier Report

Lab Reporting Batch : A0C310489 **Lab ID:** TALCAN

Analysis Method : 6020 **Analysis Date :** 04/13/2010

Preparation Type : 3050B **Preparation Date :** 04/01/2010

Method Blank Lab Sample ID : A0D010000028B **Preparation Batch :** 0091028

Potassium	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**4.2**	**100**	**mg/kg**	**J**	

Potassium contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : A0C310489 **Lab ID:** TALCAN

Analysis Method : 8330B **Analysis Date :** 04/16/2010

Preparation Type : 3535 **Preparation Date :** 04/02/2010

Method Blank Lab Sample ID : G0D020000105B **Preparation Batch :** 0092105

1,3,5-Trinitrobenzene	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.042**	**0.10**	**ug/L**	**J**	

1,3,5-Trinitrobenzene contamination found in the method blank did not qualify any samples.

Method Blank Outlier Report

Lab Reporting Batch : A0C310489
Lab ID: TALCAN
Analysis Method : 8260B
Analysis Date : 04/01/2010
Preparation Type : 5030B
Preparation Date : 04/01/2010
Method Blank Lab Sample ID : A0D020000132B
Preparation Batch : 0092132

Acetone	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**8.7**	**20**	**ug/kg**	**J**	**Common Contaminant**

Acetone was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
ASYSB-062-5727-SO	A0C310489009	1	30	B	ug/kg
ASYSB-062-6218-FD	A0C310489012	1	26	B	ug/kg
LNWSD-083-5272-SD	A0C310489016	1	23	J B	ug/kg

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**3.3**	**5.0**	**ug/kg**	**J**	**Common Contaminant**

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
ASYSB-062-5726-SO	A0C310489008	1	3.4	J B	ug/kg
ASYSB-062-5727-SO	A0C310489009	1	3.5	J B	ug/kg
ASYSB-062-6218-FD	A0C310489012	1	3.3	J B	ug/kg
LNWSD-083-5272-SD	A0C310489016	1	2.7	J B	ug/kg

Surrogate Recovery Outlier Report

Lab Report Batch: A0C310489 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent) Lower Limit	Upper Limit	Reject Point	Associated Target Analytes
LNWSW-083-5276-SW	A0C310489020	8082	1	AQ	Decachlorobiphenyl	34	40.0	135.0	10.0	All Target
LNWSW-084-5277-SW	A0C310489021	8081A	1	AQ	Decachlorobiphenyl	21	30.0	135.0	10.0	All Target
		8082			Decachlorobiphenyl	20	40.0	135.0	10.0	All Target
LNWSW-086-5279-SW	A0C310489023	8082	1	AQ	Decachlorobiphenyl	27	40.0	135.0	10.0	All Target
		8270C			2-Fluorophenol	1.7	20.0	110.0	10.0	Acid
WSASW-040-5659-SW	A0C310489026	8082	1	AQ	Decachlorobiphenyl	29	40.0	135.0	10.0	All Target
WSASW-040-6199-FD	A0C310489027	8081A	1	AQ	Decachlorobiphenyl	24	30.0	135.0	10.0	All Target
		8082			Decachlorobiphenyl	22	40.0	135.0	10.0	All Target

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: **Lab ID:**

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifiers	RPD Dup* (%)	RPD Criteria (%)	Result Units

*Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.

QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
CPCSW-045-5028-SW	A0D020496007	353.2 Modified	AQ	1.7	2.0	6.0
CPCSW-045-5028-SWMS	A0D020496007S	353.2 Modified	AQ	1.7	2.0	6.0
CPCSW-045-5028-SWMS	A0D020496007D	353.2 Modified	AQ	1.7	2.0	6.0
CPCSW-047-6045-FD	A0D020496009	353.2 Modified	AQ	0.2	2.0	6.0
CPCSW-045-5028-SW	A0D020496007	8081A	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8081A	AQ	0.2	2.0	
CPCSW-045-5028-SW	A0D020496007	8082	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8082	AQ	0.2	2.0	
CPCSW-045-5028-SW	A0D020496007	8260B	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8260B	AQ	0.2	2.0	
PBA08-QC-6023-TB	A0D020496011	8260B	AQ	1.7	2.0	
CPCSW-045-5028-SW	A0D020496007	8270C	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007S	8270C	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007D	8270C	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8270C	AQ	0.2	2.0	
CPCSW-045-5028-SW	A0D020496007	8270C PAH	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007S	8270C PAH	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007D	8270C PAH	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8270C PAH	AQ	0.2	2.0	
CPCSW-045-5028-SW	A0D020496007	8330B	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8330B	AQ	0.2	2.0	
CPCSW-045-5028-SW	A0D020496007	8330M	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007S	8330M	AQ	1.7	2.0	
CPCSW-045-5028-SWMS	A0D020496007D	8330M	AQ	1.7	2.0	
CPCSW-047-6045-FD	A0D020496009	8330M	AQ	0.2	2.0	

Temperature Outlier Report

Lab Report Batch: **Lab ID:**

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temp (C)	Temperature Criteria (C)			Between High and Gross Exceedence			Above Gross Exceedence		
								Detect Quals		Non-Detect Qual(s)	Detect Quals		Non-Detect Qual(s)
					Low	High	Gross Exceed	Non-Biased	Biased		Non-Biased	Biased	

QC Outlier Report: Holding Times

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

					Actual Holding Time			Criteria				Reported Dates (and Times)		
Client Sample ID	**Lab Sample ID**	**Analysis Method**	**Matrix**	**Prep Method**	**Coll To Prep**	**Prep To Ana**	**Coll To Ana**	**Coll To Prep**	**Prep To Ana**	**Coll To Ana**	**Unit of Meas**	**Collection Date**	**Preparation Date**	**Analysis Date**
CPCSD-045-5783-SD	A0D020496002	8082	SO	3540C	15.0	3.0		14	40		Days	04/01/2010	04/16/2010	04/19/2010
CPCSD-045-5783-SD	A0D020496002S	8082	SO	3540C	15.0	3.0		14	40		Days	04/01/2010	04/16/2010	04/19/2010
CPCSD-045-5783-SD	A0D020496002D	8082	SO	3540C	15.0	3.0		14	40		Days	04/01/2010	04/16/2010	04/19/2010
CPCSW-045-5028-S	A0D020496007	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
CPCSW-045-5028-S	A0D020496007S	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
CPCSW-045-5028-S	A0D020496007D	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
CPCSW-047-5030-S	A0D020496008	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
CPCSW-047-6045-F	A0D020496009	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
CPCSW-048-5031-S	A0D020496010	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
LL6SW-084-5794-SW	A0D020496012	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010
LNWSS-077M-5287-	A0D020496023	8081A	SO	3540C	28.0	6.0		14	40		Days	04/01/2010	04/29/2010	05/05/2010
		8270C	SO	3540C	18.0	2.0		14	40		Days	04/01/2010	04/19/2010	04/21/2010
LNWSS-077M-5287-	A0D020496023S	8081A	SO	3540C	28.0	6.0		14	40		Days	04/01/2010	04/29/2010	05/05/2010
LNWSS-077M-5287-	A0D020496023D	8081A	SO	3540C	28.0	6.0		14	40		Days	04/01/2010	04/29/2010	05/05/2010
PBA08-QC-6002-ER	A0D020496014	8330M	AQ	Gen Prep	19.0	1.0		14	40		Days	04/01/2010	04/20/2010	04/21/2010

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0095035 **Analysis Method :** 8270C **Analysis Date :** 04/20/2010

Preparation Batch : 0095035 **Preparation Type :** 3540C **Preparation Date :** 04/05/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSD-045-5023-SDMS	A0D020496001S	SO	Hexachloroethane	22		0.00	35.00	110.00	29.00
CPCSD-045-5023-SDMS	A0D020496001D		3,3'-Dichlorobenzidine	8.1		0.00	10.00	130.00	56.00
			Benzoic acid		62	0.00	0.00	110.00	20.00
			Hexachloroethane	19		0.00	35.00	110.00	29.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CPCSD-045-5023-SD	A0D020496001

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0095037 **Analysis Method :** 8270C **Analysis Date :** 04/20/2010

Preparation Batch : 0095037 **Preparation Type :** 3520C **Preparation Date :** 04/05/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSW-045-5028-SWM	A0D020496007S	AQ	3,3'-Dichlorobenzidine	14		0.00	20.00	110.00	56.00
CPCSW-045-5028-SWM	A0D020496007D		3,3'-Dichlorobenzidine	8.6		0.00	20.00	110.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CPCSW-045-5028-SW	A0D020496007

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0097020 **Analysis Method :** 6020 **Analysis Date :** 04/14/2010

Preparation Batch : 0097020 **Preparation Type :** 3050B **Preparation Date :** 04/07/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-072M-5282-SO	A0D020496018S	SO	Antimony	31		30.00	75.00	125.00	20.00
LNWSS-072M-5282-SO	A0D020496018D		Antimony	29		30.00	75.00	125.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CPCSD-045-5023-SD	A0D020496001
CPCSD-045-5783-SD	A0D020496002
CPCSD-047-5025-SD	A0D020496003
CPCSD-047-5785-SD	A0D020496004
CPCSD-048-5026-SD	A0D020496005
CPCSD-048-5786-SD	A0D020496006
LL6SD-084-5795-SD	A0D020496013
LNWSS-070M-5280-SO	A0D020496015
LNWSS-071M-5281-SO	A0D020496016
LNWSS-072M-5282-SO	A0D020496018
LNWSS-072M-6103-FD	A0D020496017
LNWSS-073M-5283-SO	A0D020496019
LNWSS-074M-5284-SO	A0D020496020
LNWSS-075M-5285-SO	A0D020496021
LNWSS-076M-5286-SO	A0D020496022
LNWSS-077M-5287-SO	A0D020496023
LNWSS-078M-5288-SO	A0D020496025
LNWSS-079M-5289-SO	A0D020496026

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0097044 **Analysis Method :** 8270C **Analysis Date :** 04/14/2010

Preparation Batch : 0097044 **Preparation Type :** 3540C **Preparation Date :** 04/07/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-072M-5282-SO	A0D020496018S	SO	3,3'-Dichlorobenzidine	0.0		0.00	10.00	130.00	56.00
			3-Nitroaniline	19		0.00	25.00	110.00	45.00
			4-Nitroaniline	30		0.00	35.00	115.00	30.00
LNWSS-072M-5282-SO	A0D020496018D		3,3'-Dichlorobenzidine	0.0		0.00	10.00	130.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
LNWSS-072M-5282-SO	A0D020496018

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0102179 **Analysis Method :** 8260B **Analysis Date :** 04/12/2010

Preparation Batch : 0102179 **Preparation Type :** 5030B **Preparation Date :** 04/12/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
PBA08-QC-6002-ERMS	A0D020496014S	AQ	Bromoform	59		0.00	70.00	130.00	30.00
PBA08-QC-6002-ERMSD	A0D020496014D		Bromoform	61		0.00	70.00	130.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
PBA08-QC-6002-ER	A0D020496014

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0110205 **Analysis Method :** 353.2 Modified **Analysis Date :** 04/21/2010

Preparation Batch : 0110205 **Preparation Type :** 3535 **Preparation Date :** 04/20/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSW-045-5028-SWM	A0D020496007D	AQ	Nitrocellulose		48		26.00	144.00	45.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CPCSW-045-5028-SW	A0D020496007
CPCSW-047-5030-SW	A0D020496008
CPCSW-047-6045-FD	A0D020496009
CPCSW-048-5031-SW	A0D020496010
LL6SW-084-5794-SW	A0D020496012
PBA08-QC-6002-ER	A0D020496014

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0118073 **Analysis Method :** 8081A **Analysis Date :** 05/05/2010

Preparation Batch : 0118073 **Preparation Type :** 3540C **Preparation Date :** 04/29/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-077M-5287-SO	A0D020496023S	SO	alpha-Chordane	58		0.00	65.00	120.00	65.00
LNWSS-077M-5287-SO	A0D020496023D		alpha-Chordane	52		0.00	65.00	120.00	65.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
LNWSS-077M-5287-SO	A0D020496023

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0095035 **Analysis Method :** 8270C **Analysis Date :** 04/20/2010

Preparation Batch : 0095035 **Preparation Type :** 3540C **Preparation Date :** 04/05/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSD-045-5023-SDMS	A0D020496001S	SO	Hexachloroethane	22		0.00	35.00	110.00	29.00
CPCSD-045-5023-SDMS	A0D020496001D		3,3'-Dichlorobenzidine	8.1		0.00	10.00	130.00	56.00
			Benzoic acid		62	0.00	0.00	110.00	20.00
			Hexachloroethane	19		0.00	35.00	110.00	29.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CPCSD-045-5023-SD	A0D020496001

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0095037 **Analysis Method :** 8270C **Analysis Date :** 04/20/2010

Preparation Batch : 0095037 **Preparation Type :** 3520C **Preparation Date :** 04/05/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSW-045-5028-SWM	A0D020496007S	AQ	3,3'-Dichlorobenzidine	14		0.00	20.00	110.00	56.00
CPCSW-045-5028-SWM	A0D020496007D		3,3'-Dichlorobenzidine	8.6		0.00	20.00	110.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CPCSW-045-5028-SW	A0D020496007

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0097020 **Analysis Method :** 6020 **Analysis Date :** 04/14/2010

Preparation Batch : 0097020 **Preparation Type :** 3050B **Preparation Date :** 04/07/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-072M-5282-SO	A0D020496018S	SO	Antimony	31		30.00	75.00	125.00	20.00
LNWSS-072M-5282-SO	A0D020496018D		Antimony	29		30.00	75.00	125.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CPCSD-045-5023-SD	A0D020496001
CPCSD-045-5783-SD	A0D020496002
CPCSD-047-5025-SD	A0D020496003
CPCSD-047-5785-SD	A0D020496004
CPCSD-048-5026-SD	A0D020496005
CPCSD-048-5786-SD	A0D020496006
LL6SD-084-5795-SD	A0D020496013
LNWSS-070M-5280-SO	A0D020496015
LNWSS-071M-5281-SO	A0D020496016
LNWSS-072M-5282-SO	A0D020496018
LNWSS-072M-6103-FD	A0D020496017
LNWSS-073M-5283-SO	A0D020496019
LNWSS-074M-5284-SO	A0D020496020
LNWSS-075M-5285-SO	A0D020496021
LNWSS-076M-5286-SO	A0D020496022
LNWSS-077M-5287-SO	A0D020496023
LNWSS-078M-5288-SO	A0D020496025
LNWSS-079M-5289-SO	A0D020496026

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0097044 **Analysis Method :** 8270C **Analysis Date :** 04/14/2010

Preparation Batch : 0097044 **Preparation Type :** 3540C **Preparation Date :** 04/07/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-072M-5282-SO	A0D020496018S	SO	3,3'-Dichlorobenzidine	0.0		0.00	10.00	130.00	56.00
			3-Nitroaniline	19		0.00	25.00	110.00	45.00
			4-Nitroaniline	30		0.00	35.00	115.00	30.00
LNWSS-072M-5282-SO	A0D020496018D		3,3'-Dichlorobenzidine	0.0		0.00	10.00	130.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
LNWSS-072M-5282-SO	A0D020496018

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0102179 **Analysis Method :** 8260B **Analysis Date :** 04/12/2010

Preparation Batch : 0102179 **Preparation Type :** 5030B **Preparation Date :** 04/12/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
PBA08-QC-6002-ERMS	A0D020496014S	AQ	Bromoform	59		0.00	70.00	130.00	30.00
PBA08-QC-6002-ERMSD	A0D020496014D		Bromoform	61		0.00	70.00	130.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
PBA08-QC-6002-ER	A0D020496014

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0110205 **Analysis Method :** 353.2 Modified **Analysis Date :** 04/21/2010

Preparation Batch : 0110205 **Preparation Type :** 3535 **Preparation Date :** 04/20/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CPCSW-045-5028-SWM	A0D020496007D	AQ	Nitrocellulose		48		26.00	144.00	45.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CPCSW-045-5028-SW	A0D020496007
CPCSW-047-5030-SW	A0D020496008
CPCSW-047-6045-FD	A0D020496009
CPCSW-048-5031-SW	A0D020496010
LL6SW-084-5794-SW	A0D020496012
PBA08-QC-6002-ER	A0D020496014

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0118073 **Analysis Method :** 8081A **Analysis Date :** 05/05/2010

Preparation Batch : 0118073 **Preparation Type :** 3540C **Preparation Date :** 04/29/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
LNWSS-077M-5287-SO	A0D020496023S	SO	alpha-Chordane	58		0.00	65.00	120.00	65.00
LNWSS-077M-5287-SO	A0D020496023D		alpha-Chordane	52		0.00	65.00	120.00	65.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
LNWSS-077M-5287-SO	A0D020496023

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 0096017 **Analysis Method :** 6020 **Analysis Date :** 04/14/2010

Preparation Batch : 0096017 **Preparation Type :** 3005A **Preparation Date :** 04/06/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	**Matrix**	**Analyte Name**	**Percent Recovery**	**RPD**	**Rejection Point**	**Lower Limit**	**Upper Limit**	**RPD**
A0D060000017C	AQ	Zinc	132		50.00	80.00	120.00	20.00

Associated Samples

Client Sample ID	Lab Sample ID
CPCSW-045-5028-SW	A0D020496007
CPCSW-047-5030-SW	A0D020496008
CPCSW-047-6045-FD	A0D020496009
CPCSW-048-5031-SW	A0D020496010
LL6SW-084-5794-SW	A0D020496012
PBA08-QC-6002-ER	A0D020496014

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch : 0097044 **Analysis Method :** 8270C **Analysis Date :** 04/09/2010

Preparation Batch : 0097044 **Preparation Type :** 3540C **Preparation Date :** 04/07/2010

Lab Reporting Batch : A0D020496 **Lab ID:** TALCAN

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	**Matrix**	**Analyte Name**	**Percent Recovery**	**RPD**	**Rejection Point**	**Lower Limit**	**Upper Limit**	**RPD**
A0D070000044C	SO	2,4,6-Trichlorophenol	37		10.00	45.00	110.00	29.00

Associated Samples

Client Sample ID	Lab Sample ID
LNWSS-070M-5280-SO	A0D020496015
LNWSS-071M-5281-SO	A0D020496016
LNWSS-072M-5282-SO	A0D020496018
LNWSS-072M-6103-FD	A0D020496017
LNWSS-073M-5283-SO	A0D020496019
LNWSS-074M-5284-SO	A0D020496020
LNWSS-075M-5285-SO	A0D020496021
LNWSS-076M-5286-SO	A0D020496022
LNWSS-078M-5288-SO	A0D020496025

Scope of Data Qualification: The outlier in the LCS qualifies that analyte in all samples with the same Preparation Batch ID as the LCS

Project Number and Name: 172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-045-5023-SD	A0D020496001	8081A	SO	Aldrin	U	120	117.647059	ug/kg
				delta-BHC	U	120	117.647059	ug/kg
		8260B		2-Hexanone	U	120	117.647059	ug/kg
				4-methyl-2-pentanone (MIBK)	U	120	117.647059	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.26	0.06058824	mg/kg
				1,3-Dinitrobenzene	U	0.26	1.51470588	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.26	1.51470588	mg/kg
				2,4-Dinitrotoluene	U	0.26	1.51470588	mg/kg
				2,6-Dinitrotoluene	U	0.26	1.51470588	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	1.51470588	mg/kg
				2-Nitrotoluene	U	0.26	1.51470588	mg/kg
				3-Nitrotoluene	U	0.26	1.51470588	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	1.51470588	mg/kg
				4-Nitrotoluene	U	0.52	3.02941176	mg/kg
				Nitrobenzene	U	0.26	1.51470588	mg/kg
		8330M		Nitroguanidine	U	0.26	1.51470588	mg/kg
CPCSD-045-5783-SD	A0D020496002	8081A	SO	Aldrin	U	29	28.9855072	ug/kg
				alpha-Chordane	U	22	21.7391304	ug/kg
				delta-BHC	U	29	28.9855072	ug/kg
				Endosulfan sulfate	U	22	21.7391304	ug/kg
				Endrin aldehyde	U	22	21.7391304	ug/kg
		8082		Aroclor 1016	U	48	2.46376812	ug/kg
				Aroclor 1016	U	48	2.46376812	ug/kg
				Aroclor 1221	U	48	2.46376812	ug/kg
				Aroclor 1221	U	48	2.46376812	ug/kg
				Aroclor 1232	U	48	2.46376812	ug/kg
				Aroclor 1232	U	48	2.46376812	ug/kg
				Aroclor 1242	U	48	2.46376812	ug/kg
				Aroclor 1242	U	48	2.46376812	ug/kg
				Aroclor 1248	U	48	2.46376812	ug/kg
				Aroclor 1248	U	48	2.46376812	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-045-5783-SD	A0D020496002	8082	SO	Aroclor 1254	U	48	2.46376812	ug/kg
				Aroclor 1254	U	48	2.46376812	ug/kg
				Aroclor 1260	U	48	2.46376812	ug/kg
				Aroclor 1260	U	48	2.46376812	ug/kg
		8260B		2-Hexanone	U	29	28.9855072	ug/kg
				4-methyl-2-pentanone (MIBK)	U	29	28.9855072	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	480	478.26087	ug/kg
				1,2-Dichlorobenzene	U	480	478.26087	ug/kg
				1,3-Dichlorobenzene	U	480	478.26087	ug/kg
				1,4-Dichlorobenzene	U	480	478.26087	ug/kg
				2,4,5-Trichlorophenol	U	480	478.26087	ug/kg
				2,4,6-Trichlorophenol	U	480	478.26087	ug/kg
				2,4-Dichlorophenol	U	480	478.26087	ug/kg
				2,4-Dimethylphenol	U	480	478.26087	ug/kg
				2,4-Dinitrophenol	U	1200	1159.42029	ug/kg
				2,4-Dinitrotoluene	U	480	478.26087	ug/kg
				2,6-Dinitrotoluene	U	480	478.26087	ug/kg
				2-Chloronaphthalene	U	480	478.26087	ug/kg
				2-Chlorophenol	U	480	478.26087	ug/kg
				2-Methylphenol	U	480	478.26087	ug/kg
				2-Nitroaniline	U	1200	1159.42029	ug/kg
				2-Nitrophenol	U	480	478.26087	ug/kg
				3,3'-Dichlorobenzidine	U	480	478.26087	ug/kg
				3-methylphenol/4-methylphenol	U	480	#Error	ug/kg
				3-Nitroaniline	U	1200	1159.42029	ug/kg
				4,6-Dinitro-2-methylphenol	U	1200	1159.42029	ug/kg
				4-Bromophenyl phenyl ether	U	480	478.26087	ug/kg
				4-Chloro-3-methylphenol	U	480	478.26087	ug/kg
				4-Chloroaniline	U	480	478.26087	ug/kg
				4-Chlorophenyl phenyl ether	U	480	478.26087	ug/kg
				4-Nitroaniline	U	1200	1159.42029	ug/kg
				4-Nitrophenol	U	1200	1159.42029	ug/kg
				Benzoic acid	U	1200	1159.42029	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-045-5783-SD	A0D020496002	8270C	SO	Benzyl alcohol	U	480	478.26087	ug/kg
				bis(2-Chloroethoxy)methane	U	480	478.26087	ug/kg
				bis(2-Chloroethyl) ether	U	480	478.26087	ug/kg
				Bis(2-chloroisopropyl) ether	U	480	478.26087	ug/kg
				bis(2-Ethylhexyl) phthalate	U	480	478.26087	ug/kg
				Butyl benzyl phthalate	U	480	478.26087	ug/kg
				Dibenzofuran	U	480	478.26087	ug/kg
				Diethyl phthalate	U	480	478.26087	ug/kg
				Dimethyl phthalate	U	480	478.26087	ug/kg
				Di-n-octyl phthalate	U	480	478.26087	ug/kg
				Hexachlorobenzene	U	480	478.26087	ug/kg
				Hexachlorobutadiene	U	480	478.26087	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	480	#Error	ug/kg
				Hexachloroethane	U	480	478.26087	ug/kg
				Isophorone	U	480	478.26087	ug/kg
				Nitrobenzene	U	480	478.26087	ug/kg
				N-Nitrosodi-n-propylamine	U	480	478.26087	ug/kg
				N-Nitrosodiphenylamine	U	480	478.26087	ug/kg
				Pentachlorophenol	U	480	478.26087	ug/kg
				Phenol	U	480	478.26087	ug/kg
CPCSD-047-5025-SD	A0D020496003	6020	SO	Thallium	U	1.3	1.25	mg/kg
		7471A		Mercury	U	0.64	0.625	mg/kg
		8081A		4,4'-DDD	U	64	62.5	ug/kg
				4,4'-DDE	U	55	53.125	ug/kg
				4,4'-DDT	U	64	62.5	ug/kg
				Aldrin	U	130	125	ug/kg
				alpha-BHC	U	80	78.125	ug/kg
				alpha-Chordane	U	96	93.75	ug/kg
				beta-BHC	U	110	109.375	ug/kg
				delta-BHC	U	130	125	ug/kg
				Dieldrin	U	55	53.125	ug/kg
				Endosulfan I	U	55	53.125	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5025-SD	A0D020496003	8081A	SO	Endosulfan II	U	80	78.125	ug/kg
				Endosulfan sulfate	U	96	93.75	ug/kg
				Endrin	U	55	53.125	ug/kg
				Endrin aldehyde	U	96	93.75	ug/kg
				Endrin ketone	U	64	62.5	ug/kg
				gamma-BHC (Lindane)	U	80	78.125	ug/kg
				gamma-Chlordane	U	55	53.125	ug/kg
				Heptachlor	U	110	109.375	ug/kg
				Heptachlor epoxide	U	80	78.125	ug/kg
				Methoxychlor	U	160	156.25	ug/kg
				Toxaphene	U	2200	2093.75	ug/kg
		8082		Aroclor 1016	U	210	10.625	ug/kg
				Aroclor 1221	U	210	10.625	ug/kg
				Aroclor 1232	U	210	10.625	ug/kg
				Aroclor 1242	U	210	10.625	ug/kg
				Aroclor 1248	U	210	10.625	ug/kg
				Aroclor 1254	U	210	10.625	ug/kg
				Aroclor 1260	U	210	10.625	ug/kg
		8260B		1,1,1-Trichloroethane	U	32	31.25	ug/kg
				1,1,2,2-Tetrachloroethane	U	32	31.25	ug/kg
				1,1,2-Trichloroethane	U	32	31.25	ug/kg
				1,1-Dichloroethane	U	32	31.25	ug/kg
				1,1-Dichloroethene	U	32	31.25	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	32	31.25	ug/kg
				1,2-Dichloroethane	U	32	31.25	ug/kg
				1,2-Dichloroethene (total)	U	32	31.25	ug/kg
				1,2-Dichloropropane	U	32	31.25	ug/kg
				2-Hexanone	U	130	125	ug/kg
				4-methyl-2-pentanone (MIBK)	U	130	125	ug/kg
				Benzene	U	32	31.25	ug/kg
				Bromochloromethane	U	32	31.25	ug/kg
				Bromodichloromethane	U	32	31.25	ug/kg
				Bromoform	U	32	31.25	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5025-SD	A0D020496003	8260B	SO	Bromomethane (Methyl bromide)	U	32	31.25	ug/kg
				Carbon disulfide	U	32	31.25	ug/kg
				Carbon tetrachloride	U	32	31.25	ug/kg
				Chlorobenzene	U	32	31.25	ug/kg
				Chlorodibromomethane	U	32	31.25	ug/kg
				Chloroethane	U	32	31.25	ug/kg
				Chloroform	U	32	31.25	ug/kg
				Chloromethane	U	32	31.25	ug/kg
				cis-1,3-Dichloropropene	U	32	31.25	ug/kg
				Ethylbenzene	U	32	31.25	ug/kg
				Styrene	U	32	31.25	ug/kg
				Tetrachloroethene	U	32	31.25	ug/kg
				Toluene	U	32	31.25	ug/kg
				trans-1,3-Dichloropropene	U	32	31.25	ug/kg
				Trichloroethene	U	32	31.25	ug/kg
				Vinyl chloride	U	32	31.25	ug/kg
				Xylene (Total)	U	64	62.5	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	2100	2062.5	ug/kg
				1,2-Dichlorobenzene	U	2100	2062.5	ug/kg
				1,3-Dichlorobenzene	U	2100	2062.5	ug/kg
				1,4-Dichlorobenzene	U	2100	2062.5	ug/kg
				2,4,5-Trichlorophenol	U	2100	2062.5	ug/kg
				2,4,6-Trichlorophenol	U	2100	2062.5	ug/kg
				2,4-Dichlorophenol	U	2100	2062.5	ug/kg
				2,4-Dimethylphenol	U	2100	2062.5	ug/kg
				2,4-Dinitrophenol	U	5100	5000	ug/kg
				2,4-Dinitrotoluene	U	2100	2062.5	ug/kg
				2,6-Dinitrotoluene	U	2100	2062.5	ug/kg
				2-Chloronaphthalene	U	2100	2062.5	ug/kg
				2-Chlorophenol	U	2100	2062.5	ug/kg
				2-Methylnaphthalene	U	2100	2062.5	ug/kg
				2-Methylphenol	U	2100	2062.5	ug/kg
				2-Nitroaniline	U	5100	5000	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5025-SD	A0D020496003	8270C	SO	2-Nitrophenol	U	2100	2062.5	ug/kg
				3,3'-Dichlorobenzidine	U	2100	2062.5	ug/kg
				3-methylphenol/4-methylphenol	U	2100	#Error	ug/kg
				3-Nitroaniline	U	5100	5000	ug/kg
				4,6-Dinitro-2-methylphenol	U	5100	5000	ug/kg
				4-Bromophenyl phenyl ether	U	2100	2062.5	ug/kg
				4-Chloro-3-methylphenol	U	2100	2062.5	ug/kg
				4-Chloroaniline	U	2100	2062.5	ug/kg
				4-Chlorophenyl phenyl ether	U	2100	2062.5	ug/kg
				4-Nitroaniline	U	5100	5000	ug/kg
				4-Nitrophenol	U	5100	5000	ug/kg
				Benzoic acid	U	5100	5000	ug/kg
				Benzyl alcohol	U	2100	2062.5	ug/kg
				bis(2-Chloroethoxy)methane	U	2100	2062.5	ug/kg
				bis(2-Chloroethyl) ether	U	2100	2062.5	ug/kg
				Bis(2-chloroisopropyl) ether	U	2100	2062.5	ug/kg
				Butyl benzyl phthalate	U	2100	2062.5	ug/kg
				Carbazole	U	320	312.5	ug/kg
				Dibenzofuran	U	2100	2062.5	ug/kg
				Diethyl phthalate	U	2100	2062.5	ug/kg
				Dimethyl phthalate	U	2100	2062.5	ug/kg
				Di-n-butyl phthalate	U	2100	2062.5	ug/kg
				Di-n-octyl phthalate	U	2100	2062.5	ug/kg
				Hexachlorobenzene	U	2100	2062.5	ug/kg
				Hexachlorobutadiene	U	2100	2062.5	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	2100	#Error	ug/kg
				Hexachloroethane	U	2100	2062.5	ug/kg
				Isophorone	U	2100	2062.5	ug/kg
				Nitrobenzene	U	2100	2062.5	ug/kg
				N-Nitrosodi-n-propylamine	U	2100	2062.5	ug/kg
				N-Nitrosodiphenylamine	U	2100	2062.5	ug/kg
				Pentachlorophenol	U	2100	2062.5	ug/kg
				Phenol	U	2100	2062.5	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5025-SD	A0D020496003	8330M	SO	Nitroguanidine	U	0.26	1.59375	mg/kg
CPCSD-047-5785-SD	A0D020496004	8081A	SO	Aldrin	U	29	28.9855072	ug/kg
				alpha-Chordane	U	22	21.7391304	ug/kg
				delta-BHC	U	29	28.9855072	ug/kg
				Endosulfan sulfate	U	22	21.7391304	ug/kg
				Endrin aldehyde	U	22	21.7391304	ug/kg
		8082		Aroclor 1016	U	48	2.46376812	ug/kg
				Aroclor 1221	U	48	2.46376812	ug/kg
				Aroclor 1232	U	48	2.46376812	ug/kg
				Aroclor 1242	U	48	2.46376812	ug/kg
				Aroclor 1248	U	48	2.46376812	ug/kg
				Aroclor 1254	U	48	2.46376812	ug/kg
				Aroclor 1260	U	48	2.46376812	ug/kg
		8260B		2-Hexanone	U	29	28.9855072	ug/kg
				4-methyl-2-pentanone (MIBK)	U	29	28.9855072	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	480	478.26087	ug/kg
				1,2-Dichlorobenzene	U	480	478.26087	ug/kg
				1,3-Dichlorobenzene	U	480	478.26087	ug/kg
				1,4-Dichlorobenzene	U	480	478.26087	ug/kg
				2,4,5-Trichlorophenol	U	480	478.26087	ug/kg
				2,4,6-Trichlorophenol	U	480	478.26087	ug/kg
				2,4-Dichlorophenol	U	480	478.26087	ug/kg
				2,4-Dimethylphenol	U	480	478.26087	ug/kg
				2,4-Dinitrophenol	U	1200	1159.42029	ug/kg
				2,4-Dinitrotoluene	U	480	478.26087	ug/kg
				2,6-Dinitrotoluene	U	480	478.26087	ug/kg
				2-Chloronaphthalene	U	480	478.26087	ug/kg
				2-Chlorophenol	U	480	478.26087	ug/kg
				2-Methylnaphthalene	U	480	478.26087	ug/kg
				2-Methylphenol	U	480	478.26087	ug/kg
				2-Nitroaniline	U	1200	1159.42029	ug/kg
				2-Nitrophenol	U	480	478.26087	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5785-SD	A0D020496004	8270C	SO	3,3'-Dichlorobenzidine	U	480	478.26087	ug/kg
				3-methylphenol/4-methylphenol	U	480	#Error	ug/kg
				3-Nitroaniline	U	1200	1159.42029	ug/kg
				4,6-Dinitro-2-methylphenol	U	1200	1159.42029	ug/kg
				4-Bromophenyl phenyl ether	U	480	478.26087	ug/kg
				4-Chloro-3-methylphenol	U	480	478.26087	ug/kg
				4-Chloroaniline	U	480	478.26087	ug/kg
				4-Chlorophenyl phenyl ether	U	480	478.26087	ug/kg
				4-Nitroaniline	U	1200	1159.42029	ug/kg
				4-Nitrophenol	U	1200	1159.42029	ug/kg
				Benzoic acid	U	1200	1159.42029	ug/kg
				Benzyl alcohol	U	480	478.26087	ug/kg
				bis(2-Chloroethoxy)methane	U	480	478.26087	ug/kg
				bis(2-Chloroethyl) ether	U	480	478.26087	ug/kg
				Bis(2-chloroisopropyl) ether	U	480	478.26087	ug/kg
				bis(2-Ethylhexyl) phthalate	U	480	478.26087	ug/kg
				Butyl benzyl phthalate	U	480	478.26087	ug/kg
				Dibenzofuran	U	480	478.26087	ug/kg
				Diethyl phthalate	U	480	478.26087	ug/kg
				Dimethyl phthalate	U	480	478.26087	ug/kg
				Di-n-butyl phthalate	U	480	478.26087	ug/kg
				Di-n-octyl phthalate	U	480	478.26087	ug/kg
				Hexachlorobenzene	U	480	478.26087	ug/kg
				Hexachlorobutadiene	U	480	478.26087	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	480	#Error	ug/kg
				Hexachloroethane	U	480	478.26087	ug/kg
				Isophorone	U	480	478.26087	ug/kg
				Nitrobenzene	U	480	478.26087	ug/kg
				N-Nitrosodi-n-propylamine	U	480	478.26087	ug/kg
				N-Nitrosodiphenylamine	U	480	478.26087	ug/kg
				Pentachlorophenol	U	480	478.26087	ug/kg
				Phenol	U	480	478.26087	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.01434783	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-047-5785-SD	A0D020496004	8330B	SO	1,3-Dinitrobenzene	U	0.25	0.35869565	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.35869565	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.35869565	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.35869565	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.35869565	mg/kg
				2-Nitrotoluene	U	0.25	0.35869565	mg/kg
				3-Nitrotoluene	U	0.25	0.35869565	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.35869565	mg/kg
				4-Nitrotoluene	U	0.50	0.71739130	mg/kg
				Nitrobenzene	U	0.25	0.35869565	mg/kg
		8330M		Nitroguanidine	U	0.26	0.36956522	mg/kg
CPCSD-048-5026-SD	A0D020496005	8081A	SO	4,4'-DDD	U	18	17.5438596	ug/kg
				4,4'-DDE	U	15	14.9122807	ug/kg
				4,4'-DDT	U	18	17.5438596	ug/kg
				alpha-BHC	U	22	21.9298246	ug/kg
				beta-BHC	U	31	30.7017544	ug/kg
				Dieldrin	U	15	14.9122807	ug/kg
				Endosulfan I	U	15	14.9122807	ug/kg
				Endosulfan II	U	22	21.9298246	ug/kg
				Endrin	U	15	14.9122807	ug/kg
				Endrin ketone	U	18	17.5438596	ug/kg
				gamma-BHC (Lindane)	U	22	21.9298246	ug/kg
				gamma-Chlordane	U	15	14.9122807	ug/kg
				Heptachlor	U	31	30.7017544	ug/kg
				Heptachlor epoxide	U	22	21.9298246	ug/kg
				Methoxychlor	U	44	43.8596491	ug/kg
				Toxaphene	U	590	587.719298	ug/kg
		8082		Aroclor 1016	U	58	2.98245614	ug/kg
				Aroclor 1221	U	58	2.98245614	ug/kg
				Aroclor 1232	U	58	2.98245614	ug/kg
				Aroclor 1242	U	58	2.98245614	ug/kg
				Aroclor 1248	U	58	2.98245614	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-048-5026-SD	A0D020496005	8082	SO	Aroclor 1254	U	58	2.98245614	ug/kg
				Aroclor 1260	U	58	2.98245614	ug/kg
		8260B		1,1,1-Trichloroethane	U	8.8	8.77192982	ug/kg
				1,1,2,2-Tetrachloroethane	U	8.8	8.77192982	ug/kg
				1,1,2-Trichloroethane	U	8.8	8.77192982	ug/kg
				1,1-Dichloroethane	U	8.8	8.77192982	ug/kg
				1,1-Dichloroethene	U	8.8	8.77192982	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	8.8	8.77192982	ug/kg
				1,2-Dichloroethane	U	8.8	8.77192982	ug/kg
				1,2-Dichloroethene (total)	U	8.8	8.77192982	ug/kg
				1,2-Dichloropropane	U	8.8	8.77192982	ug/kg
				Benzene	U	8.8	8.77192982	ug/kg
				Bromochloromethane	U	8.8	8.77192982	ug/kg
				Bromodichloromethane	U	8.8	8.77192982	ug/kg
				Bromoform	U	8.8	8.77192982	ug/kg
				Bromomethane (Methyl bromide)	U	8.8	8.77192982	ug/kg
				Carbon disulfide	U	8.8	8.77192982	ug/kg
				Carbon tetrachloride	U	8.8	8.77192982	ug/kg
				Chlorobenzene	U	8.8	8.77192982	ug/kg
				Chlorodibromomethane	U	8.8	8.77192982	ug/kg
				Chloroethane	U	8.8	8.77192982	ug/kg
				Chloroform	U	8.8	8.77192982	ug/kg
				Chloromethane	U	8.8	8.77192982	ug/kg
				cis-1,3-Dichloropropene	U	8.8	8.77192982	ug/kg
				Ethylbenzene	U	8.8	8.77192982	ug/kg
				Styrene	U	8.8	8.77192982	ug/kg
				Tetrachloroethene	U	8.8	8.77192982	ug/kg
				Toluene	U	8.8	8.77192982	ug/kg
				trans-1,3-Dichloropropene	U	8.8	8.77192982	ug/kg
				Trichloroethene	U	8.8	8.77192982	ug/kg
				Vinyl chloride	U	8.8	8.77192982	ug/kg
				Xylene (Total)	U	18	17.5438596	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	580	578.947368	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-048-5026-SD	A0D020496005	8270C	SO	1,2-Dichlorobenzene	U	580	578.947368	ug/kg
				1,3-Dichlorobenzene	U	580	578.947368	ug/kg
				1,4-Dichlorobenzene	U	580	578.947368	ug/kg
				2,4,5-Trichlorophenol	U	580	578.947368	ug/kg
				2,4,6-Trichlorophenol	U	580	578.947368	ug/kg
				2,4-Dichlorophenol	U	580	578.947368	ug/kg
				2,4-Dimethylphenol	U	580	578.947368	ug/kg
				2,4-Dinitrotoluene	U	580	578.947368	ug/kg
				2,6-Dinitrotoluene	U	580	578.947368	ug/kg
				2-Chloronaphthalene	U	580	578.947368	ug/kg
				2-Chlorophenol	U	580	578.947368	ug/kg
				2-Methylnaphthalene	U	580	578.947368	ug/kg
				2-Methylphenol	U	580	578.947368	ug/kg
				2-Nitrophenol	U	580	578.947368	ug/kg
				3,3'-Dichlorobenzidine	U	580	578.947368	ug/kg
				3-methylphenol/4-methylphenol	U	580	#Error	ug/kg
				4-Bromophenyl phenyl ether	U	580	578.947368	ug/kg
				4-Chloro-3-methylphenol	U	580	578.947368	ug/kg
				4-Chloroaniline	U	580	578.947368	ug/kg
				4-Chlorophenyl phenyl ether	U	580	578.947368	ug/kg
				Benzyl alcohol	U	580	578.947368	ug/kg
				bis(2-Chloroethoxy)methane	U	580	578.947368	ug/kg
				bis(2-Chloroethyl) ether	U	580	578.947368	ug/kg
				Bis(2-chloroisopropyl) ether	U	580	578.947368	ug/kg
				bis(2-Ethylhexyl) phthalate	U	580	578.947368	ug/kg
				Butyl benzyl phthalate	U	580	578.947368	ug/kg
				Carbazole	U	88	87.7192982	ug/kg
				Dibenzofuran	U	580	578.947368	ug/kg
				Diethyl phthalate	U	580	578.947368	ug/kg
				Dimethyl phthalate	U	580	578.947368	ug/kg
				Di-n-butyl phthalate	U	580	578.947368	ug/kg
				Di-n-octyl phthalate	U	580	578.947368	ug/kg
				Hexachlorobenzene	U	580	578.947368	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-048-5026-SD	A0D020496005	8270C	SO	Hexachlorobutadiene	U	580	578.947368	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	580	#Error	ug/kg
				Hexachloroethane	U	580	578.947368	ug/kg
				Isophorone	U	580	578.947368	ug/kg
				Nitrobenzene	U	580	578.947368	ug/kg
				N-Nitrosodi-n-propylamine	U	580	578.947368	ug/kg
				N-Nitrosodiphenylamine	U	580	578.947368	ug/kg
				Pentachlorophenol	U	580	578.947368	ug/kg
				Phenol	U	580	578.947368	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.26	0.01789474	mg/kg
				1,3-Dinitrobenzene	U	0.26	0.44736842	mg/kg
				2,4-Dinitrotoluene	U	0.26	0.44736842	mg/kg
				2,6-Dinitrotoluene	U	0.26	0.44736842	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	0.44736842	mg/kg
				2-Nitrotoluene	U	0.26	0.44736842	mg/kg
				3-Nitrotoluene	U	0.26	0.44736842	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	0.44736842	mg/kg
				Nitrobenzene	U	0.26	0.44736842	mg/kg
CPCSD-048-5786-SD	A0D020496006	353.2 Modified	SO	Nitrocellulose	U	7.6	7.57575758	mg/kg
		8081A		4,4'-DDE	U	13	12.8787879	ug/kg
				alpha-BHC	U	19	18.9393939	ug/kg
				alpha-Chordane	U	23	22.7272727	ug/kg
				Dieldrin	U	13	12.8787879	ug/kg
				Endosulfan I	U	13	12.8787879	ug/kg
				Endosulfan II	U	19	18.9393939	ug/kg
				Endosulfan sulfate	U	23	22.7272727	ug/kg
				Endrin	U	13	12.8787879	ug/kg
				Endrin aldehyde	U	23	22.7272727	ug/kg
				gamma-BHC (Lindane)	U	19	18.9393939	ug/kg
				gamma-Chlordane	U	13	12.8787879	ug/kg
				Heptachlor epoxide	U	19	18.9393939	ug/kg
				Methoxychlor	U	38	37.8787879	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-048-5786-SD	A0D020496006	8081A	SO	Toxaphene	U	510	507.575758	ug/kg
		8260B		1,1,1-Trichloroethane	U	7.6	7.57575758	ug/kg
				1,1,2,2-Tetrachloroethane	U	7.6	7.57575758	ug/kg
				1,1,2-Trichloroethane	U	7.6	7.57575758	ug/kg
				1,1-Dichloroethane	U	7.6	7.57575758	ug/kg
				1,1-Dichloroethene	U	7.6	7.57575758	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	7.6	7.57575758	ug/kg
				1,2-Dichloroethane	U	7.6	7.57575758	ug/kg
				1,2-Dichloroethene (total)	U	7.6	7.57575758	ug/kg
				1,2-Dichloropropane	U	7.6	7.57575758	ug/kg
				Benzene	U	7.6	7.57575758	ug/kg
				Bromochloromethane	U	7.6	7.57575758	ug/kg
				Bromodichloromethane	U	7.6	7.57575758	ug/kg
				Bromoform	U	7.6	7.57575758	ug/kg
				Bromomethane (Methyl bromide)	U	7.6	7.57575758	ug/kg
				Carbon disulfide	U	7.6	7.57575758	ug/kg
				Carbon tetrachloride	U	7.6	7.57575758	ug/kg
				Chlorobenzene	U	7.6	7.57575758	ug/kg
				Chlorodibromomethane	U	7.6	7.57575758	ug/kg
				Chloroethane	U	7.6	7.57575758	ug/kg
				Chloroform	U	7.6	7.57575758	ug/kg
				Chloromethane	U	7.6	7.57575758	ug/kg
				cis-1,3-Dichloropropene	U	7.6	7.57575758	ug/kg
				Ethylbenzene	U	7.6	7.57575758	ug/kg
				Styrene	U	7.6	7.57575758	ug/kg
				Tetrachloroethene	U	7.6	7.57575758	ug/kg
				Toluene	U	7.6	7.57575758	ug/kg
				trans-1,3-Dichloropropene	U	7.6	7.57575758	ug/kg
				Trichloroethene	U	7.6	7.57575758	ug/kg
				Vinyl chloride	U	7.6	7.57575758	ug/kg
		8270C		Carbazole	U	76	75.7575758	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.015	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.375	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSD-048-5786-SD	A0D020496006	8330B	SO	2,4,6-Trinitrotoluene (TNT)	U	0.25	0.375	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.375	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.375	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.375	mg/kg
				2-Nitrotoluene	U	0.25	0.375	mg/kg
				3-Nitrotoluene	U	0.25	0.375	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.375	mg/kg
				4-Nitrotoluene	U	0.50	0.75	mg/kg
				Nitrobenzene	U	0.25	0.375	mg/kg
		8330M		Nitroguanidine	U	0.26	0.38636364	mg/kg
CPCSW-045-5028-SW	A0D020496007	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L
				2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L
				Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
CPCSW-047-5030-SW	A0D020496008	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L
				2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CPCSW-047-5030-SW	A0D020496008	8330B	AQ	Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
CPCSW-047-6045-FD	A0D020496009	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.147	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.147	ug/L
				2,4-Dinitrotoluene	U	0.15	0.147	ug/L
				2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				2-Nitrotoluene	U	0.15	0.147	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.147	ug/L
				Nitrobenzene	U	0.15	0.147	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.147	ug/L
CPCSW-048-5031-SW	A0D020496010	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.1485	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.1485	ug/L
				2,4-Dinitrotoluene	U	0.15	0.1485	ug/L
				2,6-Dinitrotoluene	U	0.15	0.1485	ug/L
				2-Amino-4,6-dinitrotoluene	U	0.30	0.297	ug/L
				2-Nitrotoluene	U	0.15	0.1485	ug/L
				3-Nitrotoluene	U	0.50	0.495	ug/L
				Hexahydro-1,3,5-Trinitro-1,3,5-Triaz	U	0.25	0.2475	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.1485	ug/L
				Nitrobenzene	U	0.15	0.1485	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.1485	ug/L
LL6SW-084-5794-SW	A0D020496012	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.147	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.147	ug/L
				2,4-Dinitrotoluene	U	0.15	0.147	ug/L
				2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				2-Nitrotoluene	U	0.15	0.147	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.147	ug/L
				Nitrobenzene	U	0.15	0.147	ug/L
LNWSS-071M-5281-SO	A0D020496016	8330B	SO	1,3,5-Trinitrobenzene	U	0.25	0.01011236	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSS-071M-5281-SO	A0D020496016	8330B	SO	1,3-Dinitrobenzene	U	0.25	0.25280899	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.25280899	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.25280899	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.25280899	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.25280899	mg/kg
				2-Nitrotoluene	U	0.25	0.25280899	mg/kg
				3-Nitrotoluene	U	0.25	0.25280899	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.25280899	mg/kg
				4-Nitrotoluene	U	0.50	0.50561798	mg/kg
				Nitrobenzene	U	0.25	0.25280899	mg/kg
LNWSS-072M-5282-SO	A0D020496018	8330B	SO	1,3,5-Trinitrobenzene	U	0.25	0.01009174	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.25229358	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.25229358	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.25229358	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.25229358	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.25229358	mg/kg
				2-Nitrotoluene	U	0.25	0.25229358	mg/kg
				3-Nitrotoluene	U	0.25	0.25229358	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.25229358	mg/kg
				4-Nitrotoluene	U	0.50	0.50458716	mg/kg
				Nitrobenzene	U	0.25	0.25229358	mg/kg
LNWSS-075M-5285-SO	A0D020496021	8330B	SO	1,3,5-Trinitrobenzene	U	0.25	0.01004057	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.2510142	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.2510142	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.2510142	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.2510142	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.2510142	mg/kg
				2-Nitrotoluene	U	0.25	0.2510142	mg/kg
				3-Nitrotoluene	U	0.25	0.2510142	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.2510142	mg/kg
				4-Nitrotoluene	U	0.50	0.5020284	mg/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSS-075M-5285-SO	A0D020496021	8330B	SO	Nitrobenzene	U	0.25	0.2510142	mg/kg
LNWSS-077M-5287-SO	A0D020496023	8081A	SO	Aldrin	U	4.1	4.06917599	ug/kg
				Aldrin	U	4.1	4.06917599	ug/kg
				alpha-Chordane	U	3.1	3.05188199	ug/kg
				beta-BHC	U	3.6	3.56052899	ug/kg
				delta-BHC	U	4.1	4.06917599	ug/kg
				delta-BHC	U	4.1	4.06917599	ug/kg
				Endosulfan sulfate	U	3.1	3.05188199	ug/kg
				Endosulfan sulfate	U	3.1	3.05188199	ug/kg
				Endrin aldehyde	U	3.1	3.05188199	ug/kg
				Endrin aldehyde	U	3.1	3.05188199	ug/kg
				Heptachlor	U	3.6	3.56052899	ug/kg
				Heptachlor	U	3.6	3.56052899	ug/kg
				Methoxychlor	U	5.1	5.08646999	ug/kg
				Methoxychlor	U	5.1	5.08646999	ug/kg
		8082		Aroclor 1016	U	34	1.7293998	ug/kg
				Aroclor 1221	U	34	1.7293998	ug/kg
				Aroclor 1232	U	34	1.7293998	ug/kg
				Aroclor 1242	U	34	1.7293998	ug/kg
				Aroclor 1248	U	34	1.7293998	ug/kg
				Aroclor 1254	U	34	1.7293998	ug/kg
				Aroclor 1260	U	34	1.7293998	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	340	335.707019	ug/kg
				1,2-Dichlorobenzene	U	340	335.707019	ug/kg
				1,3-Dichlorobenzene	U	340	335.707019	ug/kg
				1,4-Dichlorobenzene	U	340	335.707019	ug/kg
				2,4,5-Trichlorophenol	U	340	335.707019	ug/kg
				2,4,6-Trichlorophenol	U	340	335.707019	ug/kg
				2,4-Dichlorophenol	U	340	335.707019	ug/kg
				2,4-Dimethylphenol	U	340	335.707019	ug/kg
				2,4-Dinitrotoluene	U	340	335.707019	ug/kg
				2,6-Dinitrotoluene	U	340	335.707019	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSS-077M-5287-SO	A0D020496023	8270C	SO	2-Chloronaphthalene	U	340	335.707019	ug/kg
				2-Chlorophenol	U	340	335.707019	ug/kg
				2-Methylphenol	U	340	335.707019	ug/kg
				2-Nitrophenol	U	340	335.707019	ug/kg
				3,3'-Dichlorobenzidine	U	340	335.707019	ug/kg
				3-methylphenol/4-methylphenol	U	340	#Error	ug/kg
				4-Bromophenyl phenyl ether	U	340	335.707019	ug/kg
				4-Chloro-3-methylphenol	U	340	335.707019	ug/kg
				4-Chloroaniline	U	340	335.707019	ug/kg
				4-Chlorophenyl phenyl ether	U	340	335.707019	ug/kg
				Benzyl alcohol	U	340	335.707019	ug/kg
				bis(2-Chloroethoxy)methane	U	340	335.707019	ug/kg
				bis(2-Chloroethyl) ether	U	340	335.707019	ug/kg
				Bis(2-chloroisopropyl) ether	U	340	335.707019	ug/kg
				Butyl benzyl phthalate	U	340	335.707019	ug/kg
				Carbazole	U	51	50.8646999	ug/kg
				Dibenzofuran	U	340	335.707019	ug/kg
				Dimethyl phthalate	U	340	335.707019	ug/kg
				Di-n-octyl phthalate	U	340	335.707019	ug/kg
				Hexachlorobenzene	U	340	335.707019	ug/kg
				Hexachlorobutadiene	U	340	335.707019	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	340	#Error	ug/kg
				Hexachloroethane	U	340	335.707019	ug/kg
				Isophorone	U	340	335.707019	ug/kg
				Nitrobenzene	U	340	335.707019	ug/kg
				N-Nitrosodi-n-propylamine	U	340	335.707019	ug/kg
				N-Nitrosodiphenylamine	U	340	335.707019	ug/kg
				Pentachlorophenol	U	340	335.707019	ug/kg
				Phenol	U	340	335.707019	ug/kg
LNWSS-077M-5287-SO(V	A0D020496024	8260B	SO	2-Butanone (MEK)	U	26	25.6410256	ug/kg
				2-Hexanone	U	26	25.6410256	ug/kg
				4-methyl-2-pentanone (MIBK)	U	26	25.6410256	ug/kg

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Non-Qualified Outliers for Reporting Limits
(Sample is non-detect but reported result exceeds project requirements for reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LNWSS-077M-5287-SO(V	A0D020496024	8260B	SO	Acetone	U	26	25.6410256	ug/kg
				Xylene (Total)	U	13	12.8205128	ug/kg
PBA08-QC-6002-ER	A0D020496014	8330B	AQ	1,3-Dinitrobenzene	U	0.15	0.147	ug/L
				2,4,6-Trinitrotoluene (TNT)	U	0.15	0.147	ug/L
				2,4-Dinitrotoluene	U	0.15	0.147	ug/L
				2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				2-Nitrotoluene	U	0.15	0.147	ug/L
				4-Amino-2,6-Dinitrotoluene	U	0.15	0.147	ug/L
				Methyl-2,4,6-Trinitrophenylnitramin	U	0.15	0.147	ug/L
				Nitrobenzene	U	0.15	0.147	ug/L
				Octahydro-1,3,5,7-tetranitro-1,3,5,7	U	0.15	0.147	ug/L

* Reporting Limit Criteria = (Dilution Factor) * (Reporting Limit from the reference project library) * (Percent Moisture Correction)
Percent Moisture Correction:
Soil: 100 / (100 - Percent Moisture)
Water: 1

Project Number and Name: **172819.00.09456.00.9200.02.200 - RVAAP PBA2008 17 AOCs RI**

QC Outlier Report: Equipment Blank

Lab Reporting Batch :
Lab ID:
Method/Preparation Batch :
Analysis Date :
Client Sample ID :
Preparation Date :
Lab Sample ID :
Preparation Type :

Analysis Method :

No contamination was found.

QC Outlier Report: Trip Blank

Lab Reporting Batch :
Lab ID:
Method/Preparation Batch :
Analysis Date :
Client Sample ID :
Preparation Date :
Lab Sample ID :
Preparation Type :

Analysis Method :

No contamination was found.

Continuing Calibration (CCV) Outlier Report (Organics)

There are no Organic Continuing Calibrations with outliers

Continuing Calibration (CCAL) Outlier Report (Inorganics)

There are no Inorganic Continuing Calibrations with outliers

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CPCSD-045-5023-SD	A0D020496001	353.2 Modified	SO	Nitrocellulose	B	7.8	28.8	mg/kg
		6020		Antimony	J	1.4	2.9	mg/kg
				Selenium	J	2.2	2.9	mg/kg
				Silver	J	1.7	2.9	mg/kg
				Sodium	J	142	576	mg/kg
				Thallium	J	0.41	1.2	mg/kg
		7471A		Mercury	J	0.082	0.58	mg/kg
		8260B		2-Butanone (MEK)	J	47	120	ug/kg
				Carbon disulfide	J	3.3	29	ug/kg
				Methylene chloride	J B	7.2	29	ug/kg
		8330B		Methyl-2,4,6-Trinitrophenylnitramine (T	J PG	0.022	0.26	mg/kg
CPCSD-045-5783-SD	A0D020496002	353.2 Modified		Nitrocellulose	B	1.9	7.2	mg/kg
		6020		Antimony	J	0.15	0.72	mg/kg
				Silver	J	0.075	0.72	mg/kg
				Sodium	J	86.9	144	mg/kg
				Thallium	J	0.21	0.29	mg/kg
		7471A		Mercury	J	0.054	0.14	mg/kg
		8260B		2-Butanone (MEK)	J	12	29	ug/kg
				Methylene chloride	J B	1.8	7.2	ug/kg
		8270C		2-Methylnaphthalene	J	25	480	ug/kg
				Di-n-butyl phthalate	J	23	480	ug/kg
		8330B		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetr	J PG	0.015	0.24	mg/kg
CPCSD-047-5025-SD	A0D020496003	353.2 Modified		Nitrocellulose	B	10.4	32.1	mg/kg
		6020		Antimony	J	2.1	3.2	mg/kg
				Selenium	J	2.7	3.2	mg/kg
				Sodium	J	178	642	mg/kg
		8260B		2-Butanone (MEK)	J	55	130	ug/kg
				Methylene chloride	J B	12	32	ug/kg
		8270C		bis(2-Ethylhexyl) phthalate	J	160	2100	ug/kg
		8330B		Methyl-2,4,6-Trinitrophenylnitramine (T	J PG	0.024	0.25	mg/kg
CPCSD-047-5785-SD	A0D020496004	6020		Antimony	J	0.15	0.72	mg/kg
				Cadmium	J	0.24	0.29	mg/kg
				Silver	J	0.25	0.72	mg/kg
				Sodium	J	56.9	145	mg/kg
				Thallium	J	0.15	0.29	mg/kg
		8260B		2-Butanone (MEK)	J	13	29	ug/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CPCSD-047-5785-SD	A0D020496004	8260B	SO	Methylene chloride	J B	2.8	7.2	ug/kg
CPCSD-048-5026-SD	A0D020496005	353.2 Modified		Nitrocellulose	B	3.1	8.8	mg/kg
		6020		Antimony	J	0.45	0.88	mg/kg
				Selenium	J	0.79	0.88	mg/kg
				Sodium	J	73.0	176	mg/kg
				Thallium	J	0.16	0.35	mg/kg
		7471A		Mercury	J	0.036	0.18	mg/kg
		8260B		2-Butanone (MEK)	J	30	35	ug/kg
				Methylene chloride	J B	1.8	8.8	ug/kg
		8330B		2,4,6-Trinitrotoluene (TNT)	J PG	0.088	0.26	mg/kg
CPCSD-048-5786-SD	A0D020496006	6020		Antimony	J	0.17	0.76	mg/kg
				Cadmium	J	0.28	0.30	mg/kg
				Silver	J	0.71	0.76	mg/kg
				Sodium	J	85.5	151	mg/kg
				Thallium	J	0.15	0.30	mg/kg
		7471A		Mercury	J	0.031	0.15	mg/kg
		8260B		2-Butanone (MEK)	J	10	30	ug/kg
				Methylene chloride	J B	3.2	7.6	ug/kg
		8270C		Di-n-butyl phthalate	J	34	500	ug/kg
CPCSW-045-5028-SW	A0D020496007	6020	AQ	Antimony	J	0.88	5.0	ug/L
				Arsenic	J	0.92	5.0	ug/L
				Beryllium	J	0.034	1.0	ug/L
				Cadmium	J	0.043	2.0	ug/L
				Cobalt	J	0.15	5.0	ug/L
				Copper	J	1.6	5.0	ug/L
				Lead	J	0.29	3.0	ug/L
				Nickel	J	1.4	10.0	ug/L
				Selenium	J	0.32	5.0	ug/L
				Silver	J	0.029	5.0	ug/L
				Thallium	J	0.35	2.0	ug/L
		8260B		Acetone	J	1.8	10	ug/L
		8270C		Benzyl alcohol	J	4.9	10	ug/L
				bis(2-Ethylhexyl) phthalate	J B	0.90	10	ug/L
				Butyl benzyl phthalate	J	1.8	10	ug/L
CPCSW-047-5030-SW	A0D020496008	6020		Antimony	J	0.96	5.0	ug/L
				Arsenic	J	1.0	5.0	ug/L

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CPCSW-047-5030-SW	A0D020496008	6020	AQ	Beryllium	J	0.064	1.0	ug/L
				Cadmium	J	0.062	2.0	ug/L
				Chromium	J	0.62	5.0	ug/L
				Cobalt	J	0.39	5.0	ug/L
				Copper	J	2.1	5.0	ug/L
				Lead	J	0.47	3.0	ug/L
				Nickel	J	1.9	10.0	ug/L
				Selenium	J	0.23	5.0	ug/L
				Silver	J	0.070	5.0	ug/L
				Thallium	J	0.46	2.0	ug/L
				Vanadium	J	0.51	10.0	ug/L
				Zinc	J	10.9	40.0	ug/L
		8260B		Acetone	J	2.6	10	ug/L
		8270C		bis(2-Ethylhexyl) phthalate	J B	2.0	10	ug/L
		8330B		4-Amino-2,6-Dinitrotoluene	J	0.043	0.15	ug/L
CPCSW-047-6045-FD	A0D020496009	6020		Antimony	J	0.95	5.0	ug/L
				Arsenic	J	0.86	5.0	ug/L
				Beryllium	J	0.076	1.0	ug/L
				Cadmium	J	0.039	2.0	ug/L
				Cobalt	J	0.27	5.0	ug/L
				Copper	J	1.8	5.0	ug/L
				Lead	J	0.30	3.0	ug/L
				Nickel	J	1.7	10.0	ug/L
				Selenium	J	0.20	5.0	ug/L
				Silver	J	0.038	5.0	ug/L
				Vanadium	J	0.54	10.0	ug/L
		8081A		beta-BHC	J	0.018	0.050	ug/L
		8260B		Acetone	J	2.7	10	ug/L
		8330B		4-Amino-2,6-Dinitrotoluene	J	0.036	0.15	ug/L
CPCSW-048-5031-SW	A0D020496010	6020		Antimony	J	1.0	5.0	ug/L
				Arsenic	J	0.90	5.0	ug/L
				Beryllium	J	0.053	1.0	ug/L
				Cadmium	J	0.057	2.0	ug/L
				Chromium	J	0.56	5.0	ug/L
				Cobalt	J	0.41	5.0	ug/L
				Copper	J	1.9	5.0	ug/L

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CPCSW-048-5031-SW	A0D020496010	6020	AQ	Lead	J	0.32	3.0	ug/L
				Nickel	J	2.0	10.0	ug/L
				Selenium	J	0.31	5.0	ug/L
				Silver	J	0.053	5.0	ug/L
				Zinc	J	10.1	40.0	ug/L
		8260B		Acetone	J	2.2	10	ug/L
		8270C		bis(2-Ethylhexyl) phthalate	J B	1.1	10	ug/L
		8330B		4-Amino-2,6-Dinitrotoluene	J	0.070	0.15	ug/L
LL6SD-084-5795-SD	A0D020496013	6020	SO	Antimony	J	1.7	4.5	mg/kg
				Beryllium	J	0.65	0.89	mg/kg
				Cadmium	J	0.88	1.8	mg/kg
				Selenium	J	1.4	4.5	mg/kg
				Silver	J	0.21	4.5	mg/kg
				Sodium	J	148	891	mg/kg
		8330B		Methyl-2,4,6-Trinitrophenylnitramine (T	J PG	0.031	0.25	mg/kg
LL6SW-084-5794-SW	A0D020496012	6020	AQ	Antimony	J	0.29	5.0	ug/L
				Arsenic	J	0.81	5.0	ug/L
				Barium	J	9.9	10.0	ug/L
				Cobalt	J	0.090	5.0	ug/L
				Copper	J	2.4	5.0	ug/L
				Lead	J	0.28	3.0	ug/L
				Sodium	J	582	1000	ug/L
		8081A		beta-BHC	J	0.044	0.10	ug/L
		8260B		Acetone	J	2.3	10	ug/L
		8330B		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetr	J	0.062	0.15	ug/L
LNWSS-070M-5280-SO	A0D020496015	6020	SO	Antimony	J	0.14	0.51	mg/kg
				Silver	J	0.028	0.51	mg/kg
				Sodium	J	50.5	102	mg/kg
				Thallium	J	0.13	0.20	mg/kg
		7471A		Mercury	J	0.046	0.10	mg/kg
LNWSS-071M-5281-SO	A0D020496016	6020		Antimony	J	0.44	0.51	mg/kg
				Silver	J	0.058	0.51	mg/kg
				Sodium	J	40.4	102	mg/kg
				Thallium	J	0.16	0.20	mg/kg
		7471A		Mercury	J	0.040	0.10	mg/kg
LNWSS-072M-5282-SO	A0D020496018	6020		Antimony	J	0.25	0.51	mg/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
LNWSS-072M-5282-SO	A0D020496018	6020	SO	Silver	J	0.18	0.51	mg/kg
				Sodium	J	41.0	102	mg/kg
				Thallium	J	0.12	0.20	mg/kg
		7471A		Mercury	J	0.036	0.10	mg/kg
LNWSS-072M-6103-FD	A0D020496017	6020		Antimony	J	0.30	0.51	mg/kg
				Silver	J	0.23	0.51	mg/kg
				Sodium	J	48.4	102	mg/kg
				Thallium	J	0.14	0.20	mg/kg
		7471A		Mercury	J	0.055	0.10	mg/kg
LNWSS-073M-5283-SO	A0D020496019	6020		Antimony	J	0.11	0.51	mg/kg
				Cadmium	J	0.12	0.20	mg/kg
				Silver	J	0.032	0.51	mg/kg
				Sodium	J	35.3	102	mg/kg
				Thallium	J	0.16	0.20	mg/kg
		7471A		Mercury	J	0.034	0.10	mg/kg
		8330B		Nitroglycerin	J PG	0.14	0.50	mg/kg
LNWSS-074M-5284-SO	A0D020496020	6020		Antimony	J	0.14	0.51	mg/kg
				Cadmium	J	0.15	0.20	mg/kg
				Silver	J	0.036	0.51	mg/kg
				Sodium	J	68.4	102	mg/kg
				Thallium	J	0.16	0.20	mg/kg
		7471A		Mercury	J	0.025	0.10	mg/kg
LNWSS-075M-5285-SO	A0D020496021	6020		Antimony	J	0.19	0.51	mg/kg
				Silver	J	0.13	0.51	mg/kg
				Sodium	J	39.8	101	mg/kg
				Thallium	J	0.12	0.20	mg/kg
		7471A		Mercury	J	0.018	0.10	mg/kg
LNWSS-076M-5286-SO	A0D020496022	6020		Antimony	J	0.11	0.51	mg/kg
				Cadmium	J	0.12	0.20	mg/kg
				Silver	J	0.027	0.51	mg/kg
				Sodium	J	30.0	101	mg/kg
				Thallium	J	0.11	0.20	mg/kg
LNWSS-077M-5287-SO	A0D020496023	353.2 Modified		Nitrocellulose	B	0.81	5.1	mg/kg
		6020		Antimony	J	0.11	0.51	mg/kg
				Silver	J	0.028	0.51	mg/kg
				Sodium	J	32.1	102	mg/kg

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
LNWSS-077M-5287-SO	A0D020496023	6020	SO	Thallium	J	0.12	0.20	mg/kg
		7471A		Mercury	J	0.026	0.10	mg/kg
		8081A		4,4'-DDT	J	1.1	2.0	ug/kg
		8270C		2-Methylnaphthalene	J	10	340	ug/kg
				bis(2-Ethylhexyl) phthalate	J	23	340	ug/kg
				Diethyl phthalate	J	22	340	ug/kg
				Di-n-butyl phthalate	J	32	340	ug/kg
		8330M		Nitroguanidine	J	0.11	0.25	mg/kg
LNWSS-077M-5287-SO(V	A0D020496024	8260B		Methylene chloride	J B	1.5	6.4	ug/kg
LNWSS-078M-5288-SO	A0D020496025	6020		Antimony	J	0.18	0.51	mg/kg
				Cadmium	J	0.16	0.20	mg/kg
				Silver	J	0.037	0.51	mg/kg
				Sodium	J	42.8	102	mg/kg
				Thallium	J	0.13	0.20	mg/kg
		7471A		Mercury	J	0.041	0.10	mg/kg
LNWSS-079M-5289-SO	A0D020496026	6020		Antimony	J	0.13	0.51	mg/kg
				Cadmium	J	0.17	0.20	mg/kg
				Silver	J	0.042	0.51	mg/kg
				Sodium	J	33.3	102	mg/kg
				Thallium	J	0.15	0.20	mg/kg
		7471A		Mercury	J	0.047	0.10	mg/kg
		8330B		Methyl-2,4,6-Trinitrophenylnitramine (T	J PG	0.016	0.25	mg/kg
LNWSS-082-5292-SO	A0D020496029	7196A		Chromium, hexavalent	J	0.92	1.1	mg/kg
PBA08-QC-6002-ER	A0D020496014	6020	AQ	Aluminum	J B	25.7	100	ug/L
				Chromium	J	1.2	5.0	ug/L
				Cobalt	J	0.058	5.0	ug/L
				Iron	J	95.7	150	ug/L
				Nickel	J	1.2	10.0	ug/L
				Zinc	J	10.4	40.0	ug/L
		8260B		Toluene	J	0.34	1.0	ug/L
		8270C		Benzyl alcohol	J	0.78	10	ug/L
				Di-n-butyl phthalate	J	0.68	10	ug/L
PBA08-QC-6023-TB	A0D020496011	8260B		Acetone	J	4.6	10	ug/L

Method Blank Outlier Report

Lab Reporting Batch : A0D020496
Lab ID: TALCAN
Analysis Method : 8270C
Analysis Date : 04/20/2010
Preparation Type : 3520C
Preparation Date : 04/05/2010
Method Blank Lab Sample ID : A0D050000037B
Preparation Batch : 0095037

bis(2-Ethylhexyl) phthalate	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.95**	**10**	**ug/L**	**J**	**Common Contaminant**

bis(2-Ethylhexyl) phthalate was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
CPCSW-045-5028-SW	A0D020496007	1	0.90	J B	ug/L
CPCSW-047-5030-SW	A0D020496008	1	2.0	J B	ug/L
CPCSW-048-5031-SW	A0D020496010	1	1.1	J B	ug/L

Method Blank Outlier Report

Lab Reporting Batch : A0D020496
Lab ID: TALCAN
Analysis Method : 6020
Analysis Date : 04/14/2010
Preparation Type : 3005A
Preparation Date : 04/06/2010
Method Blank Lab Sample ID : A0D060000017B
Preparation Batch : 0096017

Aluminum	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**33.5**	**100**	**ug/L**	**J**	

Aluminum was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
PBA08-QC-6002-ER	A0D020496014	1	25.7	J B	ug/L

Method Blank Outlier Report

Lab Reporting Batch : A0D020496
Lab ID: TALCAN
Analysis Method : 8260B
Analysis Date : 04/05/2010
Preparation Type : 5030B
Preparation Date : 04/05/2010
Method Blank Lab Sample ID : A0D060000054B
Preparation Batch : 0096054

2-Hexanone	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.86**	**20**	**ug/kg**	**J**	

2-Hexanone contamination found in the method blank did not qualify any samples.

Acetone	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**8.6**	**20**	**ug/kg**	**J**	**Common Contaminant**

Acetone was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
CPCSD-045-5783-SD	A0D020496002	1	52	B	ug/kg

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**1.3**	**5.0**	**ug/kg**	**J**	**Common Contaminant**

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
CPCSD-045-5023-SD	A0D020496001	1	7.2	J B	ug/kg
CPCSD-045-5783-SD	A0D020496002	1	1.8	J B	ug/kg
CPCSD-048-5026-SD	A0D020496005	1	1.8	J B	ug/kg
LNWSS-077M-5287-SO(VOC	A0D020496024	1	1.5	J B	ug/kg

Method Blank Outlier Report

Lab Reporting Batch : A0D020496
Lab ID: TALCAN
Analysis Method : 8260B
Analysis Date : 04/06/2010
Preparation Type : 5030B
Preparation Date : 04/06/2010
Method Blank Lab Sample ID : A0D080000449B
Preparation Batch : 0098449

Acetone	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**6.7**	**20**	**ug/kg**	**J**	**Common Contaminant**

Acetone was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
CPCSD-047-5785-SD	A0D020496004	1	55	B	ug/kg
CPCSD-048-5786-SD	A0D020496006	1	51	B	ug/kg

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**2.2**	**5.0**	**ug/kg**	**J**	**Common Contaminant**

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
CPCSD-047-5025-SD	A0D020496003	1	12	J B	ug/kg
CPCSD-047-5785-SD	A0D020496004	1	2.8	J B	ug/kg
CPCSD-048-5786-SD	A0D020496006	1	3.2	J B	ug/kg

Surrogate Recovery Outlier Report

Lab Report Batch: A0D020496 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent) Lower Limit	Upper Limit	Reject Point	Associated Target Analytes
CPCSD-045-5023-SD	A0D020496001	8082	1	SO	Decachlorobiphenyl	56	60.0	125.0	10.0	All Target
CPCSD-047-5025-SD	A0D020496003	8081A	5	SO	TETRACHLORO-M-XYLENE	47	55.0	130.0	10.0	All Target
		8082	1		Decachlorobiphenyl	56	60.0	125.0	10.0	All Target
CPCSD-047-5785-SD	A0D020496004	8082	1	SO	Decachlorobiphenyl	55	60.0	125.0	10.0	All Target
CPCSD-048-5026-SD	A0D020496005	8082	1	SO	Decachlorobiphenyl	56	60.0	125.0	10.0	All Target
CPCSW-047-5030-SW	A0D020496008	8082	1	AQ	Decachlorobiphenyl	27	40.0	135.0	10.0	All Target
LL6SW-084-5794-SW	A0D020496012	8270C	1	AQ	2,4,6-Tribromophenol	24	40.0	125.0	10.0	Acid
					2-Fluorophenol	0.0	20.0	110.0	10.0	Acid
					Phenol-d5	6.3	10.0	115.0	10.0	Acid
					2-Fluorobiphenyl	36	50.0	110.0	10.0	Base/Neutral
					Nitrobenzene-d5	39				Base/Neutral
LNWSS-077M-5287-SO	A0D020496023	8081A	1	SO	Decachlorobiphenyl	51	55.0	130.0	10.0	All Target
					TETRACHLORO-M-XYLENE	38	55.0	130.0	10.0	All Target
		8082			Decachlorobiphenyl	39	60.0	125.0	10.0	All Target
PBA08-QC-6002-ER	A0D020496014	8082	1	AQ	Decachlorobiphenyl	34	40.0	135.0	10.0	All Target

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: **Lab ID:**

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifiers	RPD Dup* (%)	RPD Criteria (%)	Result Units

Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.

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