APPENDIX C

Data Quality Control Summary Report

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ACRONYMS AND ABBREVIATIONS

%D	Percent difference
ADR	Automated Data Review
AOC	Area of Concern
DoD	U.S. Department of Defense
DQA	Data Quality Assessment
DQO	Data Quality Objective
FWQAPP	Facility-wide Quality Assurance Project Plan
LCS	Laboratory Control Sample
MDL	Method Detection Level
MPR	Monthly Progress Report
MS	Matrix Spike
MSD	Matrix Spike Duplicate
Ohio EPA	Ohio Environmental Protection Agency
PAH	Polycyclic Aromatic Hydrocarbon
PBA08	Performance-Based Acquisition 2008
PBA08 SAP	Performance-Based Acquisition 2008 Supplemental Sampling and Analysis Plan Addendum No. 1
PCB	Polychlorinated Biphenyl
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
REIMS	RVAAP Environmental Information Management System
RI	Remedial Investigation
RPD	Relative Percent Difference
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
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 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 Science Applications International Corporation (SAIC) during the remedial investigations (RIs) at the former Ravenna Army Ammunition Plant (RVAAP) 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 C Block Quarry. 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 (DQOs) 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* (USACE 2001), herein referred to as the FWQAPP, 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 C Block Quarry. The purposes of these documents were to enumerate the quantity and type of samples to be taken to inspect the area of concern (AOC) 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 were 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 (MPRs) were completed by the Leidos Project Manager for the duration of the project. The MPRs contained 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 (QSM), Version 3; Louisville District analytical QA guidelines; and specific project goals and requirements. USEPA "definitive" data have been reported, and include:

- 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.

C.3 DATA VERIFICATION

The objective when evaluating the project data quality is to determine its usability. This evaluation is based on the interpretation of laboratory QC measures, field QC measures, and project DQOs. 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

With the exception of asbestos results, 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 – *QSM 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 all data except asbestos results. 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 QSM 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 reviewing these criteria. The primary objectives of this phase were to assess and summarize the quality and reliability of the data for their intended use and to document factors that may affect the usability of the data. This process did not include an 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 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 12 environmental soil samples were collected with approximately 1,070 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 100% of the sample analyses performed. No soil data were rejected.

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 qualified analyses grouped by media and analyte category, and Table C-4 shows the individual results qualified during review. The majority of the estimated values were based on values observed between the laboratory method detection levels (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, and continuing calibrations.

For the PBA08 RI, two field duplicates were analyzed for C Block Quarry soil media. 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-5 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, these 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 C Block Quarry

Media	Environmental Samples	Field Duplicates	USACE Split Samples	Trip Blanks	Equipment Rinse Blanks[a]	Source Water Blanks[b]
Soil	12	2	2	0	2	2

[a]Equipment rinse blanks were collected at a frequency of two per field cycle for the entire Performance-based Acquisition 2008 Remedial Investigation (PBA08 RI) for the 17 areas of concern (AOCs) as presented in Section 4.6 of the Performance-based Acquisition 2008 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 C Block Quarry

Environmental Samples	Laboratory SDG	Field Duplicates	USACE Split Samples	Trip Blanks[a]	Metals	Explosives	SVOCs	Propellants[b]	VOCs	Pesticides	PCBs	Asbestos
Soil												
CBLSB-007-5249-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-007-5250-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-007-5251-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-008-5253-SO	A0C230534	CBLSB-008-6126-FD	CBLSB-008-6128-QA	NS	X	X						X
CBLSB-008-5254-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-010-5257-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-010-5258-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-011-5261-SO	A0C230534	NS	NS	NS	X	X	X	X	X	X	X	
CBLSB-011-5262-SO	A0C230534	CBLSB-011-6127-FD	CBLSB-011-6129-QA	NS	X	X	X	X	X	X	X	
CBLSB-011-5263-SO	A0C230534	NS	NS	NS	X	X	X	X	X	X	X	
CBLSB-012-5265-SO	A0C230534	NS	NS	NS	X	X						X
CBLSB-012-5266-SO	A0C230534	NS	NS	NS	X	X						X

No equipment rinse blanks were collected at the area of concern during the Performance-based Acquisition 2008 Remedial Investigation.
[a]Trip blanks only accompany samples for VOCs in water.
[b]Propellants include nitrocellulose and nitroguanidine.
NS = Not sampled.
PCB = Polychlorinated biphenyl.
QC = Quality control.
SDG = Sample delivery group.
SVOC = Semi-volatile organic compound.
USACE = U.S. Army Corps of Engineers.
VOC = Volatile organic compound.

Table C-3. Summary of Qualified Results for Samples from C Block Quarry

Analysis Group	Validation Qualifier[a]	Validation Reason Code[b]	Number Qualified	Total Number of Analyses	Percent Qualified
Soil					
All Analyses	J	--	128	1,070	12
	UJ	--	309	1,070	29
	None	--	633	1,070	59
Metals	J	MS-J	28	322	8.7
	J	MS-J, RepLimit-J	13	322	4
	J	RepLimit-J	59	322	18
	UJ	MS-UJ	1	322	0.31
	UJ	RepLimit-J, CalBlk-U	11	322	3.4
	None	None	210	322	65
Explosives	J	RepLimit-J	6	224	2.7
	UJ	MS-UJ	2	224	0.89
	None	None	216	224	96
Propellants	None	None	8	8	100
SVOCs	J	RepLimit-J	21	264	8.0
	J	MS-J, RepLimit-J	1	264	0.38
	UJ	HT-UJ	99	264	38
	UJ	HT-UJ, MS-UJ	1	264	0.38
	UJ	MB-U, MS-J, RepLimit-J	2	264	0.76
	UJ	MB-U, RepLimit-J	3	264	1.1
	UJ	MS-UJ	44	264	17
	None	None	93	264	35
Pesticides	UJ	CCV-UJ	4	84	4.8
	None	None	80	84	95
PCBs	UJ	MS-UJ	2	28	7.1
	None	None	26	28	93
VOCs	UJ	MB-U, Surr-J, RepLimit-J	4	140	2.9
	UJ	Surr-UJ	136	140	97

[a]Validation Qualifiers: J = estimated, U = not detected, and UJ = not detected and reporting limit estimated.
[b]Validation Reason Codes: CalBlk = calibration blank, CCV = continuing calibration verification, HT = holding time,
MB = method blank, MS = matrix spike, RepLimit = reporting limit, and Surr = surrogate recovery.
PCB = Polychlorinated biphenyl.
SVOC = Semi-volatile organic compound.
VOC = Volatile organic compound.
-- = No data qualifier.

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Soil							
Metals (mg/kg)							
Antimony	A0C230534	CBLSB-007-5249-SO	0.099	0.64	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-007-5250-SO	0.61	0.61	U	UJ	MS-UJ
Antimony	A0C230534	CBLSB-007-5251-SO	0.080	0.61	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-008-5253-SO	0.087	0.65	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-008-5254-SO	0.082	0.60	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-008-6126-FD	0.11	0.66	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-010-5257-SO	0.17	0.72	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-010-5258-SO	0.15	0.67	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-011-5261-SO	0.069	0.52	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-011-5262-SO	0.089	0.61	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-011-5263-SO	0.14	0.62	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-011-6127-FD	0.12	0.61	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-012-5265-SO	0.11	0.68	J	J	MS-J, RepLimit-J
Antimony	A0C230534	CBLSB-012-5266-SO	0.085	0.61	J	J	MS-J, RepLimit-J
Barium	A0C230534	CBLSB-007-5249-SO	76.2	1.3	--	J	MS-J
Barium	A0C230534	CBLSB-007-5250-SO	70.6	1.2	--	J	MS-J
Barium	A0C230534	CBLSB-007-5251-SO	61.5	1.2	--	J	MS-J
Barium	A0C230534	CBLSB-008-5253-SO	53.0	1.3	--	J	MS-J
Barium	A0C230534	CBLSB-008-5254-SO	67.4	1.2	--	J	MS-J
Barium	A0C230534	CBLSB-008-6126-FD	66.8	1.3	--	J	MS-J
Barium	A0C230534	CBLSB-010-5257-SO	76.9	1.4	--	J	MS-J
Barium	A0C230534	CBLSB-010-5258-SO	72.4	1.3	--	J	MS-J
Barium	A0C230534	CBLSB-011-5261-SO	39.3	1.0	--	J	MS-J
Barium	A0C230534	CBLSB-011-5262-SO	74.7	1.2	--	J	MS-J
Barium	A0C230534	CBLSB-011-5263-SO	74.3	1.2	--	J	MS-J

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Barium	A0C230534	CBLSB-011-6127-FD	67.4	1.2	--	J	MS-J
Barium	A0C230534	CBLSB-012-5265-SO	63.3	1.4	--	J	MS-J
Barium	A0C230534	CBLSB-012-5266-SO	56.6	1.2	--	J	MS-J
Cadmium	A0C230534	CBLSB-007-5249-SO	0.10	0.26	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-007-5250-SO	0.070	0.24	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-007-5251-SO	0.048	0.25	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-008-5253-SO	0.069	0.26	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-008-5254-SO	0.044	0.24	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-008-6126-FD	0.052	0.26	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-010-5257-SO	0.11	0.29	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-010-5258-SO	0.079	0.27	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-011-5261-SO	0.15	0.21	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-011-5262-SO	0.086	0.24	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-011-5263-SO	0.11	0.25	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-011-6127-FD	0.069	0.24	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-012-5265-SO	0.22	0.27	J	J	RepLimit-J
Cadmium	A0C230534	CBLSB-012-5266-SO	0.058	0.24	J	J	RepLimit-J
Calcium	A0C230534	CBLSB-007-5249-SO	277	256	--	J	MS-J
Calcium	A0C230534	CBLSB-007-5250-SO	376	243	--	J	MS-J
Calcium	A0C230534	CBLSB-007-5251-SO	463	246	--	J	MS-J
Calcium	A0C230534	CBLSB-008-5253-SO	425	259	--	J	MS-J
Calcium	A0C230534	CBLSB-008-5254-SO	260	242	--	J	MS-J
Calcium	A0C230534	CBLSB-008-6126-FD	394	262	--	J	MS-J
Calcium	A0C230534	CBLSB-010-5257-SO	1570	286	--	J	MS-J
Calcium	A0C230534	CBLSB-010-5258-SO	809	269	--	J	MS-J
Calcium	A0C230534	CBLSB-011-5261-SO	3040	210	--	J	MS-J
Calcium	A0C230534	CBLSB-011-5262-SO	1760	243	--	J	MS-J
Calcium	A0C230534	CBLSB-011-5263-SO	597	249	--	J	MS-J
Calcium	A0C230534	CBLSB-011-6127-FD	1690	243	--	J	MS-J
Calcium	A0C230534	CBLSB-012-5265-SO	1710	271	--	J	MS-J
Calcium	A0C230534	CBLSB-012-5266-SO	706	244	--	J	MS-J
Mercury	A0C230534	CBLSB-007-5249-SO	0.024	0.13	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-007-5250-SO	0.022	0.12	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-007-5251-SO	0.032	0.12	J	J	RepLimit-J

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Mercury	A0C230534	CBLSB-008-5253-SO	0.046	0.13	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-008-5254-SO	0.049	0.12	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-008-6126-FD	0.026	0.13	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-010-5257-SO	0.067	0.14	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-010-5258-SO	0.058	0.13	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-011-5261-SO	0.037	0.10	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-011-5262-SO	0.041	0.12	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-011-5263-SO	0.047	0.12	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-011-6127-FD	0.033	0.12	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-012-5265-SO	0.052	0.14	J	J	RepLimit-J
Mercury	A0C230534	CBLSB-012-5266-SO	0.067	0.12	J	J	RepLimit-J
Silver	A0C230534	CBLSB-007-5249-SO	0.029	0.64	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-007-5250-SO	0.021	0.61	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-007-5251-SO	0.018	0.61	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-008-5253-SO	0.048	0.65	J	J	RepLimit-J
Silver	A0C230534	CBLSB-008-5254-SO	0.021	0.60	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-008-6126-FD	0.047	0.66	J	J	RepLimit-J
Silver	A0C230534	CBLSB-010-5257-SO	0.066	0.72	J	J	RepLimit-J
Silver	A0C230534	CBLSB-010-5258-SO	0.024	0.67	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-011-5261-SO	0.016	0.52	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-011-5262-SO	0.024	0.61	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-011-5263-SO	0.023	0.62	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-011-6127-FD	0.018	0.61	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-012-5265-SO	0.026	0.68	J	UJ	RepLimit-J, CalBlk-U
Silver	A0C230534	CBLSB-012-5266-SO	0.017	0.61	J	UJ	RepLimit-J, CalBlk-U
Sodium	A0C230534	CBLSB-007-5249-SO	30.3	128	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-007-5250-SO	31.7	121	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-007-5251-SO	31.5	123	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-008-5253-SO	24.2	129	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-008-5254-SO	27.7	121	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-008-6126-FD	26.9	131	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-010-5257-SO	28.9	143	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-010-5258-SO	28.7	134	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-011-5261-SO	24.9	105	J	J	RepLimit-J

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Sodium	A0C230534	CBLSB-011-5262-SO	29.4	121	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-011-5263-SO	27.5	125	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-011-6127-FD	28.9	122	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-012-5265-SO	25.2	136	J	J	RepLimit-J
Sodium	A0C230534	CBLSB-012-5266-SO	27.6	122	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-007-5249-SO	0.17	0.26	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-007-5250-SO	0.16	0.24	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-007-5251-SO	0.15	0.25	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-008-5253-SO	0.12	0.26	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-008-5254-SO	0.14	0.24	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-008-6126-FD	0.14	0.26	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-010-5257-SO	0.13	0.29	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-010-5258-SO	0.13	0.27	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-011-5261-SO	0.087	0.21	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-011-5262-SO	0.14	0.24	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-011-5263-SO	0.16	0.25	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-011-6127-FD	0.14	0.24	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-012-5265-SO	0.15	0.27	J	J	RepLimit-J
Thallium	A0C230534	CBLSB-012-5266-SO	0.14	0.24	J	J	RepLimit-J
Explosives (mg/kg)							
2,4-Dinitrotoluene	A0C230534	CBLSB-010-5257-SO	0.025	0.24	J	J	RepLimit-J
2,4-Dinitrotoluene	A0C230534	CBLSB-011-5262-SO	0.24	0.24	U	UJ	MS-UJ
2-Amino-4,6-dinitrotoluene	A0C230534	CBLSB-010-5257-SO	0.16	0.24	J	J	RepLimit-J
2-Amino-4,6-dinitrotoluene	A0C230534	CBLSB-010-5258-SO	0.073	0.24	J	J	RepLimit-J
2-Amino-4,6-dinitrotoluene	A0C230534	CBLSB-011-5262-SO	0.24	0.24	U	UJ	MS-UJ
3-Nitrotoluene	A0C230534	CBLSB-011-5261-SO	0.018	0.25	J	J	RepLimit-J
4-Amino-2,6-dinitrotoluene	A0C230534	CBLSB-010-5257-SO	0.13	0.24	J	J	RepLimit-J
4-Amino-2,6-dinitrotoluene	A0C230534	CBLSB-010-5258-SO	0.051	0.24	J	J	RepLimit-J
PAHs (µg/kg)							
Acenaphthene	A0C230534	CBLSB-011-5261-SO	25	52	J	J	RepLimit-J
Acenaphthene	A0C230534	CBLSB-011-5262-SO	61	61	J B	UJ	MB-U, RepLimit-J
Anthracene	A0C230534	CBLSB-011-5261-SO	43	52	J	J	RepLimit-J
Anthracene	A0C230534	CBLSB-011-5262-SO	21	61	J	J	RepLimit-J
Benz(*a*)anthracene	A0C230534	CBLSB-011-5262-SO	48	61	J	J	RepLimit-J

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Benz(*a*)anthracene	A0C230534	CBLSB-011-6127-FD	8.8	61	J	J	RepLimit-J
Benzo(*a*)pyrene	A0C230534	CBLSB-011-5262-SO	49	61	J	J	RepLimit-J
Benzo(*a*)pyrene	A0C230534	CBLSB-011-6127-FD	11	61	J	J	RepLimit-J
Benzo(*b*)fluoranthene	A0C230534	CBLSB-011-5263-SO	10	62	J	J	RepLimit-J
Benzo(*b*)fluoranthene	A0C230534	CBLSB-011-6127-FD	13	61	J	J	RepLimit-J
Benzo(*ghi*)perylene	A0C230534	CBLSB-011-5262-SO	37	61	J	J	RepLimit-J
Benzo(*k*)fluoranthene	A0C230534	CBLSB-011-5262-SO	28	61	J	J	RepLimit-J
Chrysene	A0C230534	CBLSB-011-5262-SO	50	61	J	J	RepLimit-J
Chrysene	A0C230534	CBLSB-011-6127-FD	9.5	61	J	J	RepLimit-J
Fluoranthene	A0C230534	CBLSB-011-5263-SO	12	62	J	J	RepLimit-J
Fluoranthene	A0C230534	CBLSB-011-6127-FD	20	61	J	J	RepLimit-J
Fluorene	A0C230534	CBLSB-011-5261-SO	19	52	J	J	RepLimit-J
Fluorene	A0C230534	CBLSB-011-5262-SO	9.4	61	J	J	RepLimit-J
Indeno(1,2,3-*cd*)pyrene	A0C230534	CBLSB-011-5262-SO	30	61	J	J	RepLimit-J
Phenanthrene	A0C230534	CBLSB-011-6127-FD	9.5	61	J	J	RepLimit-J
Pyrene	A0C230534	CBLSB-011-5263-SO	10	62	J	J	RepLimit-J
Pyrene	A0C230534	CBLSB-011-6127-FD	15	61	J	J	RepLimit-J
SVOCs (µg/kg)							
1,2,4-Trichlorobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
1,2,4-Trichlorobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
1,2,4-Trichlorobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
1,2-Dichlorobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
1,2-Dichlorobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
1,2-Dichlorobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
1,3-Dichlorobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
1,3-Dichlorobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
1,3-Dichlorobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
1,4-Dichlorobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
1,4-Dichlorobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
1,4-Dichlorobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,4,5-Trichlorophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2,4,5-Trichlorophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,4,5-Trichlorophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,4,6-Trichlorophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
2,4,6-Trichlorophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,4,6-Trichlorophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,4-Dichlorophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2,4-Dichlorophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,4-Dichlorophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,4-Dimethylphenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2,4-Dimethylphenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,4-Dimethylphenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,4-Dinitrophenol	A0C230534	CBLSB-011-5261-SO	840	840	U	UJ	MS-UJ
2,4-Dinitrophenol	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
2,4-Dinitrophenol	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
2,4-Dinitrotoluene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2,4-Dinitrotoluene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,4-Dinitrotoluene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2,6-Dinitrotoluene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2,6-Dinitrotoluene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2,6-Dinitrotoluene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2-Chloronaphthalene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2-Chloronaphthalene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2-Chloronaphthalene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2-Chlorophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2-Chlorophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2-Chlorophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2-Methylnaphthalene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2-Methylnaphthalene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2-Methylnaphthalene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2-Methylphenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2-Methylphenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2-Methylphenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
2-Nitroaniline	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
2-Nitroaniline	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
2-Nitrophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
2-Nitrophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
2-Nitrophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
3,3'-Dichlorobenzidine	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
3,3'-Dichlorobenzidine	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ, MS-UJ
3,3'-Dichlorobenzidine	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
3-Nitroaniline	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
3-Nitroaniline	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
3-Methylphenol/4-methylphenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
3-Methylphenol/4-methylphenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
3-Methylphenol/4-methylphenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
4,6-Dinitro-2-methylphenol	A0C230534	CBLSB-011-5261-SO	840	840	U	UJ	MS-UJ
4,6-Dinitro-2-methylphenol	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
4,6-Dinitro-2-methylphenol	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
4-Bromophenyl phenyl ether	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
4-Bromophenyl phenyl ether	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
4-Bromophenyl phenyl ether	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
4-Chloro-3-methylphenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
4-Chloro-3-methylphenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
4-Chloro-3-methylphenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
4-Chloroaniline	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
4-Chloroaniline	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
4-Chloroaniline	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
4-Chlorophenyl phenyl ether	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
4-Chlorophenyl phenyl ether	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
4-Chlorophenyl phenyl ether	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
4-Nitroaniline	A0C230534	CBLSB-011-5261-SO	840	840	U	UJ	MS-UJ
4-Nitroaniline	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
4-Nitroaniline	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
4-Nitrophenol	A0C230534	CBLSB-011-5261-SO	840	840	U	UJ	MS-UJ
4-Nitrophenol	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
4-Nitrophenol	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
Benzoic Acid	A0C230534	CBLSB-011-5261-SO	840	840	U	UJ	MS-UJ
Benzoic Acid	A0C230534	CBLSB-011-5262-SO	970	970	U	UJ	HT-UJ
Benzoic Acid	A0C230534	CBLSB-011-6127-FD	970	970	U	UJ	HT-UJ
Benzenemethanol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Benzenemethanol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Benzenemethanol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Bis(2-chloroisopropyl) ether	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Bis(2-chloroisopropyl) ether	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Bis(2-chloroisopropyl) ether	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Butyl benzyl phthalate	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Butyl benzyl phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Butyl benzyl phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Carbazole	A0C230534	CBLSB-011-5261-SO	29	52	J	J	MS-J, RepLimit-J
Carbazole	A0C230534	CBLSB-011-5262-SO	61	61	U	UJ	HT-UJ
Carbazole	A0C230534	CBLSB-011-6127-FD	61	61	U	UJ	HT-UJ
Di-n-butyl phthalate	A0C230534	CBLSB-011-5261-SO	350	350	J B	UJ	MB-U, MS-J, RepLimit-J
Di-n-butyl phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Di-n-butyl phthalate	A0C230534	CBLSB-011-5263-SO	410	410	J B	UJ	MB-U, RepLimit-J
Di-n-butyl phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Di-n-octyl phthalate	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Di-n-octyl phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Di-n-octyl phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Dibenzofuran	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Dibenzofuran	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Dibenzofuran	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Diethyl phthalate	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Diethyl phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Diethyl phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Dimethyl phthalate	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Dimethyl phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Dimethyl phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Hexachlorocyclopentadiene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Hexachlorocyclopentadiene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Hexachlorobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Hexachlorobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Hexachlorobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Hexachlorobutadiene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Hexachlorobutadiene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Hexachlorobutadiene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Hexachloroethane	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Hexachloroethane	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Hexachloroethane	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Isophorone	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Isophorone	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Isophorone	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
N-Nitrosodi-n-propylamine	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
N-Nitrosodi-n-propylamine	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
N-Nitrosodi-n-propylamine	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
N-Nitrosodiphenylamine	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
N-Nitrosodiphenylamine	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
N-Nitrosodiphenylamine	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Nitrobenzene	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Nitrobenzene	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Nitrobenzene	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Pentachlorophenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Pentachlorophenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Pentachlorophenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Phenol	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Phenol	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Phenol	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Bis(2-chloroethoxy)methane	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Bis(2-chloroethoxy)methane	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Bis(2-chloroethoxy)methane	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Bis(2-chloroethyl) ether	A0C230534	CBLSB-011-5261-SO	350	350	U	UJ	MS-UJ
Bis(2-chloroethyl) ether	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Bis(2-chloroethyl) ether	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ
Bis(2-ethylhexyl) phthalate	A0C230534	CBLSB-011-5261-SO	350	350	J B	UJ	MB-U, MS-J, RepLimit-J
Bis(2-ethylhexyl) phthalate	A0C230534	CBLSB-011-5262-SO	400	400	U	UJ	HT-UJ
Bis(2-ethylhexyl) phthalate	A0C230534	CBLSB-011-5263-SO	410	410	J B	UJ	MB-U, RepLimit-J
Bis(2-ethylhexyl) phthalate	A0C230534	CBLSB-011-6127-FD	400	400	U	UJ	HT-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Pesticides (µg/kg)							
4,4'-DDD	A0C230534	CBLSB-011-5261-SO	2.1	2.1	U	UJ	CCV-UJ
4,4'-DDD	A0C230534	CBLSB-011-5262-SO	2.4	2.4	U	UJ	CCV-UJ
4,4'-DDD	A0C230534	CBLSB-011-5263-SO	2.5	2.5	U	UJ	CCV-UJ
4,4'-DDD	A0C230534	CBLSB-011-6127-FD	2.4	2.4	U	UJ	CCV-UJ
PCBs (µg/kg)							
Aroclor 1016	A0C230534	CBLSB-011-5261-SO	35	35	U	UJ	MS-UJ
Aroclor 1260	A0C230534	CBLSB-011-5261-SO	35	35	U	UJ	MS-UJ
VOCs (µg/kg)							
1,1,1-Trichloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,1,1-Trichloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,1,1-Trichloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,1,1-Trichloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,1,2,2-Tetrachloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,1,2,2-Tetrachloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,1,2,2-Tetrachloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,1,2,2-Tetrachloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,1,2-Trichloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,1,2-Trichloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,1,2-Trichloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,1,2-Trichloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,1-Dichloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,1-Dichloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,1-Dichloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,1-Dichloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,1-Dichloroethene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,1-Dichloroethene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,1-Dichloroethene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,1-Dichloroethene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,2-Dibromoethane (ethylene dibromide)	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,2-Dibromoethane (ethylene dibromide)	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,2-Dibromoethane (ethylene dibromide)	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,2-Dibromoethane (ethylene dibromide)	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
1,2-Dichloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,2-Dichloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,2-Dichloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,2-Dichloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,2-Dichloroethene (total)	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,2-Dichloroethene (total)	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,2-Dichloroethene (total)	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,2-Dichloroethene (total)	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
1,2-Dichloropropane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
1,2-Dichloropropane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
1,2-Dichloropropane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
1,2-Dichloropropane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
2-Butanone (MEK)	A0C230534	CBLSB-011-5261-SO	21	21	U	UJ	Surr-UJ
2-Butanone (MEK)	A0C230534	CBLSB-011-5262-SO	24	24	U	UJ	Surr-UJ
2-Butanone (MEK)	A0C230534	CBLSB-011-5263-SO	25	25	U	UJ	Surr-UJ
2-Butanone (MEK)	A0C230534	CBLSB-011-6127-FD	24	24	U	UJ	Surr-UJ
2-Hexanone	A0C230534	CBLSB-011-5261-SO	21	21	U	UJ	Surr-UJ
2-Hexanone	A0C230534	CBLSB-011-5262-SO	24	24	U	UJ	Surr-UJ
2-Hexanone	A0C230534	CBLSB-011-5263-SO	25	25	U	UJ	Surr-UJ
2-Hexanone	A0C230534	CBLSB-011-6127-FD	24	24	U	UJ	Surr-UJ
4-Methyl-2-pentanone (MIBK)	A0C230534	CBLSB-011-5261-SO	21	21	U	UJ	Surr-UJ
4-Methyl-2-pentanone (MIBK)	A0C230534	CBLSB-011-5262-SO	24	24	U	UJ	Surr-UJ
4-Methyl-2-pentanone (MIBK)	A0C230534	CBLSB-011-5263-SO	25	25	U	UJ	Surr-UJ
4-Methyl-2-pentanone (MIBK)	A0C230534	CBLSB-011-6127-FD	24	24	U	UJ	Surr-UJ
Acetone	A0C230534	CBLSB-011-5261-SO	21	21	U	UJ	Surr-UJ
Acetone	A0C230534	CBLSB-011-5262-SO	24	24	U	UJ	Surr-UJ
Acetone	A0C230534	CBLSB-011-5263-SO	25	25	U	UJ	Surr-UJ
Acetone	A0C230534	CBLSB-011-6127-FD	24	24	U	UJ	Surr-UJ
Benzene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Benzene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Benzene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Benzene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Bromochloromethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Bromochloromethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Bromochloromethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Bromochloromethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Bromodichloromethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Bromodichloromethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Bromodichloromethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Bromodichloromethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Bromoform	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Bromoform	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Bromoform	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Bromoform	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Bromomethane (methyl bromide)	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Bromomethane (methyl bromide)	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Bromomethane (methyl bromide)	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Bromomethane (methyl bromide)	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Carbon Disulfide	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Carbon Disulfide	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Carbon Disulfide	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Carbon Disulfide	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Carbon Tetrachloride	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Carbon Tetrachloride	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Carbon Tetrachloride	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Carbon Tetrachloride	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Chlorobenzene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Chlorobenzene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Chlorobenzene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Chlorobenzene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Chlorodibromomethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Chlorodibromomethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Chlorodibromomethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Chlorodibromomethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Chloroethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Chloroethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Chloroethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Chloroethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Chloroform	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Chloroform	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Chloroform	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Chloroform	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Chloromethane	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Chloromethane	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Chloromethane	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Chloromethane	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Ethylbenzene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Ethylbenzene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Ethylbenzene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Ethylbenzene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Methylene Chloride	A0C230534	CBLSB-011-5261-SO	5.2	5.2	J B	UJ	MB-U, Surr-J, RepLimit-J
Methylene Chloride	A0C230534	CBLSB-011-5262-SO	6.1	6.1	J B	UJ	MB-U, Surr-J, RepLimit-J
Methylene Chloride	A0C230534	CBLSB-011-5263-SO	6.2	6.2	J B	UJ	MB-U, Surr-J, RepLimit-J
Methylene Chloride	A0C230534	CBLSB-011-6127-FD	6.1	6.1	J B	UJ	MB-U, Surr-J, RepLimit-J
Styrene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Styrene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Styrene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Styrene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Tetrachloroethene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Tetrachloroethene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Tetrachloroethene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Tetrachloroethene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Toluene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Toluene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Toluene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Toluene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Trichloroethene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Trichloroethene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ

Table C-4. Detailed Listing of Qualified Results for Samples from C Block Quarry (continued)

Chemical	Sample Delivery Group	Sample ID	Results	Reporting Limit	Laboratory Qualifier[a]	Validation Qualifier[b]	Validation Code[c]
Trichloroethene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Trichloroethene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Vinyl Chloride	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
Vinyl Chloride	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
Vinyl Chloride	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
Vinyl Chloride	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
Xylene (total)	A0C230534	CBLSB-011-5261-SO	10	10	U	UJ	Surr-UJ
Xylene (total)	A0C230534	CBLSB-011-5262-SO	12	12	U	UJ	Surr-UJ
Xylene (total)	A0C230534	CBLSB-011-5263-SO	12	12	U	UJ	Surr-UJ
Xylene (total)	A0C230534	CBLSB-011-6127-FD	12	12	U	UJ	Surr-UJ
cis-1,3-Dichloropropene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
cis-1,3-Dichloropropene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
cis-1,3-Dichloropropene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
cis-1,3-Dichloropropene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ
trans-1,3-Dichloropropene	A0C230534	CBLSB-011-5261-SO	5.2	5.2	U	UJ	Surr-UJ
trans-1,3-Dichloropropene	A0C230534	CBLSB-011-5262-SO	6.1	6.1	U	UJ	Surr-UJ
trans-1,3-Dichloropropene	A0C230534	CBLSB-011-5263-SO	6.2	6.2	U	UJ	Surr-UJ
trans-1,3-Dichloropropene	A0C230534	CBLSB-011-6127-FD	6.1	6.1	U	UJ	Surr-UJ

[a]Laboratory Qualifiers: B = analyte was detected in the associated blank as well as the sample, J = estimated because result is between the method detection limit and the reporting limit, and U = not detected.

[b]Validation Qualifiers: J = estimated, 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, MB = method blank, MS = matrix spike, RptLimit = reporting limit, and Surr = surrogate recovery.

DDD = Dichlorodiphenyldichloroethane.
µg/kg = Micrograms per kilogram.
ID = Identification.
Mg/kg = Milligrams per kilogram.
PAH = Polycyclic aromatic hydrocarbon.
PCB = Polychlorinated biphenyl.
SVOC = Semi-volatile organic compound.
VOC = Volatile organic compound.
-- = No data qualifier.

Table C-5. 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	0.00019J	<0.005U	<0.005U	<0.005U
Arsenic	7440-38-2	0.005	0.0012J	<0.005U	<0.005U	<0.005U
Barium	7440-39-3	0.01	0.0472	<0.01U	<0.01U	<0.01U
Calcium	7440-70-2	0.1	65.6	<2U	<2U	<2U
Chromium	7440-47-3	0.005	<0.005U	<0.005U	<0.005U	0.0012J
Cobalt	7440-48-4	0.005	<0.005U	<0.005U	<0.005U	0.00006J
Copper	7440-50-8	0.005	0.00057J	<0.005U	<0.005U	<0.005U
Iron	7439-89-6	0.1	0.78	<0.15U	<0.15U	0.0957J
Magnesium	7439-95-4	0.1	28.3	<1U	<1U	<1U
Manganese	7439-96-5	0.01	0.0919	<0.01U	<0.01U	0.0155
Nickel	7440-02-0	0.0002	0.00035J	<0.01U	<0.01U	0.0012J
Potassium	7440-09-7	0.2	2.86	<1U	<1U	<1U
Sodium	7440-23-5	0.2	40.1	<1U	<1U	<1U
Thallium	7440-28-0	0.002	0.00036J	<0.002U	<0.002U	<0.002U
Vanadium	7440-62-2	0.01	<0.01U	<0.01U	0.00053J	<0.01U
Zinc	7440-66-6	0.01	<0.0049UJ	<0.04U	0.0104J	0.0104J
Semi-volatile Organic Compounds						
Benzenemethanol	100-51-6	0.01	<0.01U	<0.01U	<0.01U	0.00078J
Bis(2-ethylhexyl)phthalate	117-81-7	0.01	<0.01U	<0.01UJ	<0.01UJ	0.014
Di-n-butyl phthalate	84-74-2	0.01	<0.01U	<0.01U	<0.01U	0.00068J

Table C-5. 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	<0.01U	<0.01U	0.00072J	<0.01U
Acetone	67-64-1	0.01	<0.01U	<0.01U	0.004J	0.017
Toluene	108-88-3	0.001	<0.001U	0.00053J	0.00042J	0.00034J
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

Analytical holding times were met for all samples. Initial and continuing calibration criteria were achieved for all elements analyzed. Method blanks for soil were acceptable and did not impact the data. Instrument blank contamination resulted in the qualification of 11 data points for silver (3.4% of metals soil data) as not detected "UJ." LCS recoveries were acceptable for soil media. Due to MS/matrix spike duplicate (MSD) recoveries being outside control limit criteria for several analytes, 42 data points (13.0% of metals soil data) were qualified as estimated "J" or estimated non-detectable concentration "UJ." Serial dilution and laboratory duplicate criteria were acceptable. Reporting levels are considered to be acceptable relative to QAPP goals. Due to elevated target levels, 13 soil samples required dilutions for aluminum. 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. No data were rejected. Complete data summary tables, with associated qualifiers, are provided in Appendix D of the RI Report and can be found in the RVAAP Environmental Information Management System (REIMS).

C.4.2 Volatile Organic Analysis

Analytical holding times were met for all samples. Initial and continuing calibration criteria for soil were achieved for all analyses. Surrogate recovery deviations caused 140 data points (100% of VOC soil data) to be qualified as estimated "J" or estimated non-detectable concentration "UJ." Internal standard area and compound retention times were acceptable throughout the sample analyses. Method blanks contained low levels of various common laboratory contaminants, which caused four data points in soil to be qualified as not detected "U," as required in the associated samples. All LCS recoveries were within criteria. MS/MSD recoveries and relative percent difference (RPD) values were acceptable. No 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.4.3 Semi-volatile Organic Analysis

Analytical holding times were met for all SVOC samples; however, due to exceeded re-extraction holding times, 100 data points (38.4% of SVOC soil data) were qualified as estimated non-detectable concentration "UJ." Surrogate recoveries were acceptable. Internal standard area counts and compound retention times were acceptable throughout the sample analyses. Initial and continuing calibration criteria were met for all compounds. Soil method blanks contained low-level phthalate and polycyclic aromatic hydrocarbon (PAH) contamination, which caused four data points (1.9% of SVOC soil data) to be qualified as not detected below the reporting level "UJ." LCS recoveries for soil were within control criteria. MS/MSD deviations resulted in 48 data points (18.2% of SVOC soil data) being qualified as estimated "J" or estimated non-detectable concentration "UJ." Four SVOC

soil samples required re-extraction/re-analyses. No samples required dilutions. No soil data were rejected for any reason. Although several SVOC and PAH 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 Pesticide Analysis

Analytical holding times were met for all samples. Surrogate recoveries were within acceptance criteria. Initial calibrations were acceptable for all pesticide compounds in soil. Pesticides continuing calibrations exceeded the 15 percent difference (%D) limit for 4,4'-dichlorodiphenyldichloroethan, which caused four data points (4.8% of pesticide soil data) to be qualified as estimated non-detectable concentration "UJ." Method blanks were free of contamination and had no impact on the sample data. All LCS recoveries and MS/MSD determinations were within acceptance criteria. No soil samples required dilutions. No pesticide 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 Polychlorinated Biphenyl Analysis

Analytical holding times were met for all samples. Surrogate recoveries were within acceptance criteria. Initial and continuing calibration criteria were met for all PCB compounds. All PCB method blanks were free of contamination and had no impact on the sample data. LCS recoveries were within acceptance criteria. Due to low MS/MSD recoveries for aroclor-1016 and aroclor-1260, two data points (7.1% of PCB soil data) were qualified as estimated non-detectable concentration "UJ." No PCB soil samples required dilutions. No PCB soil data were rejected for any reason. All PCB 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 Analysis

Analytical holding times were met for all soil samples. Surrogate recoveries were within acceptance criteria. Initial and continuing calibration criteria were met. Soil method blanks were free of contamination and had no impact on the sample data. LCS recoveries were within criteria. MS/MSD recovery deviations for 2,4-dinitrotolune and 2-amino-4,6-dinitrotoluene caused two data points (0.89% of explosives soil data) to be qualified as estimated non-detectable concentration "UJ." No 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.4.7 Nitroguanidine and Nitrocellulose Analyses

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were acceptable and had no impact on the sample data. LCS recoveries were within criteria. MS/MSD recoveries and RPD values were acceptable for all applicable analytes. No sample dilutions were required. No data were estimated or rejected for any reason. 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.4.8 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-6. If a given analyte was not detected in both the regular and field duplicate sample, then 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, then the absolute difference 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, most field duplicate comparisons are considered good. A total of 4 of 57 comparisons were outside the specified field duplicate criteria. Chromium in soil duplicate pair CBLSB-008-5253-SO/CBLSB-008-6126-FD exceeded the RPD criteria at 68%, while fluoranthene, phenanthrene, and pyrene in soil duplicate pair CBLSB-011-5262-SO/CBLSB-011-6127-FD exceeded the absolute difference criteria at 1.8, 1.3, and 1.3 respectively.

Table C-6. Field Duplicate Pair Comparisons for Analytes Detected in Samples from C Block Quarry

Sample Identification Numbers	Chemical	Regular Result	Duplicate Result	RPD % or (Absolute Difference)[a]	Test[b]
Soil					
Metals (mg/kg)					
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Aluminum	8,210	9,320	13%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Antimony	0.087J	0.11J	(0.04)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Arsenic	12.4	13	5%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Barium	53J	66.8J	23%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Beryllium	0.38	0.4	(0.15)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Cadmium	0.069J	0.052J	(0.07)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Calcium	425J	394J	(0.12)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Chromium	25.7	52.3	68%	RPD*
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Cobalt	7.9	9	13%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Copper	16.7	23.2	33%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Iron	21,700	22,500	4%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Lead	18.4	20.4	10%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Magnesium	1,600	1,920	18%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Manganese	590	502	16%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Mercury	0.046J	0.026J	(0.15)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Nickel	12.4	14.6	16%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Potassium	588	667	(0.61)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Selenium	1	1.1	(0.15)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Silver	0.048J	0.047J	(0.00)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Sodium	24.2J	26.9J	(0.02)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Thallium	0.12J	0.14J	(0.08)	D
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Vanadium	16.3	16.4	1%	RPD
CBLSB-008-5253-SO/ CBLSB-008-6126-FD	Zinc	43	47.6	10%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Aluminum	9,660	10,200	5%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Antimony	0.089J	0.12 J	(0.05)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Arsenic	12.8	14	9%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Barium	74.7J	67.4 J	10%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Beryllium	0.49	0.52	(0.25)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Cadmium	0.086J	0.069 J	(0.07)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Calcium	1,760J	1,690 J	4%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Chromium	12.1	14.2	16%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Cobalt	9.9	8.6	14%	RPD

Table C-6. Field Duplicate Pair Comparisons for Analytes Detected in Samples from C Block Quarry (continued)

Sample Identification Numbers	Chemical	Regular Result	Duplicate Result	RPD % or (Absolute Difference)[a]	Test[b]
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Copper	14.9	15.9	7%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Iron	20,500	25,500	22%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Lead	14.4	13.9	4%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Magnesium	1,820	2,040	11%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Manganese	797	554	36%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Mercury	0.041J	0.033 J	(0.07)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Nickel	15.6	16.1	3%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Potassium	573	661	(0.72)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Selenium	1.3	1.2	(0.16)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Sodium	29.4J	28.9 J	(0.00)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Thallium	0.14J	0.14 J	(0.00)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Vanadium	18.2	19.4	6%	RPD
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Zinc	45	48	7%	RPD
PAHs (mg/kg)					
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Anthracene	0.021J	0.061U	(0.66)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Benz(*a*)anthracene	0.048J	0.0088J	(0.64)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Benzo(*a*)pyrene	0.049J	0.011J	(0.62)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Benzo(*b*)fluoranthene	0.062	0.013J	(0.80)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Benzo(*ghi*)perylene	0.037J	0.061U	(0.39)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Benzo(*k*)fluoranthene	0.028J	0.061U	(0.54)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Chrysene	0.05J	0.0095J	(0.66)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Fluoranthene	0.13	0.02J	(1.80)	D *
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Fluorene	0.0094J	0.061U	(0.85)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Indeno(1,2,3-*cd*)pyrene	0.03J	0.061U	(0.51)	D
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Phenanthrene	0.087	0.0095J	(1.30)	D *
CBLSB-011-5262-SO/ CBLSB-011-6127-FD	Pyrene	0.097	0.015J	(1.30)	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 D 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 the D if any result was less than five times the reporting limit.
*RPD or D outside criteria.
Data Qualifiers: J = estimated and U = not detected.
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. Project sensitivity goals were expressed as quantitation level goals in the QAPP. These levels were achieved or exceeded throughout the analytical process. Several soil samples were analyzed at diluted levels due to elevated concentrations of aluminum. Actual laboratory MDLs achieved during this investigation achieved project quantitation level goals. Individual analyte reporting levels varied due to matrix differences and contaminant analyte concentrations. Reporting levels were elevated in soil due to dilution factors, inherent moisture content variability, and results being reported in the standard dry weight format. Reporting level variations 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 (i.e., 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-4. It is, therefore, determined that procedures and precautions employed were effective in preserving the integrity of the sample analyses.

C.4.10 Representativeness and Comparability

Representativeness expresses the degree to which data accurately reflect the analyte or parameter of interest for the environmental AOC 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 (i.e. samples were not frozen and were in good condition). Holding times were exceeded for two SVOC soil samples; 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. Table C-7 presents 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 100% of all sample analyses performed.

C.5 DATA QUALITY ASSESSMENT SUMMARY

In concurrence with the USACE chemical DQA presented in Attachment 1, the overall quality of the C Block Quarry RI information meets or exceeds the established project objectives. By properly implementing 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.” Data that have been estimated indicate accuracy, precision, or sensitivity being less than desired but adequate for interpretation. No data were rejected. Qualifiers have been applied to data when necessary.

Data produced for this project demonstrate they can withstand scientific scrutiny; are appropriate for their 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.

C.6 AUGUST 2012 SAMPLING SUMMARY

Six soil samples, two field duplicates and one equipment rinse sample were collected in August 2012 for total chromium and hexavalent chromium as noted in Table C-9. As discussed in Section C.3.2, verification staff systematically examined the reports, including ADR software, and subjected data to a systematic technical review by examining all field and analytical QC results and laboratory documentation. Data were assigned appropriate data qualification flags and reason codes as defined previously and as discussed below.

Sample receipt: The samples were received at the laboratory just above the 6˚ Centigrade preservation requirement; however, data were not qualified because the samples were received within approximately six hours of sample collection. Samples were packed on ice, but did not have sufficient time to reach the desired temperature.

Inorganics: The ADR identified three samples as being an aqueous matrix; this might have been because these three samples all had greater than 95% solids and were therefore reported “as-is” (i.e., they were not dry weight correct); additionally, these samples were collected using incremental sampling methodology (ISM) protocols in the field but did not require special or additional processing in the lab. Matrix spike recoveries for total chromium were outside control limits due to the sample concentration being significantly greater than spike level. The LCS recovery associated with the hexavalent chromium analyses was below control limits resulting in samples being qualified as estimated “J”. Field duplicates, as summarized in Table C-10, indicated results were representative and reproducible. The QAPP specified reporting limit was met for all samples. Other QC analyses were within control limits.

No other quality issues were noted during review and data above were qualified as estimated as needed; no other data were qualified.

Table C-7. Container Requirements for Soil Samples

Analyte Group	Container	Minimum Sample Size	Preservative	Holding Time
Volatile Organic Compounds	1, 2-oz glass jar with septum cap (no headspace)	20 grams	Cool, 4°C	14 days
Semi-volatile Organic Compounds	4-oz glass	30 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Pesticide Compounds	4-oz glass	30 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Polychlorinated Biphenyls	4-oz glass	30 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Polycyclic Aromatic Hydrocarbons	4-oz glass	30 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Explosive Compounds	4-oz glass	10 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Nitroguanidine	4-oz glass	10 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Nitrocellulose	4-oz glass	10 grams	Cool, 4°C	14 days (extraction) 40 days (analysis)
Metals (TAL)	4-oz glass or plastic	20 grams	Cool, 4°C	180 days; Hg at 28 days
Hexavalent Chromium	4-oz glass	20 grams	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 grams 5,000 grams	Air tight, cool Cool NA	NA

Hg = Mercury.
K = Permeability.
NA = Not applicable.
oz = Ounce.
TAL = Target analyte list.
TOC= Total organic carbon.

Table C-8. Identification of August 2012 Samples Taken at C Block

Environmental Samples	Laboratory Sample Delivery Group	Field Duplicates	USACE Split Samples	Metals + Hg	Explosives	SVOCs	Propellants	VOCs	Pesticides	PCBs	PAHs[a]	Hexavalent Chromium	Total Chromium
Soil													
CBLSB-026-5881-SO	J240-14079-1	CBLSB-026-6248-FD	NS									X	X
CBLSB-026-5882-SO	J240-14079-3											X	X
CBLSS-003M-5876-SO	J240-14079-4	CBLSS-003M-6247-FD	NS									X	X
CBLSS-003M-5877-SO	J240-14079-6											X	X
CBLSB-003M-5878-SO	J240-14079-8											X	X
CBLSB-003M-5879-SO	J240-14079-9											X	X
PBA08-QC-6249-ER	J240-14079-7											X	X

blank = Not sampled.
Hg = Mercury.
NS = Not sampled.
PAH = Polycyclic aromatic hydrocarbon.
PCB = Polychlorinated biphenyl.
SVOC = Semi-volatile organic compound.
USACE = U.S. Army Corps of Engineers.
VOC = Volatile organic compound.

Table C-9. Field Duplicate Pair Comparisons for Analytes Detected in August 2012 Samples from C Block

Sample Identification Numbers	Chemical	Regular Result	Duplicate Result	RPD % or (Absolute Difference)[a]	Test[b]
Inorganics					
Soil (mg/kg)					
CBLSB-026-5881-SO/CBLSB-026-6248-FD	Chromium	390 J	310 J	23%	RPD
CBLSB-003M-5876-SO/CBLSB-003M-6247-FD	Chromium	520 J	480 J	8%	RPD
CBLSB-026-5881-SO/CBLSB-026-6248-FD	Hexavalent chromium	2.2 J	0.83 J	(25)	D
CBLSB-003M-5876-SO/CBLSB-003M-6247-FD	Hexavalent chromium	0.46 J	0.61 J	(19)	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 D 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 the D if any result was less than five times the reporting limit.

Data Qualifiers: J = Estimated, U = Not detected, and UJ = Not detected and reporting limit estimated.

*RPD or D outside criteria.

mg/kg = Milligrams per kilogram.

RPD = Relative percent difference.

C.7 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*. March 2001.

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

USACE 2009. *PBA 2008 Supplemental Investigation Sampling Analysis Plan Addendum No. 1 Ravenna Army Ammunition Plant, Ravenna, Ohio*. December 2009.

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 Report

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MEMORANDUM FOR RECORD 5 June 2013
Revised: 12 November 2013

SUBJECT: FINAL CHEMICAL DATA USABILITY ASSESSMENT

PROJECT: Ravenna Army Ammunition Plant, Ravenna, Ohio
18 Areas of Concern (PBA08)
C Block Quarry 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 C Block Quarry (RVAAP-06). 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-06 C Block Quarry*, prepared by SAIC, December 27, 2011.
   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 PBA08 RI at C Block Quarry 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 screening level ecological risk assessment (SLERA) 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 in March 2010 by Science Application International Corporation (SAIC). Twelve environmental soil 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), volatiles (VOCs), and

asbestos. 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-06*

C Block Quarry (SAIC, 2011) and Section 7 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 100% data review (Level III) conducted by the primary 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 quality of the chemical data generated for the C Block Quarry. This assessment includes 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 C Block Quarry RI met the project DQOs. Usable definitive data of known and documented quality was produced for 99.9 % 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, no data were rejected. One non-detectable SVOC result for 2,4-dinitrophenol was rejected during the 10% Level IV data validation performed by MEC^x.

C Block Quarry

Rejected Data

Sample	SDG	Analyte	Reason	Review
CBLSB-011-5262-SO	AOC230534	2,4-Dinitrophenol	Low MRL recovery	Level IV (10%)

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 most notably in regards to qualification of data due to MRL recovery outliers. Section 3.2 of the FWQAPP considers the QC limits as "guidance". As such, SAIC notes outliers but doesn't qualify based upon them. MEC^{x} 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 C Block Quarry RI are deemed acceptable for use with one exception. Rejected and unusable data are relegated to 1 non-detect sample result out of approximately 1,070 results. Based upon this assessment, all other analytical results (99.9%) 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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
CBLSB-011-5261-SO	A0C230534018	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-5261-SOMS	A0C230534018S	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-5261-SOMSD	A0C230534018D	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-5262-SO	A0C230534019	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-5263-SO	A0C230534020	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-6127-FD	A0C230534024	353.2 Modified	SO	0.4	2.0	6.0
CBLSB-011-5261-SO	A0C230534018	8081A	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8081A	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8081A	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8081A	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8081A	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8081A	SO	0.4	2.0	
CBLSB-011-5261-SO	A0C230534018	8082	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8082	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8082	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8082	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8082	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8082	SO	0.4	2.0	
LL11SB-063-5563-SO	A0C230534001	8082	SO	0.8	2.0	
LL11SB-063-5564-SO	A0C230534002	8082	SO	0.8	2.0	
LL11SB-063-5565-SO	A0C230534003	8082	SO	0.8	2.0	
LL11SB-065-5573-SO	A0C230534004	8082	SO	0.8	2.0	
LL11SB-065-5574-SO	A0C230534005	8082	SO	0.8	2.0	
LL11SB-066-5577-SO	A0C230534006	8082	SO	0.8	2.0	
LL11SB-066-5578-SO	A0C230534007	8082	SO	0.8	2.0	
LL11SB-069-5589-SO	A0C230534008	8082	SO	0.8	2.0	
LL11SB-069-5590-SO	A0C230534009	8082	SO	0.8	2.0	
LL11SB-069-5591-SO	A0C230534010	8082	SO	0.8	2.0	
CBLSB-011-5261-SO	A0C230534018	8260B	SO	0.4	2.0	

QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
CBLSB-011-5261-SOMS	A0C230534018S	8260B	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8260B	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8260B	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8260B	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8260B	SO	0.4	2.0	
CBLSB-011-5261-SO	A0C230534018	8270C	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8270C	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8270C	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8270C	SO	0.4	2.0	
CBLSB-011-5262-SOMS	A0C230534019S	8270C	SO	0.4	2.0	
CBLSB-011-5262-SOMSD	A0C230534019D	8270C	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8270C	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8270C	SO	0.4	2.0	
CBLSB-011-5261-SO	A0C230534018	8270C PAH	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8270C PAH	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8270C PAH	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8270C PAH	SO	0.4	2.0	
CBLSB-011-5262-SOMS	A0C230534019S	8270C PAH	SO	0.4	2.0	
CBLSB-011-5262-SOMSD	A0C230534019D	8270C PAH	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8270C PAH	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8270C PAH	SO	0.4	2.0	
LL11SB-063-5563-SO	A0C230534001	8270C PAH	SO	0.8	2.0	
LL11SB-063-5564-SO	A0C230534002	8270C PAH	SO	0.8	2.0	
LL11SB-063-5565-SO	A0C230534003	8270C PAH	SO	0.8	2.0	
LL11SB-065-5573-SO	A0C230534004	8270C PAH	SO	0.8	2.0	
LL11SB-065-5574-SO	A0C230534005	8270C PAH	SO	0.8	2.0	
LL11SB-066-5577-SO	A0C230534006	8270C PAH	SO	0.8	2.0	
LL11SB-066-5578-SO	A0C230534007	8270C PAH	SO	0.8	2.0	
LL11SB-069-5589-SO	A0C230534008	8270C PAH	SO	0.8	2.0	

QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
LL11SB-069-5590-SO	A0C230534009	8270C PAH	SO	0.8	2.0	
LL11SB-069-5591-SO	A0C230534010	8270C PAH	SO	0.8	2.0	
CBLSB-007-5249-SO	A0C230534011	8330B	SO	0.4	2.0	
CBLSB-007-5250-SO	A0C230534012	8330B	SO	0.4	2.0	
CBLSB-007-5251-SO	A0C230534013	8330B	SO	0.4	2.0	
CBLSB-008-5253-SO	A0C230534014	8330B	SO	0.4	2.0	
CBLSB-008-5254-SO	A0C230534015	8330B	SO	0.4	2.0	
CBLSB-008-6126-FD	A0C230534023	8330B	SO	0.4	2.0	
CBLSB-010-5257-SO	A0C230534016	8330B	SO	0.4	2.0	
CBLSB-010-5258-SO	A0C230534017	8330B	SO	0.4	2.0	
CBLSB-011-5261-SO	A0C230534018	8330B	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8330B	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8330B	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8330B	SO	0.4	2.0	
CBLSB-011-5262-SOMS	A0C230534019S	8330B	SO	0.4	2.0	
CBLSB-011-5262-SOMSD	A0C230534019D	8330B	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8330B	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8330B	SO	0.4	2.0	
CBLSB-012-5265-SO	A0C230534021	8330B	SO	0.4	2.0	
CBLSB-012-5266-SO	A0C230534022	8330B	SO	0.4	2.0	
LL11SB-063-5563-SO	A0C230534001	8330B	SO	0.8	2.0	
LL11SB-063-5564-SO	A0C230534002	8330B	SO	0.8	2.0	
LL11SB-063-5565-SO	A0C230534003	8330B	SO	0.8	2.0	
LL11SB-065-5573-SO	A0C230534004	8330B	SO	0.8	2.0	
LL11SB-065-5574-SO	A0C230534005	8330B	SO	0.8	2.0	
LL11SB-066-5577-SO	A0C230534006	8330B	SO	0.8	2.0	
LL11SB-066-5578-SO	A0C230534007	8330B	SO	0.8	2.0	
LL11SB-069-5589-SO	A0C230534008	8330B	SO	0.8	2.0	
LL11SB-069-5590-SO	A0C230534009	8330B	SO	0.8	2.0	

QC Outlier Report: Temperature (Non-qualified Outliers)

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Sample Temperature (C)	Criteria	
					Lower Limit	Upper Limit
LL11SB-069-5591-SO	A0C230534010	8330B	SO	0.8	2.0	
CBLSB-011-5261-SO	A0C230534018	8330M	SO	0.4	2.0	
CBLSB-011-5261-SOMS	A0C230534018S	8330M	SO	0.4	2.0	
CBLSB-011-5261-SOMSD	A0C230534018D	8330M	SO	0.4	2.0	
CBLSB-011-5262-SO	A0C230534019	8330M	SO	0.4	2.0	
CBLSB-011-5263-SO	A0C230534020	8330M	SO	0.4	2.0	
CBLSB-011-6127-FD	A0C230534024	8330M	SO	0.4	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: A0C230534 **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**
CBLSB-011-5262-SO	A0C230534019	8270C	SO	3540C	20.0	2.0		14	40		Days	03/23/2010	04/12/2010	04/14/2010
CBLSB-011-5262-SO	A0C230534019S	8270C	SO	3540C	20.0	2.0		14	40		Days	03/23/2010	04/12/2010	04/14/2010
CBLSB-011-5262-SO	A0C230534019D	8270C	SO	3540C	20.0	2.0		14	40		Days	03/23/2010	04/12/2010	04/14/2010
CBLSB-011-6127-FD	A0C230534024	8270C	SO	3540C	20.0	2.0		14	40		Days	03/23/2010	04/12/2010	04/14/2010
LL11SB-066-5577-SO	A0C230534006	8082	SO	3540C	17.0	4.0		14	40		Days	03/22/2010	04/08/2010	04/12/2010
LL11SB-069-5589-SO	A0C230534008	8082	SO	3540C	17.0	4.0		14	40		Days	03/22/2010	04/08/2010	04/12/2010

Laboratory Control Sample / Laboratory Control Sample Duplicate Outlier Report

Method Batch :	**Analysis Method :**	**Analysis Date :**
Preparation Batch :	**Preparation Type :**	**Preparation Date :**
Lab Reporting Batch :	**Lab ID:**	

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	**Matrix**	**Analyte Name**	**Percent Recovery**	**RPD**	**Rejection Point**	**Lower Limit**	**Upper Limit**	**RPD**

Associated Samples

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

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 0083020 **Analysis Method :** 6020 **Analysis Date :** 04/01/2010

Preparation Batch : 0083020 **Preparation Type :** 3050B **Preparation Date :** 03/24/2010

Lab Reporting Batch : A0C230534 **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
CBLSB-011-5261-SOMS	A0C230534018S	SO	Antimony	29		30.00	75.00	125.00	20.00
CBLSB-011-5261-SOMS	A0C230534018D		Antimony	28		30.00	75.00	125.00	20.00
			Calcium	1360	125	30.00	70.00	130.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CBLSB-007-5249-SO	A0C230534011
CBLSB-007-5250-SO	A0C230534012
CBLSB-007-5251-SO	A0C230534013
CBLSB-008-5253-SO	A0C230534014
CBLSB-008-5254-SO	A0C230534015
CBLSB-008-6126-FD	A0C230534023
CBLSB-010-5257-SO	A0C230534016
CBLSB-010-5258-SO	A0C230534017
CBLSB-011-5261-SO	A0C230534018
CBLSB-011-5262-SO	A0C230534019
CBLSB-011-5263-SO	A0C230534020
CBLSB-011-6127-FD	A0C230534024
CBLSB-012-5265-SO	A0C230534021
CBLSB-012-5266-SO	A0C230534022
LL11SB-065-5574-SO	A0C230534005
LL11SB-066-5577-SO	A0C230534006
LL11SB-066-5578-SO	A0C230534007
LL11SB-069-5589-SO	A0C230534008
LL11SB-069-5590-SO	A0C230534009
LL11SB-069-5591-SO	A0C230534010

* 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 : 0083021 **Analysis Method :** 6020 **Analysis Date :** 03/26/2010

Preparation Batch : 0083021 **Preparation Type :** 3050B **Preparation Date :** 03/24/2010

Lab Reporting Batch : A0C230534 **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
LL11SB-063-5563-SOMS	A0C230534001S	SO	Antimony	31		30.00	75.00	125.00	20.00
			Magnesium	538		30.00	70.00	130.00	20.00
LL11SB-063-5563-SOMS	A0C230534001D		Antimony	30		30.00	75.00	125.00	20.00
			Magnesium		78	30.00	70.00	130.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
LL11SB-063-5563-SO	A0C230534001
LL11SB-063-5564-SO	A0C230534002
LL11SB-063-5565-SO	A0C230534003
LL11SB-065-5573-SO	A0C230534004

* 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 : 0083029 **Analysis Method :** 8082 **Analysis Date :** 04/07/2010

Preparation Batch : 0083029 **Preparation Type :** 3540C **Preparation Date :** 03/24/2010

Lab Reporting Batch : A0C230534 **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
CBLSB-011-5261-SOMS	A0C230534018D	SO	Aroclor 1016		45	0.00	40.00	140.00	39.00
			Aroclor 1260		48	0.00	60.00	130.00	33.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CBLSB-011-5261-SO	A0C230534018

* 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 : 0083037 **Analysis Method :** 8270C **Analysis Date :** 04/08/2010

Preparation Batch : 0083037 **Preparation Type :** 3540C **Preparation Date :** 03/24/2010

Lab Reporting Batch : A0C230534 **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
CBLSB-011-5261-SOMS	A0C230534018S	SO	1,2,4-Trichlorobenzene	30		0.00	45.00	110.00	30.00
			1,2-Dichlorobenzene	30		0.00	45.00	95.00	25.00
			1,3-Dichlorobenzene	28		0.00	40.00	100.00	30.00
			1,4-Dichlorobenzene	31		0.00	35.00	105.00	30.00
			2,4,5-Trichlorophenol	35		0.00	50.00	110.00	30.00
			2,4,6-Trichlorophenol	25		0.00	45.00	110.00	29.00
			2,4-Dichlorophenol	38		0.00	45.00	110.00	30.00
			2,4-Dinitrotoluene	39		0.00	50.00	115.00	30.00
			2,6-Dinitrotoluene	39		0.00	50.00	110.00	39.00
			2-Chloronaphthalene	34		0.00	45.00	105.00	28.00
			2-Chlorophenol	36		0.00	45.00	105.00	54.00
			2-Methylnaphthalene	37		0.00	45.00	105.00	27.00
			2-Methylphenol	37		0.00	40.00	105.00	29.00
			2-Nitrophenol	34		0.00	40.00	110.00	30.00
			3,3'-Dichlorobenzidine	1.9		0.00	10.00	130.00	56.00
			3-methylphenol/4-methylphenol	37					
			4,6-Dinitro-2-methylphenol	27		0.00	30.00	135.00	30.00
			4-Bromophenyl phenyl ether	34		0.00	45.00	115.00	30.00
			4-Chloro-3-methylphenol	40		0.00	45.00	115.00	55.00
			4-Chlorophenyl phenyl ether	37		0.00	45.00	110.00	29.00
			4-Nitroaniline	27		0.00	35.00	115.00	30.00
			bis(2-Chloroethoxy)methane	34		0.00	45.00	110.00	30.00
			bis(2-Chloroethyl) ether	32		0.00	40.00	105.00	30.00
			bis(2-Ethylhexyl) phthalate	39		0.00	45.00	125.00	30.00
			Butyl benzyl phthalate	41		0.00	50.00	125.00	35.00
			Carbazole	33		0.00	45.00	115.00	20.00
			Dibenzofuran	38		0.00	50.00	105.00	30.00
			Diethyl phthalate	38		0.00	50.00	115.00	29.00
			Dimethyl phthalate	38		0.00	50.00	110.00	30.00
			Di-n-butyl phthalate	37		0.00	55.00	110.00	24.00
			Hexachlorobenzene	33		0.00	45.00	120.00	30.00
			Hexachlorobutadiene	29		0.00	40.00	115.00	25.00
			Hexachloroethane	23		0.00	35.00	110.00	29.00
			Isophorone	33		0.00	45.00	110.00	30.00
			Nitrobenzene	33		0.00	40.00	115.00	29.00
			N-Nitrosodi-n-propylamine	34		0.00	40.00	115.00	50.00
			N-Nitrosodiphenylamine	34		0.00	50.00	115.00	68.00
			Pentachlorophenol	7.8		0.00	25.00	120.00	87.00
			Phenol	38		0.00	40.00	100.00	30.00
CBLSB-011-5261-SOMS	A0C230534018D		1,2,4-Trichlorobenzene		55	0.00	45.00	110.00	30.00

* 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

CBLSB-011-5261-SOMS A0C230534018D	SO	1,2-Dichlorobenzene		56	0.00	45.00	95.00	25.00
		1,3-Dichlorobenzene		56	0.00	40.00	100.00	30.00
		1,4-Dichlorobenzene		58	0.00	35.00	105.00	30.00
		2,4,5-Trichlorophenol		57	0.00	50.00	110.00	30.00
		2,4,6-Trichlorophenol		72	0.00	45.00	110.00	29.00
		2,4-Dichlorophenol		55	0.00	45.00	110.00	30.00
		2,4-Dimethylphenol		52	0.00	30.00	105.00	30.00
		2,4-Dinitrophenol		41	0.00	15.00	130.00	30.00
		2,4-Dinitrotoluene		55	0.00	50.00	115.00	30.00
		2,6-Dinitrotoluene		53	0.00	50.00	110.00	39.00
		2-Chloronaphthalene		49	0.00	45.00	105.00	28.00
		2-Chlorophenol		55	0.00	45.00	105.00	54.00
		2-Methylnaphthalene		53	0.00	45.00	105.00	27.00
		2-Methylphenol		55	0.00	40.00	105.00	29.00
		2-Nitrophenol		61	0.00	40.00	110.00	30.00
		3,3'-Dichlorobenzidine	0.0	200	0.00	10.00	130.00	56.00
		3-methylphenol/4-methylphenol	62					
		4,6-Dinitro-2-methylphenol		60	0.00	30.00	135.00	30.00
		4-Bromophenyl phenyl ether		55	0.00	45.00	115.00	30.00
		4-Chloroaniline		40	0.00	10.00	95.00	30.00
		4-Chlorophenyl phenyl ether		50	0.00	45.00	110.00	29.00
		4-Nitrophenol		48	0.00	15.00	140.00	30.00
		Benzoic acid		79	0.00	0.00	110.00	20.00
		Benzyl alcohol		54	0.00	20.00	125.00	30.00
		bis(2-Chloroethoxy)methane		53	0.00	45.00	110.00	30.00
		bis(2-Chloroethyl) ether		60	0.00	40.00	105.00	30.00
		Bis(2-chloroisopropyl) ether		57	0.00	20.00	115.00	30.00
		bis(2-Ethylhexyl) phthalate		51	0.00	45.00	125.00	30.00
		Butyl benzyl phthalate		51	0.00	50.00	125.00	35.00
		Carbazole		53	0.00	45.00	115.00	20.00
		Dibenzofuran		47	0.00	50.00	105.00	30.00
		Diethyl phthalate		53	0.00	50.00	115.00	29.00
		Dimethyl phthalate		52	0.00	50.00	110.00	30.00
		Di-n-butyl phthalate		59	0.00	55.00	110.00	24.00
		Di-n-octyl phthalate		48	0.00	40.00	130.00	30.00
		Hexachlorobenzene		58	0.00	45.00	120.00	30.00
		Hexachlorobutadiene		54	0.00	40.00	115.00	25.00
		Hexachloroethane		57	0.00	35.00	110.00	29.00
		Isophorone		59	0.00	45.00	110.00	30.00
		Nitrobenzene		59	0.00	40.00	115.00	29.00
		N-Nitrosodi-n-propylamine		59	0.00	40.00	115.00	50.00
		Pentachlorophenol	13		0.00	25.00	120.00	87.00
		Phenol		54	0.00	40.00	100.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CBLSB-011-5261-SO	A0C230534018

* 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 : 0090417 **Analysis Method :** 8330B **Analysis Date :** 04/05/2010

Preparation Batch : 0090417 **Preparation Type :** 8330B **Preparation Date :** 03/31/2010

Lab Reporting Batch : A0C230534 **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
CBLSB-011-5262-SOMS	A0C230534019D	SO	2,4-Dinitrotoluene	0.0	200	0.00	80.00	125.00	30.00
			2-Amino-4,6-dinitrotoluene	477	129	0.00	80.00	125.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CBLSB-011-5262-SO	A0C230534019

* 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 : 0102247 **Analysis Method :** 8270C **Analysis Date :** 04/14/2010

Preparation Batch : 0102247 **Preparation Type :** 3540C **Preparation Date :** 04/12/2010

Lab Reporting Batch : A0C230534 **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
CBLSB-011-5262-SOMS	A0C230534019D	SO	3,3'-Dichlorobenzidine		60	0.00	10.00	130.00	56.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
CBLSB-011-5262-SO	A0C230534019

* 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

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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-007-5250-SO	A0C230534012	6020	SO	Antimony	U	0.61	0.6097561	mg/kg
		8330B		1,3,5-Trinitrobenzene	U	0.26	0.01243902	mg/kg
				1,3-Dinitrobenzene	U	0.26	0.31097561	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.26	0.31097561	mg/kg
				2,4-Dinitrotoluene	U	0.26	0.31097561	mg/kg
				2,6-Dinitrotoluene	U	0.26	0.31097561	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	0.31097561	mg/kg
				2-Nitrotoluene	U	0.26	0.31097561	mg/kg
				3-Nitrotoluene	U	0.26	0.31097561	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	0.31097561	mg/kg
				Nitrobenzene	U	0.26	0.31097561	mg/kg
CBLSB-007-5251-SO	A0C230534013	8330B	SO	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
CBLSB-008-5253-SO	A0C230534014	8330B	SO	1,3,5-Trinitrobenzene	U	0.25	0.01285714	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.32142857	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.32142857	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.32142857	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.32142857	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.32142857	mg/kg
				2-Nitrotoluene	U	0.25	0.32142857	mg/kg
				3-Nitrotoluene	U	0.25	0.32142857	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.32142857	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-008-5253-SO	A0C230534014	8330B	SO	4-Nitrotoluene	U	0.50	0.64285714	mg/kg
				Nitrobenzene	U	0.25	0.32142857	mg/kg
CBLSB-008-5254-SO	A0C230534015	8330B	SO	1,3,5-Trinitrobenzene	U	0.25	0.01192771	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.29819277	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.29819277	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.29819277	mg/kg
				2-Nitrotoluene	U	0.25	0.29819277	mg/kg
				3-Nitrotoluene	U	0.25	0.29819277	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				4-Nitrotoluene	U	0.50	0.59638554	mg/kg
				Nitrobenzene	U	0.25	0.29819277	mg/kg
CBLSB-011-5261-SO	A0C230534018	8081A	SO	4,4'-DDD	U	2.1	2.09643606	ug/kg
				4,4'-DDE	U	1.8	1.78197065	ug/kg
				4,4'-DDT	U	2.1	2.09643606	ug/kg
				Aldrin	U	4.2	4.19287212	ug/kg
				beta-BHC	U	3.7	3.66876310	ug/kg
				delta-BHC	U	4.2	4.19287212	ug/kg
				Dieldrin	U	1.8	1.78197065	ug/kg
				Endosulfan I	U	1.8	1.78197065	ug/kg
				Endrin	U	1.8	1.78197065	ug/kg
				Endrin ketone	U	2.1	2.09643606	ug/kg
				gamma-Chlordane	U	1.8	1.78197065	ug/kg
				Heptachlor	U	3.7	3.66876310	ug/kg
		8082		Aroclor 1016	U	35	1.78197065	ug/kg
				Aroclor 1221	U	35	1.78197065	ug/kg
				Aroclor 1232	U	35	1.78197065	ug/kg
				Aroclor 1242	U	35	1.78197065	ug/kg
				Aroclor 1248	U	35	1.78197065	ug/kg
				Aroclor 1254	U	35	1.78197065	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-011-5261-SO	A0C230534018	8082	SO	Aroclor 1260	U	35	1.78197065	ug/kg
		8260B		2-Butanone (MEK)	U	21	20.9643606	ug/kg
				2-Hexanone	U	21	20.9643606	ug/kg
				4-methyl-2-pentanone (MIBK)	U	21	20.9643606	ug/kg
				Acetone	U	21	20.9643606	ug/kg
		8270C		1,2,4-Trichlorobenzene	U	350	345.91195	ug/kg
				1,2-Dichlorobenzene	U	350	345.91195	ug/kg
				1,3-Dichlorobenzene	U	350	345.91195	ug/kg
				1,4-Dichlorobenzene	U	350	345.91195	ug/kg
				2,4,5-Trichlorophenol	U	350	345.91195	ug/kg
				2,4,6-Trichlorophenol	U	350	345.91195	ug/kg
				2,4-Dichlorophenol	U	350	345.91195	ug/kg
				2,4-Dimethylphenol	U	350	345.91195	ug/kg
				2,4-Dinitrophenol	U	840	838.574423	ug/kg
				2,4-Dinitrotoluene	U	350	345.91195	ug/kg
				2,6-Dinitrotoluene	U	350	345.91195	ug/kg
				2-Chloronaphthalene	U	350	345.91195	ug/kg
				2-Chlorophenol	U	350	345.91195	ug/kg
				2-Methylnaphthalene	U	350	345.91195	ug/kg
				2-Methylphenol	U	350	345.91195	ug/kg
				2-Nitroaniline	U	840	838.574423	ug/kg
				2-Nitrophenol	U	350	345.91195	ug/kg
				3,3'-Dichlorobenzidine	U	350	345.91195	ug/kg
				3-methylphenol/4-methylphenol	U	350	#Error	ug/kg
				3-Nitroaniline	U	840	838.574423	ug/kg
				4,6-Dinitro-2-methylphenol	U	840	838.574423	ug/kg
				4-Bromophenyl phenyl ether	U	350	345.91195	ug/kg
				4-Chloro-3-methylphenol	U	350	345.91195	ug/kg
				4-Chloroaniline	U	350	345.91195	ug/kg
				4-Chlorophenyl phenyl ether	U	350	345.91195	ug/kg
				4-Nitroaniline	U	840	838.574423	ug/kg
				4-Nitrophenol	U	840	838.574423	ug/kg
				Benzoic acid	U	840	838.574423	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-011-5261-SO	A0C230534018	8270C	SO	Benzyl alcohol	U	350	345.91195	ug/kg
				bis(2-Chloroethoxy)methane	U	350	345.91195	ug/kg
				bis(2-Chloroethyl) ether	U	350	345.91195	ug/kg
				Bis(2-chloroisopropyl) ether	U	350	345.91195	ug/kg
				Butyl benzyl phthalate	U	350	345.91195	ug/kg
				Dibenzofuran	U	350	345.91195	ug/kg
				Diethyl phthalate	U	350	345.91195	ug/kg
				Dimethyl phthalate	U	350	345.91195	ug/kg
				Di-n-octyl phthalate	U	350	345.91195	ug/kg
				Hexachlorobenzene	U	350	345.91195	ug/kg
				Hexachlorobutadiene	U	350	345.91195	ug/kg
				HEXACHLOROCYCLOPENTADIE	U	350	#Error	ug/kg
				Hexachloroethane	U	350	345.91195	ug/kg
				Isophorone	U	350	345.91195	ug/kg
				Nitrobenzene	U	350	345.91195	ug/kg
				N-Nitrosodi-n-propylamine	U	350	345.91195	ug/kg
				N-Nitrosodiphenylamine	U	350	345.91195	ug/kg
				Pentachlorophenol	U	350	345.91195	ug/kg
				Phenol	U	350	345.91195	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.01037736	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.25943396	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.25943396	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.25943396	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.25943396	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.25943396	mg/kg
				2-Nitrotoluene	U	0.25	0.25943396	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.25943396	mg/kg
				4-Nitrotoluene	U	0.50	0.51886792	mg/kg
				Nitrobenzene	U	0.25	0.25943396	mg/kg
CBLSB-011-5262-SO	A0C230534019	353.2 Modified	SO	Nitrocellulose	U	6.1	6.09756098	mg/kg
		8081A		4,4'-DDE	U	2.1	2.07317073	ug/kg
				Aldrin	U	4.9	4.87804878	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-011-5262-SO	A0C230534019	8081A	SO	delta-BHC	U	4.9	4.87804878	ug/kg
				Dieldrin	U	2.1	2.07317073	ug/kg
				Endosulfan I	U	2.1	2.07317073	ug/kg
				Endrin	U	2.1	2.07317073	ug/kg
				gamma-Chlordane	U	2.1	2.07317073	ug/kg
				Methoxychlor	U	6.1	6.09756098	ug/kg
		8260B		1,1,1-Trichloroethane	U	6.1	6.09756098	ug/kg
				1,1,2,2-Tetrachloroethane	U	6.1	6.09756098	ug/kg
				1,1,2-Trichloroethane	U	6.1	6.09756098	ug/kg
				1,1-Dichloroethane	U	6.1	6.09756098	ug/kg
				1,1-Dichloroethene	U	6.1	6.09756098	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	6.1	6.09756098	ug/kg
				1,2-Dichloroethane	U	6.1	6.09756098	ug/kg
				1,2-Dichloroethene (total)	U	6.1	6.09756098	ug/kg
				1,2-Dichloropropane	U	6.1	6.09756098	ug/kg
				Benzene	U	6.1	6.09756098	ug/kg
				Bromochloromethane	U	6.1	6.09756098	ug/kg
				Bromodichloromethane	U	6.1	6.09756098	ug/kg
				Bromoform	U	6.1	6.09756098	ug/kg
				Bromomethane (Methyl bromide)	U	6.1	6.09756098	ug/kg
				Carbon disulfide	U	6.1	6.09756098	ug/kg
				Carbon tetrachloride	U	6.1	6.09756098	ug/kg
				Chlorobenzene	U	6.1	6.09756098	ug/kg
				Chlorodibromomethane	U	6.1	6.09756098	ug/kg
				Chloroethane	U	6.1	6.09756098	ug/kg
				Chloroform	U	6.1	6.09756098	ug/kg
				Chloromethane	U	6.1	6.09756098	ug/kg
				cis-1,3-Dichloropropene	U	6.1	6.09756098	ug/kg
				Ethylbenzene	U	6.1	6.09756098	ug/kg
				Styrene	U	6.1	6.09756098	ug/kg
				Tetrachloroethene	U	6.1	6.09756098	ug/kg
				Toluene	U	6.1	6.09756098	ug/kg
				trans-1,3-Dichloropropene	U	6.1	6.09756098	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-011-5262-SO	A0C230534019	8260B	SO	Trichloroethene	U	6.1	6.09756098	ug/kg
				Vinyl chloride	U	6.1	6.09756098	ug/kg
		8270C		Carbazole	U	61	60.9756098	ug/kg
CBLSB-011-5263-SO	A0C230534020	8081A	SO	beta-BHC	U	4.4	4.375	ug/kg
				Heptachlor	U	4.4	4.375	ug/kg
CBLSB-011-6127-FD	A0C230534024	353.2 Modified	SO	Nitrocellulose	U	6.1	6.09756098	mg/kg
		8081A		4,4'-DDE	U	2.1	2.07317073	ug/kg
				Aldrin	U	4.9	4.87804878	ug/kg
				beta-BHC	U	4.3	4.26829268	ug/kg
				delta-BHC	U	4.9	4.87804878	ug/kg
				Dieldrin	U	2.1	2.07317073	ug/kg
				Endosulfan I	U	2.1	2.07317073	ug/kg
				Endrin	U	2.1	2.07317073	ug/kg
				gamma-Chlordane	U	2.1	2.07317073	ug/kg
				Heptachlor	U	4.3	4.26829268	ug/kg
				Methoxychlor	U	6.1	6.09756098	ug/kg
		8260B		1,1,1-Trichloroethane	U	6.1	6.09756098	ug/kg
				1,1,2,2-Tetrachloroethane	U	6.1	6.09756098	ug/kg
				1,1,2-Trichloroethane	U	6.1	6.09756098	ug/kg
				1,1-Dichloroethane	U	6.1	6.09756098	ug/kg
				1,1-Dichloroethene	U	6.1	6.09756098	ug/kg
				1,2-Dibromoethane (Ethylene Dibro	U	6.1	6.09756098	ug/kg
				1,2-Dichloroethane	U	6.1	6.09756098	ug/kg
				1,2-Dichloroethene (total)	U	6.1	6.09756098	ug/kg
				1,2-Dichloropropane	U	6.1	6.09756098	ug/kg
				Benzene	U	6.1	6.09756098	ug/kg
				Bromochloromethane	U	6.1	6.09756098	ug/kg
				Bromodichloromethane	U	6.1	6.09756098	ug/kg
				Bromoform	U	6.1	6.09756098	ug/kg
				Bromomethane (Methyl bromide)	U	6.1	6.09756098	ug/kg
				Carbon disulfide	U	6.1	6.09756098	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-011-6127-FD	A0C230534024	8260B	SO	Carbon tetrachloride	U	6.1	6.09756098	ug/kg
				Chlorobenzene	U	6.1	6.09756098	ug/kg
				Chlorodibromomethane	U	6.1	6.09756098	ug/kg
				Chloroethane	U	6.1	6.09756098	ug/kg
				Chloroform	U	6.1	6.09756098	ug/kg
				Chloromethane	U	6.1	6.09756098	ug/kg
				cis-1,3-Dichloropropene	U	6.1	6.09756098	ug/kg
				Ethylbenzene	U	6.1	6.09756098	ug/kg
				Styrene	U	6.1	6.09756098	ug/kg
				Tetrachloroethene	U	6.1	6.09756098	ug/kg
				Toluene	U	6.1	6.09756098	ug/kg
				trans-1,3-Dichloropropene	U	6.1	6.09756098	ug/kg
				Trichloroethene	U	6.1	6.09756098	ug/kg
				Vinyl chloride	U	6.1	6.09756098	ug/kg
		8270C		Carbazole	U	61	60.9756098	ug/kg
CBLSB-012-5265-SO	A0C230534021	8330B	SO	1,3,5-Trinitrobenzene	U	0.26	0.01391892	mg/kg
				1,3-Dinitrobenzene	U	0.26	0.34797297	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.26	0.34797297	mg/kg
				2,4-Dinitrotoluene	U	0.26	0.34797297	mg/kg
				2,6-Dinitrotoluene	U	0.26	0.34797297	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	0.34797297	mg/kg
				2-Nitrotoluene	U	0.26	0.34797297	mg/kg
				3-Nitrotoluene	U	0.26	0.34797297	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	0.34797297	mg/kg
				4-Nitrotoluene	U	0.52	0.69594595	mg/kg
				Nitrobenzene	U	0.26	0.34797297	mg/kg
CBLSB-012-5266-SO	A0C230534022	8330B	SO	1,3,5-Trinitrobenzene	U	0.24	0.01158537	mg/kg
				1,3-Dinitrobenzene	U	0.24	0.28963415	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.24	0.28963415	mg/kg
				2,4-Dinitrotoluene	U	0.24	0.28963415	mg/kg
				2,6-Dinitrotoluene	U	0.24	0.28963415	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
CBLSB-012-5266-SO	A0C230534022	8330B	SO	2-Amino-4,6-dinitrotoluene	U	0.24	0.28963415	mg/kg
				2-Nitrotoluene	U	0.24	0.28963415	mg/kg
				3-Nitrotoluene	U	0.24	0.28963415	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.24	0.28963415	mg/kg
				4-Nitrotoluene	U	0.48	0.57926829	mg/kg
				Nitrobenzene	U	0.24	0.28963415	mg/kg
LL11SB-063-5563-SO	A0C230534001	8082	SO	Aroclor 1016	U	49	2.5	ug/kg
				Aroclor 1221	U	49	2.5	ug/kg
				Aroclor 1232	U	49	2.5	ug/kg
				Aroclor 1242	U	49	2.5	ug/kg
				Aroclor 1248	U	49	2.5	ug/kg
				Aroclor 1254	U	49	2.5	ug/kg
				Aroclor 1260	U	49	2.5	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.26	0.015	mg/kg
				1,3-Dinitrobenzene	U	0.26	0.375	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.26	0.375	mg/kg
				2,4-Dinitrotoluene	U	0.26	0.375	mg/kg
				2,6-Dinitrotoluene	U	0.26	0.375	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	0.375	mg/kg
				2-Nitrotoluene	U	0.26	0.375	mg/kg
				3-Nitrotoluene	U	0.26	0.375	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	0.375	mg/kg
				Nitrobenzene	U	0.26	0.375	mg/kg
LL11SB-063-5564-SO	A0C230534002	6020	SO	Antimony	U	0.61	0.6097561	mg/kg
LL11SB-063-5565-SO	A0C230534003	7471A	SO	Mercury	U	0.13	0.12658228	mg/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

* 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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LL11SB-063-5565-SO	A0C230534003	8082	SO	Aroclor 1260	U	42	2.15189873	ug/kg
LL11SB-065-5573-SO	A0C230534004	8082	SO	Aroclor 1016	U	43	2.20779221	ug/kg
				Aroclor 1221	U	43	2.20779221	ug/kg
				Aroclor 1232	U	43	2.20779221	ug/kg
				Aroclor 1242	U	43	2.20779221	ug/kg
				Aroclor 1248	U	43	2.20779221	ug/kg
				Aroclor 1254	U	43	2.20779221	ug/kg
				Aroclor 1260	U	43	2.20779221	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.26	0.01324675	mg/kg
				1,3-Dinitrobenzene	U	0.26	0.33116883	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.26	0.33116883	mg/kg
				2,4-Dinitrotoluene	U	0.26	0.33116883	mg/kg
				2,6-Dinitrotoluene	U	0.26	0.33116883	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.26	0.33116883	mg/kg
				2-Nitrotoluene	U	0.26	0.33116883	mg/kg
				3-Nitrotoluene	U	0.26	0.33116883	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.26	0.33116883	mg/kg
				Nitrobenzene	U	0.26	0.33116883	mg/kg
LL11SB-065-5574-SO	A0C230534005	7471A	SO	Mercury	U	0.12	0.11904762	mg/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.01178571	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.29464286	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.29464286	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.29464286	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.29464286	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.29464286	mg/kg
				2-Nitrotoluene	U	0.25	0.29464286	mg/kg
				3-Nitrotoluene	U	0.25	0.29464286	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.29464286	mg/kg
				4-Nitrotoluene	U	0.50	0.58928571	mg/kg
				Nitrobenzene	U	0.25	0.29464286	mg/kg
LL11SB-066-5577-SO	A0C230534006	6020	SO	Antimony	U	0.70	0.69444444	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LL11SB-066-5577-SO	A0C230534006	8082	SO	Aroclor 1016	U	46	2.36111111	ug/kg
				Aroclor 1016	U	46	2.36111111	ug/kg
				Aroclor 1221	U	46	2.36111111	ug/kg
				Aroclor 1221	U	46	2.36111111	ug/kg
				Aroclor 1232	U	46	2.36111111	ug/kg
				Aroclor 1232	U	46	2.36111111	ug/kg
				Aroclor 1242	U	46	2.36111111	ug/kg
				Aroclor 1242	U	46	2.36111111	ug/kg
				Aroclor 1248	U	46	2.36111111	ug/kg
				Aroclor 1248	U	46	2.36111111	ug/kg
				Aroclor 1254	U	46	2.36111111	ug/kg
				Aroclor 1254	U	46	2.36111111	ug/kg
				Aroclor 1260	U	46	2.36111111	ug/kg
				Aroclor 1260	U	46	2.36111111	ug/kg
LL11SB-069-5590-SO	A0C230534009	8082	SO	Aroclor 1016	U	40	2.04819277	ug/kg
				Aroclor 1221	U	40	2.04819277	ug/kg
				Aroclor 1232	U	40	2.04819277	ug/kg
				Aroclor 1242	U	40	2.04819277	ug/kg
				Aroclor 1248	U	40	2.04819277	ug/kg
				Aroclor 1254	U	40	2.04819277	ug/kg
				Aroclor 1260	U	40	2.04819277	ug/kg
		8330B		1,3,5-Trinitrobenzene	U	0.25	0.01192771	mg/kg
				1,3-Dinitrobenzene	U	0.25	0.29819277	mg/kg
				2,4,6-Trinitrotoluene (TNT)	U	0.25	0.29819277	mg/kg
				2,4-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				2,6-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				2-Amino-4,6-dinitrotoluene	U	0.25	0.29819277	mg/kg
				2-Nitrotoluene	U	0.25	0.29819277	mg/kg
				3-Nitrotoluene	U	0.25	0.29819277	mg/kg
				4-Amino-2,6-Dinitrotoluene	U	0.25	0.29819277	mg/kg
				4-Nitrotoluene	U	0.50	0.59638554	mg/kg
				Nitrobenzene	U	0.25	0.29819277	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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
LL11SB-069-5591-SO	A0C230534010	8082	SO	Aroclor 1016	U	40	2.04819277	ug/kg
				Aroclor 1221	U	40	2.04819277	ug/kg
				Aroclor 1232	U	40	2.04819277	ug/kg
				Aroclor 1242	U	40	2.04819277	ug/kg
				Aroclor 1248	U	40	2.04819277	ug/kg
				Aroclor 1254	U	40	2.04819277	ug/kg
				Aroclor 1260	U	40	2.04819277	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**

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: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CBLSB-007-5249-SO	A0C230534011	6020	SO	Antimony	J	0.099	0.64	mg/kg
				Cadmium	J	0.10	0.26	mg/kg
				Silver	J	0.029	0.64	mg/kg
				Sodium	J	30.3	128	mg/kg
				Thallium	J	0.17	0.26	mg/kg
		7471A		Mercury	J	0.024	0.13	mg/kg
CBLSB-007-5250-SO	A0C230534012	6020		Cadmium	J	0.070	0.24	mg/kg
				Silver	J	0.021	0.61	mg/kg
				Sodium	J	31.7	121	mg/kg
				Thallium	J	0.16	0.24	mg/kg
		7471A		Mercury	J	0.022	0.12	mg/kg
CBLSB-007-5251-SO	A0C230534013	6020		Antimony	J	0.080	0.61	mg/kg
				Cadmium	J	0.048	0.25	mg/kg
				Silver	J	0.018	0.61	mg/kg
				Sodium	J	31.5	123	mg/kg
				Thallium	J	0.15	0.25	mg/kg
		7471A		Mercury	J	0.032	0.12	mg/kg
CBLSB-008-5253-SO	A0C230534014	6020		Antimony	J	0.087	0.65	mg/kg
				Cadmium	J	0.069	0.26	mg/kg
				Silver	J	0.048	0.65	mg/kg
				Sodium	J	24.2	129	mg/kg
				Thallium	J	0.12	0.26	mg/kg
		7471A		Mercury	J	0.046	0.13	mg/kg
CBLSB-008-5254-SO	A0C230534015	6020		Antimony	J	0.082	0.60	mg/kg
				Cadmium	J	0.044	0.24	mg/kg
				Silver	J	0.021	0.60	mg/kg
				Sodium	J	27.7	121	mg/kg
				Thallium	J	0.14	0.24	mg/kg
		7471A		Mercury	J	0.049	0.12	mg/kg
CBLSB-008-6126-FD	A0C230534023	6020		Antimony	J	0.11	0.66	mg/kg
				Cadmium	J	0.052	0.26	mg/kg
				Silver	J	0.047	0.66	mg/kg
				Sodium	J	26.9	131	mg/kg
				Thallium	J	0.14	0.26	mg/kg
		7471A		Mercury	J	0.026	0.13	mg/kg
CBLSB-010-5257-SO	A0C230534016	6020		Antimony	J	0.17	0.72	mg/kg

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

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CBLSB-010-5257-SO	A0C230534016	6020	SO	Cadmium	J	0.11	0.29	mg/kg
				Silver	J	0.066	0.72	mg/kg
				Sodium	J	28.9	143	mg/kg
				Thallium	J	0.13	0.29	mg/kg
		7471A		Mercury	J	0.067	0.14	mg/kg
		8330B		2,4-Dinitrotoluene	J	0.025	0.24	mg/kg
				2-Amino-4,6-dinitrotoluene	J	0.16	0.24	mg/kg
				4-Amino-2,6-Dinitrotoluene	J	0.13	0.24	mg/kg
CBLSB-010-5258-SO	A0C230534017	6020		Antimony	J	0.15	0.67	mg/kg
				Cadmium	J	0.079	0.27	mg/kg
				Silver	J	0.024	0.67	mg/kg
				Sodium	J	28.7	134	mg/kg
				Thallium	J	0.13	0.27	mg/kg
		7471A		Mercury	J	0.058	0.13	mg/kg
		8330B		2-Amino-4,6-dinitrotoluene	J	0.073	0.24	mg/kg
				4-Amino-2,6-Dinitrotoluene	J	0.051	0.24	mg/kg
CBLSB-011-5261-SO	A0C230534018	6020		Antimony	J	0.069	0.52	mg/kg
				Cadmium	J	0.15	0.21	mg/kg
				Silver	J	0.016	0.52	mg/kg
				Sodium	J	24.9	105	mg/kg
				Thallium	J	0.087	0.21	mg/kg
		7471A		Mercury	J	0.037	0.10	mg/kg
		8260B		Methylene chloride	J B	1.5	5.2	ug/kg
		8270C		bis(2-Ethylhexyl) phthalate	J B	23	350	ug/kg
				Carbazole	J	29	52	ug/kg
				Di-n-butyl phthalate	J B	23	350	ug/kg
		8330B		3-Nitrotoluene	J	0.018	0.25	mg/kg
CBLSB-011-5262-SO	A0C230534019	6020		Antimony	J	0.089	0.61	mg/kg
				Cadmium	J	0.086	0.24	mg/kg
				Silver	J	0.024	0.61	mg/kg
				Sodium	J	29.4	121	mg/kg
				Thallium	J	0.14	0.24	mg/kg
		7471A		Mercury	J	0.041	0.12	mg/kg
		8260B		Methylene chloride	J B	2.6	6.1	ug/kg
CBLSB-011-5263-SO	A0C230534020	6020		Antimony	J	0.14	0.62	mg/kg
				Cadmium	J	0.11	0.25	mg/kg

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

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CBLSB-011-5263-SO	A0C230534020	6020	SO	Silver	J	0.023	0.62	mg/kg
				Sodium	J	27.5	125	mg/kg
				Thallium	J	0.16	0.25	mg/kg
		7471A		Mercury	J	0.047	0.12	mg/kg
		8260B		Methylene chloride	J B	2.1	6.2	ug/kg
		8270C		bis(2-Ethylhexyl) phthalate	J B	27	410	ug/kg
				Di-n-butyl phthalate	J B	27	410	ug/kg
CBLSB-011-6127-FD	A0C230534024	6020		Antimony	J	0.12	0.61	mg/kg
				Cadmium	J	0.069	0.24	mg/kg
				Silver	J	0.018	0.61	mg/kg
				Sodium	J	28.9	122	mg/kg
				Thallium	J	0.14	0.24	mg/kg
		7471A		Mercury	J	0.033	0.12	mg/kg
		8260B		Methylene chloride	J B	2.4	6.1	ug/kg
CBLSB-012-5265-SO	A0C230534021	6020		Antimony	J	0.11	0.68	mg/kg
				Cadmium	J	0.22	0.27	mg/kg
				Silver	J	0.026	0.68	mg/kg
				Sodium	J	25.2	136	mg/kg
				Thallium	J	0.15	0.27	mg/kg
		7471A		Mercury	J	0.052	0.14	mg/kg
CBLSB-012-5266-SO	A0C230534022	6020		Antimony	J	0.085	0.61	mg/kg
				Cadmium	J	0.058	0.24	mg/kg
				Silver	J	0.017	0.61	mg/kg
				Sodium	J	27.6	122	mg/kg
				Thallium	J	0.14	0.24	mg/kg
		7471A		Mercury	J	0.067	0.12	mg/kg
LL11SB-063-5563-SO	A0C230534001	6020		Antimony	J	0.10	0.74	mg/kg
				Cadmium	J	0.24	0.29	mg/kg
				Silver	J	0.025	0.74	mg/kg
				Sodium	J	74.3	147	mg/kg
				Thallium	J	0.13	0.29	mg/kg
		7471A		Mercury	J	0.041	0.15	mg/kg
LL11SB-063-5564-SO	A0C230534002	6020		Cadmium	J	0.088	0.24	mg/kg
				Silver	J	0.015	0.61	mg/kg
				Sodium	J	62.2	122	mg/kg
				Thallium	J	0.15	0.24	mg/kg

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

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
LL11SB-063-5565-SO	A0C230534003	6020	SO	Cadmium	J	0.049	0.25	mg/kg
				Silver	J	0.020	0.63	mg/kg
				Sodium	J	65.8	127	mg/kg
				Thallium	J	0.11	0.25	mg/kg
LL11SB-065-5573-SO	A0C230534004			Antimony	J	0.087	0.65	mg/kg
				Cadmium	J	0.073	0.26	mg/kg
				Silver	J	0.017	0.65	mg/kg
				Sodium	J	30.4	129	mg/kg
				Thallium	J	0.13	0.26	mg/kg
		7471A		Mercury	J	0.043	0.13	mg/kg
LL11SB-065-5574-SO	A0C230534005	6020		Antimony	J	0.092	0.60	mg/kg
				Cadmium	J	0.13	0.24	mg/kg
				Silver	J	0.013	0.60	mg/kg
				Sodium	J	51.2	120	mg/kg
				Thallium	J	0.19	0.24	mg/kg
LL11SB-066-5577-SO	A0C230534006			Cadmium	J	0.13	0.28	mg/kg
				Calcium	J	180	279	mg/kg
				Silver	J	0.050	0.70	mg/kg
				Sodium	J	30.3	139	mg/kg
				Thallium	J	0.18	0.28	mg/kg
		7471A		Mercury	J	0.053	0.14	mg/kg
LL11SB-066-5578-SO	A0C230534007	6020		Antimony	J	0.086	0.59	mg/kg
				Cadmium	J	0.054	0.24	mg/kg
				Silver	J	0.015	0.59	mg/kg
				Sodium	J	39.7	119	mg/kg
				Thallium	J	0.14	0.24	mg/kg
		7471A		Mercury	J	0.045	0.12	mg/kg
LL11SB-069-5589-SO	A0C230534008	6020		Silver	J	0.036	0.70	mg/kg
				Sodium	J	33.0	140	mg/kg
				Thallium	J	0.10	0.28	mg/kg
		7471A		Mercury	J	0.054	0.14	mg/kg
LL11SB-069-5590-SO	A0C230534009	6020		Cadmium	J	0.058	0.24	mg/kg
				Silver	J	0.024	0.60	mg/kg
				Sodium	J	47.6	120	mg/kg
				Thallium	J	0.10	0.24	mg/kg
LL11SB-069-5591-SO	A0C230534010			Cadmium	J	0.060	0.24	mg/kg

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

Lab Report Batch: A0C230534 **Lab ID:** TALCAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
LL11SB-069-5591-SO	A0C230534010	6020	SO	Silver	J	0.022	0.60	mg/kg
				Sodium	J	52.4	120	mg/kg
				Thallium	J	0.11	0.24	mg/kg
		7471A		Mercury	J	0.068	0.12	mg/kg

Method Blank Outlier Report

Lab Reporting Batch : A0C230534
Lab ID: TALCAN
Analysis Method : 6020
Analysis Date : 04/01/2010
Preparation Type : 3050B
Preparation Date : 03/24/2010
Method Blank Lab Sample ID : A0C240000020B
Preparation Batch : 0083020

Nickel	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**0.19**	**1.0**	**mg/kg**	**J**	

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

Method Blank Outlier Report

Lab Reporting Batch : A0C230534
Lab ID: TALCAN
Analysis Method : 8270C
Analysis Date : 04/08/2010
Preparation Type : 3540C
Preparation Date : 03/24/2010
Method Blank Lab Sample ID : A0C240000037B
Preparation Batch : 0083037

bis(2-Ethylhexyl) phthalate	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**23**	**330**	**ug/kg**	**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
CBLSB-011-5261-SO	A0C230534018	1	23	J B	ug/kg
CBLSB-011-5263-SO	A0C230534020	1	27	J B	ug/kg

Di-n-butyl phthalate	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**22**	**330**	**ug/kg**	**J**	**Common Contaminant**

Di-n-butyl 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
CBLSB-011-5261-SO	A0C230534018	1	23	J B	ug/kg
CBLSB-011-5263-SO	A0C230534020	1	27	J B	ug/kg

Method Blank Outlier Report

Lab Reporting Batch : A0C230534
Lab ID: TALCAN
Analysis Method : 8260B
Analysis Date : 03/25/2010
Preparation Type : 5030B
Preparation Date : 03/25/2010
Method Blank Lab Sample ID : A0C250000407B
Preparation Batch : 0084407

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**2.5**	**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
CBLSB-011-5261-SO	A0C230534018	1	1.5	J B	ug/kg
CBLSB-011-5262-SO	A0C230534019	1	2.6	J B	ug/kg
CBLSB-011-5263-SO	A0C230534020	1	2.1	J B	ug/kg
CBLSB-011-6127-FD	A0C230534024	1	2.4	J B	ug/kg

Method Blank Outlier Report

Lab Reporting Batch : A0C230534 **Lab ID:** TALCAN

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

Preparation Type : 3540C **Preparation Date :** 04/12/2010

Method Blank Lab Sample ID : A0D120000247B **Preparation Batch :** 0102247

2-Methylnaphthalene	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	**31**	**330**	**ug/kg**	**J**	

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

Surrogate Recovery Outlier Report

Lab Report Batch: A0C230534 **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
CBLSB-011-5261-SO	A0C230534018	8260B	1	SO	4-Bromofluorobenzene	80	85.0	120.0	10.0	All Target
CBLSB-011-5261-SOMS	A0C230534018S	8082	1	SO	Decachlorobiphenyl	58	60.0	125.0	10.0	All Target
		8260B			4-Bromofluorobenzene	82	85.0	120.0	10.0	All Target
CBLSB-011-5261-SOMSD	A0C230534018D	8260B	1	SO	4-Bromofluorobenzene	84	85.0	120.0	10.0	All Target
CBLSB-011-5262-SO	A0C230534019	8260B	1	SO	4-Bromofluorobenzene	83	85.0	120.0	10.0	All Target
					Toluene-d8	82	85.0	115.0	10.0	All Target
CBLSB-011-5263-SO	A0C230534020	8260B	1	SO	4-Bromofluorobenzene	84	85.0	120.0	10.0	All Target
CBLSB-011-6127-FD	A0C230534024	8260B	1	SO	4-Bromofluorobenzene	82	85.0	120.0	10.0	All Target
					Toluene-d8	83	85.0	115.0	10.0	All Target
LL11SB-066-5577-SO	A0C230534006	8082	1	SO	Decachlorobiphenyl	42	60.0	125.0	10.0	All Target
LL11SB-069-5589-SO	A0C230534008	8082	1	SO	Decachlorobiphenyl	48	60.0	125.0	10.0	All Target
					Decachlorobiphenyl	17	60.0	125.0	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.

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

827. 20130713, 8326

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSB-025-5878-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-8

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	1700		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	19		mg/Kg		YES	J		J		J										

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSB-025-5879-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-9

Reviewed By / Date :
Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	930		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	39		mg/Kg		YES	J		J		J										

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSB-026-5881-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/09/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-1

Reviewed By / Date :
Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	390		mg/Kg	J D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	2.2		mg/Kg		YES	J		J		J										

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSB-026-5882-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/09/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-3

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	920		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	6.4		mg/Kg		YES	J		J		J										

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSB-026-6248-FD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/09/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-2

Reviewed By / Date :

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	310		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	0.83		mg/Kg	J	YES	J		J		J				J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSS-003M-5876-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : AQ
Lab Sample ID: 240-14079-4

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	520		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	0.46		mg/Kg	J	YES	J		J						J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSS-003M-6247-FD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : AQ
Lab Sample ID: 240-14079-5

Reviewed By / Date :

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	480		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	0.61		mg/Kg	J	YES	J		J						J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : CBLSS-005M-5877-SO
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : AQ
Lab Sample ID: 240-14079-6

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Chromium	1000		mg/Kg	D	YES	J					J									
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	0.32		mg/Kg	J	YES	J		J						J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : PBA08-QC-6249-ER
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : AQ
Lab Sample ID: 240-14079-7

Reviewed By / Date :

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 1**															
Chromium	1.1		ug/L	J	YES	J								J						
Analysis Method : 7196A					**Dilution: 1**															
Chromium, hexavalent	0.0040		mg/L	U	YES															

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RE2/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 10**															
Manganese	410		mg/Kg	D	YES															
Zinc	380		mg/Kg	D	YES															

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA SAC
Sample Date : 08/10/2012
Analysis Type: RE2/WET
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date :
Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8330B						**Dilution: 1**														
1,3,5-TRINITROBENZENE	0.049		mg/Kg	U	YES	UJ	UJ													
2,4-DINITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
2,6-DINITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
4-AMINO-2,6-DINITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD **Lab Report Batch :** 240-14079-1 **Lab ID :** TA CAN

Sample Date : 08/10/2012 **Analysis Type: RES** **Sample Matrix :** SO

Lab Sample ID: 240-14079-10

Reviewed By / Date : **Approved By / Date :**

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8081A					**Dilution: 5**															
4,4'-DDD	5.7		ug/Kg	U	YES	UJ	UJ													
4,4'-DDE	5.7		ug/Kg	U	YES	UJ	UJ													
4,4'-DDT	5.7		ug/Kg	U	YES	UJ	UJ													
ALDRIN	11		ug/Kg	U	YES	UJ	UJ													
ALPHA-BHC	11		ug/Kg	U	YES	UJ	UJ													
alpha-Chordane	11		ug/Kg	U	YES	UJ	UJ													
BETA-BHC	11		ug/Kg	U	YES	UJ	UJ													
DELTA-BHC	11		ug/Kg	U	YES	UJ	UJ													
DIELDRIN	5.7		ug/Kg	U	YES	UJ	UJ													
ENDOSULFAN I	5.7		ug/Kg	U	YES	UJ	UJ													
ENDOSULFAN II	11		ug/Kg	U	YES	UJ	UJ													
ENDOSULFAN SULFATE	11		ug/Kg	U	YES	UJ	UJ													
ENDRIN	5.7		ug/Kg	U	YES	UJ	UJ													
ENDRIN ALDEHYDE	11		ug/Kg	U	YES	UJ	UJ													
ENDRIN KETONE	5.7		ug/Kg	U	YES	UJ	UJ													
gamma-BHC (Lindane)	11		ug/Kg	U	YES	UJ	UJ													
GAMMA-CHLORDANE	5.7		ug/Kg	U	YES	UJ	UJ													
HEPTACHLOR	11		ug/Kg	U	YES	UJ	UJ													
HEPTACHLOR EPOXIDE	11		ug/Kg	U	YES	UJ	UJ													
METHOXYCHLOR	28		ug/Kg	U	YES	UJ	UJ													
TOXAPHENE	170		ug/Kg	U	YES	UJ	UJ													
Analysis Method : 8082					**Dilution: 1**															
AROCLOR 1016	42		ug/Kg	U	YES	UJ	UJ													
AROCLOR 1221	42		ug/Kg	U	YES	UJ	UJ													
AROCLOR 1232	42		ug/Kg	U	YES	UJ	UJ													
AROCLOR 1242	42		ug/Kg	U	YES	UJ	UJ													
AROCLOR 1248	42		ug/Kg	U	YES	UJ	UJ													
AROCLOR 1254	42		ug/Kg	U	YES	UJ	UJ													

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date :

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8082					**Dilution: 1**															
AROCLOR 1260	42		ug/Kg	U	YES	UJ	UJ													
Analysis Method : 8260B					**Dilution: 1**															
1,1,1-TRICHLOROETHANE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
1,1,2,2-TETRACHLOROETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
1,1,2-TRICHLOROETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
1,1-DICHLOROETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
1,1-DICHLOROETHENE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
1,2-Dibromoethane (Ethylene Dibromide)	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
1,2-DICHLOROETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
1,2-DICHLOROETHENE (TOTAL)	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
1,2-DICHLOROPROPANE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
2-Butanone (MEK)	3.4		ug/Kg	U	YES	UJ	UJ						UJ							
2-HEXANONE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
4-Methyl-2-pentanone (MIBK)	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
ACETONE	11		ug/Kg	U	YES	UJ	UJ						UJ							
BENZENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
BROMOCHLOROMETHANE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
BROMODICHLOROMETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
BROMOFORM	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
Bromomethane (Methyl bromide)	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
CARBON DISULFIDE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
CARBON TETRACHLORIDE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
CHLOROBENZENE	0.86		ug/Kg	U J	YES	UJ	UJ				UJ		UJ							
Chlorodibromomethane	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
CHLOROETHANE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
CHLOROFORM	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
CHLOROMETHANE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
CIS-1,3-DICHLOROPROPENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD **Lab Report Batch :** 240-14079-1 **Lab ID :** TA CAN

Sample Date : 08/10/2012 **Analysis Type: RES** **Sample Matrix :** SO

Lab Sample ID: 240-14079-10

Reviewed By / Date : **Approved By / Date :**

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ETHYLBENZENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
METHYLENE CHLORIDE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
STYRENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
TETRACHLOROETHENE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
TOLUENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
TRANS-1,3-DICHLOROPROPENE	1.7		ug/Kg	U	YES	UJ	UJ						UJ							
TRICHLOROETHENE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
VINYL CHLORIDE	0.86		ug/Kg	U	YES	UJ	UJ						UJ							
Xylene (Total)	2.6		ug/Kg	U J	YES	UJ	UJ						UJ							
Analysis Method : 8270C					**Dilution: 2**															
1,2,4-TRICHLOROBENZENE	93		ug/Kg	U	YES	UJ	UJ													
1,2-DICHLOROBENZENE	93		ug/Kg	U	YES	UJ	UJ													
1,3-DICHLOROBENZENE	93		ug/Kg	U	YES	UJ	UJ													
1,4-DICHLOROBENZENE	93		ug/Kg	U	YES	UJ	UJ													
2,4,5-TRICHLOROPHENOL	93		ug/Kg	U	YES	UJ	UJ													
2,4,6-TRICHLOROPHENOL	280		ug/Kg	U	YES	UJ	UJ													
2,4-DICHLOROPHENOL	93		ug/Kg	U	YES	UJ	UJ													
2,4-DIMETHYLPHENOL	280		ug/Kg	U	YES	UJ	UJ													
2,4-DINITROPHENOL	280		ug/Kg	U	YES	UJ	UJ													
2,4-DINITROTOLUENE	93		ug/Kg	U	YES	UJ	UJ													
2,6-DINITROTOLUENE	93		ug/Kg	U	YES	UJ	UJ													
2-CHLORONAPHTHALENE	11		ug/Kg	U	YES	UJ	UJ													
2-CHLOROPHENOL	93		ug/Kg	U	YES	UJ	UJ													
2-METHYLNAPHTHALENE	32		ug/Kg		YES	J	J													
2-METHYLPHENOL	280		ug/Kg	U	YES	UJ	UJ													
2-NITROANILINE	93		ug/Kg	U	YES	UJ	UJ													
2-NITROPHENOL	93		ug/Kg	U	YES	UJ	UJ													
3 & 4-Methylphenol	280		ug/Kg	U	YES	UJ	UJ													

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD **Lab Report Batch :** 240-14079-1 **Lab ID :** TA CAN

Sample Date : 08/10/2012 **Analysis Type: RES** **Sample Matrix :** SO

Lab Sample ID: 240-14079-10

Reviewed By / Date : **Approved By / Date :**

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8270C					**Dilution: 2**															
3,3'-DICHLOROBENZIDINE	280		ug/Kg	U	YES	UJ	UJ													
3-NITROANILINE	280		ug/Kg	U	YES	UJ	UJ													
4,6-DINITRO-2-METHYLPHENOL	280		ug/Kg	U	YES	UJ	UJ													
4-BROMOPHENYL PHENYL ETHER	93		ug/Kg	U	YES	UJ	UJ													
4-CHLORO-3-METHYLPHENOL	93		ug/Kg	U	YES	UJ	UJ													
4-CHLOROANILINE	93		ug/Kg	U	YES	UJ	UJ													
4-CHLOROPHENYL PHENYL ETHER	93		ug/Kg	U	YES	UJ	UJ													
4-NITROANILINE	93		ug/Kg	U	YES	UJ	UJ													
4-NITROPHENOL	280		ug/Kg	U	YES	UJ	UJ													
ACENAPHTHENE	210		ug/Kg		YES	J	J													
ACENAPHTHYLENE	11		ug/Kg	U	YES	UJ	UJ													
ANTHRACENE	370		ug/Kg	J	YES	J	J				J									
Benz[a]anthracene	830		ug/Kg		YES	J	J													
Benzo[a]pyrene	750		ug/Kg		YES	J	J													
Benzo[b]fluoranthene	910		ug/Kg	M	YES	J	J													
Benzo[g,h,i]perylene	450		ug/Kg		YES	J	J													
Benzo[k]fluoranthene	490		ug/Kg	M	YES	J	J													
BENZOIC ACID	1100		ug/Kg	U M	YES	UJ	UJ													
BENZYL ALCOHOL	93		ug/Kg	U	YES	UJ	UJ													
BIS(2-CHLOROETHOXY)METHANE	93		ug/Kg	U	YES	UJ	UJ													
BIS(2-CHLOROETHYL) ETHER	11		ug/Kg	U	YES	UJ	UJ													
BIS(2-CHLOROISOPROPYL) ETHER	93		ug/Kg	U	YES	UJ	UJ													
BIS(2-ETHYLHEXYL) PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
BUTYL BENZYL PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
CARBAZOLE	310		ug/Kg		YES	J	J													
CHRYSENE	940		ug/Kg		YES	J	J													
Dibenz[a,h]anthracene	130		ug/Kg		YES	J	J													
DIBENZOFURAN	120		ug/Kg	J	YES	J	J							J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date :
Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8270C					**Dilution: 2**															
DIETHYL PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
DIMETHYL PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
DI-N-BUTYL PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
DI-N-OCTYL PHTHALATE	93		ug/Kg	U	YES	UJ	UJ													
FLUORANTHENE	2400		ug/Kg	J	YES	J	J				J									
FLUORENE	210		ug/Kg		YES	J	J													
HEXACHLOROBENZENE	11		ug/Kg	U	YES	UJ	UJ													
HEXACHLOROBUTADIENE	93		ug/Kg	U	YES	UJ	UJ													
HEXACHLOROCYCLOPENTADIENE	93		ug/Kg	U	YES	UJ	UJ													
HEXACHLOROETHANE	93		ug/Kg	U	YES	UJ	UJ													
Indeno[1,2,3-cd]pyrene	420		ug/Kg		YES	J	J													
ISOPHORONE	93		ug/Kg	U	YES	UJ	UJ													
NAPHTHALENE	68		ug/Kg		YES	J	J													
NITROBENZENE	11		ug/Kg	U	YES	UJ	UJ													
N-NITROSODI-N-PROPYLAMINE	93		ug/Kg	U	YES	UJ	UJ													
N-NITROSODIPHENYLAMINE	93		ug/Kg	U	YES	UJ	UJ													
PENTACHLOROPHENOL	280		ug/Kg	U	YES	UJ	UJ													
PHENANTHRENE	1900		ug/Kg	J	YES	J	J				J									
PHENOL	93		ug/Kg	U	YES	UJ	UJ													
PYRENE	1700		ug/Kg	J	YES	J	J				J									

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA CAN
Sample Date : 08/10/2012
Analysis Type: RES/TOT
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date :

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 6020					**Dilution: 1**															
Aluminum	15000		mg/Kg		YES															
Antimony	0.26		mg/Kg	J	YES	J								J						
Arsenic	18		mg/Kg		YES															
Barium	92		mg/Kg		YES															
Beryllium	0.88		mg/Kg		YES															
Cadmium	0.51		mg/Kg		YES															
Calcium	5700		mg/Kg		YES															
Chromium	24		mg/Kg		YES	J					J									
Cobalt	13		mg/Kg		YES															
Copper	37		mg/Kg		YES															
Iron	36000		mg/Kg		YES															
Lead	59		mg/Kg		YES															
Magnesium	4100		mg/Kg		YES															
Nickel	32		mg/Kg		YES															
Potassium	2100		mg/Kg		YES															
SELENIUM	1.8		mg/Kg		YES															
Silver	0.054		mg/Kg	J	YES	J								J						
Sodium	59		mg/Kg	J	YES	J								J						
Thallium	0.28		mg/Kg	J	YES	J								J						
Vanadium	25		mg/Kg		YES															
Analysis Method : 7471A					**Dilution: 1**															
Mercury	0.12		mg/Kg	J	YES	J								J						
Analysis Method : WS-WC-0050					**Dilution: 1**															
Nitrocellulose	1.7		mg/Kg	J	YES	J								J						

Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Analytes)

Client Sample ID : TSASD-003(ST)-2505-SD
Lab Report Batch : 240-14079-1
Lab ID : TA SAC
Sample Date : 08/10/2012
Analysis Type: RES/WET
Sample Matrix : SO
Lab Sample ID: 240-14079-10

Reviewed By / Date : .....
Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8330B					**Dilution: 1**															
1,3-DINITROBENZENE	0.049		mg/Kg	U	YES	UJ	UJ													
2,4,6-Trinitrotoluene (TNT)	0.049		mg/Kg	U	YES	UJ	UJ													
2-AMINO-4,6-DINITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
2-NITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
3-NITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
4-NITROTOLUENE	0.049		mg/Kg	U	YES	UJ	UJ													
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.049		mg/Kg	U	YES	UJ	UJ													
Methyl-2,4,6-Trinitrophenylnitramine (Tetryl)	0.053		mg/Kg	J	YES	J	J							J						
NITROBENZENE	0.049		mg/Kg	U	YES	UJ	UJ													
Nitroglycerin	0.25		mg/Kg	U	YES	UJ	UJ													
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.049		mg/Kg	U	YES	UJ	UJ													
PETN	0.25		mg/Kg	U	YES	UJ	UJ													
Analysis Method : 8330M					**Dilution: 1**															
Nitroguanidine	0.040		mg/Kg	U	YES	UJ	UJ													

*Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Temperature Outlier Report

Lab Report Batch: 240-14079-1 **Lab ID:** TA CAN

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	
TSASD-003(ST)-2505-SD	240-14079-10	8081A	SO	6.4	2	6	10	J	J-	UJ	J	J-	R
		8082	SO	6.4	2	6	10	J	J-	UJ	J	J-	R
		8260B	SO	6.4	2	6	10	J	J-	UJ	J	J-	R
		8270C	SO	6.4	2	6	10	J	J-	UJ	J	J-	R
		8330B	SO	6.4	2	6	10	J	J-	UJ	J	J-	R
		8330M	SO	6.4	2	6	10	J	J-	UJ	J	J-	R

QC Outlier Report: Holding Times

Lab Report Batch: 240-14079-1 **Lab ID:** TA CAN

					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
CBLSB-025-5878-SO	240-14079-8	7196A	SO	Gen Prep			124.9			30	Hours	08/10/2012 11:35	08/14/2012 09:38	08/15/2012 16:31
CBLSB-025-5879-SO	240-14079-9	7196A	SO	Gen Prep			124.9			30	Hours	08/10/2012 11:40	08/14/2012 09:42	08/15/2012 16:31
CBLSB-026-5881-SO	240-14079-1	7196A	SO	Gen Prep			142.5			30	Hours	08/09/2012 17:45	08/14/2012 09:38	08/15/2012 16:15
CBLSB-026-5882-SO	240-14079-3	7196A	SO	Gen Prep			142.4			30	Hours	08/09/2012 18:00	08/14/2012 09:38	08/15/2012 16:25
CBLSB-026-6248-FD	240-14079-2	7196A	SO	Gen Prep			142.6			30	Hours	08/09/2012 17:45	08/14/2012 09:38	08/15/2012 16:23
CBLSS-003M-5876-S	240-14079-4	7196A	AQ	Gen Prep			509.1			24	Hours	08/10/2012 11:00	08/30/2012 13:03	08/31/2012 16:07
CBLSS-003M-6247-F	240-14079-5	7196A	AQ	Gen Prep			509.1			24	Hours	08/10/2012 11:00	08/30/2012 13:03	08/31/2012 16:08
CBLSS-005M-5877-S	240-14079-6	7196A	AQ	Gen Prep			509.1			24	Hours	08/10/2012 11:05	08/30/2012 13:03	08/31/2012 16:10

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : 240-54116 **Analysis Method :** 8260B **Analysis Date :** 08/11/2012

Preparation Batch : 240-54116 **Preparation Type :** METHOD **Preparation Date :** 08/11/2012

Lab Reporting Batch : 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
TSASD-003(ST)-2505-S	240-14079-10MS	SO	CHLOROBENZENE	74		0.00	75.00	125.00	30.00
TSASD-003(ST)-2505-S	240-14079-10MSD		CHLOROBENZENE	73		0.00	75.00	125.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
TSASD-003(ST)-2505-SD	240-14079-10

* 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 : 240-55167 **Analysis Method :** 8270C **Analysis Date :** 09/10/2012

Preparation Batch : 240-55167 **Preparation Type :** 3540C **Preparation Date :** 08/21/2012

Lab Reporting Batch : 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
TSASD-003(ST)-2505-S	240-14079-10MS	SO	ANTHRACENE	107		0.00	55.00	105.00	30.00
			FLUORANTHENE	189		0.00	55.00	115.00	30.00
			PHENANTHRENE	187		0.00	50.00	110.00	30.00
			PYRENE	144		0.00	45.00	125.00	30.00
TSASD-003(ST)-2505-S	240-14079-10MSD		FLUORANTHENE	157		0.00	55.00	115.00	30.00
			PHENANTHRENE	142		0.00	50.00	110.00	30.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
TSASD-003(ST)-2505-SD	240-14079-10

* 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 : 240-56140 **Analysis Method :** 6020 **Analysis Date :** 09/04/2012

Preparation Batch : 240-56140 **Preparation Type :** 3050B **Preparation Date :** 08/29/2012

Lab Reporting Batch : 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported *		Project Limits (Percent)			
				Percent Recovery	RPD	Rejection Point**	Lower Limit	Upper Limit	RPD
CBLSB-026-5881-SOMS	240-14079-1MS	SO	Chromium	359		30.00	80.00	120.00	20.00
CBLSB-026-5881-SOMS	240-14079-1MSD		Chromium	-131		30.00	80.00	120.00	20.00

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
CBLSB-025-5878-SO	240-14079-8
CBLSB-025-5879-SO	240-14079-9
CBLSB-026-5881-SO	240-14079-1
CBLSB-026-5882-SO	240-14079-3
CBLSB-026-6248-FD	240-14079-2
CBLSS-003M-5876-SO	240-14079-4
CBLSS-003M-6247-FD	240-14079-5
CBLSS-005M-5877-SO	240-14079-6
TSASD-003(ST)-2505-SD	240-14079-10

* 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 : 240-54338
Preparation Batch : 240-54338
Lab Reporting Batch : 240-14079-1

Analysis Method : 7196A
Preparation Type : Gen Prep
Lab ID: TA CAN

Analysis Date : 08/15/2012
Preparation Date : 08/14/2012

			Reported Values		Project Limits (Percent)			
LCS Lab Sample ID	Matrix	Analyte Name	Percent Recovery	RPD	Rejection Point	Lower Limit	Upper Limit	RPD
LCSI 240-54338/11-A	SO	Chromium, hexavalent	79		50.00	80.00	120.00	30.00

Associated Samples

Client Sample ID	Lab Sample ID
CBLSB-025-5878-SO	240-14079-8
CBLSB-025-5879-SO	240-14079-9
CBLSB-026-5881-SO	240-14079-1
CBLSB-026-5882-SO	240-14079-3
CBLSB-026-6248-FD	240-14079-2

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: 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	Reporting Limit Criteria*	Units
TSASD-003(ST)-2505-SD	240-14079-10	8082	SO	AROCLOR 1016	U	42	2.91595197	ug/Kg
				AROCLOR 1221	U	42	2.91595197	ug/Kg
				AROCLOR 1232	U	42	2.91595197	ug/Kg
				AROCLOR 1242	U	42	2.91595197	ug/Kg
				AROCLOR 1248	U	42	2.91595197	ug/Kg
				AROCLOR 1254	U	42	2.91595197	ug/Kg
				AROCLOR 1260	U	42	2.91595197	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**

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

Lab Report Batch: 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
CBLSB-026-6248-FD	240-14079-2	7196A	SO	Chromium, hexavalent	J	0.83	0.92	mg/Kg
CBLSS-003M-5876-SO	240-14079-4		AQ	Chromium, hexavalent	J	0.46	0.80	mg/Kg
CBLSS-003M-6247-FD	240-14079-5			Chromium, hexavalent	J	0.61	0.80	mg/Kg
CBLSS-005M-5877-SO	240-14079-6			Chromium, hexavalent	J	0.32	0.80	mg/Kg
PBA08-QC-6249-ER	240-14079-7	6020		Chromium	J	1.1	2.0	ug/L
TSASD-003(ST)-2505-SD	240-14079-10		SO	Antimony	J	0.26	0.32	mg/Kg
				Silver	J	0.054	0.16	mg/Kg
				Sodium	J	59	160	mg/Kg
				Thallium	J	0.28	0.32	mg/Kg
		7471A		Mercury	J	0.12	0.17	mg/Kg
		8270C		DIBENZOFURAN	J	120	170	ug/Kg
		8330B		Methyl-2,4,6-Trinitrophenylnitramine (T	J	0.053	0.25	mg/Kg
		WS-WC-0050		Nitrocellulose	J	1.7	8.5	mg/Kg

Surrogate Recovery Outlier Report

Lab Report Batch: 240-14079-1 **Lab ID:** TA CAN

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent) Lower Limit	Upper Limit	Reject Point	Associated Target Analytes
TSASD-003(ST)-2505-SD	240-14079-10	8081A	5	SO	Decachlorobiphenyl	183	55.0	130.0	10.0	All Target
					Decachlorobiphenyl	141	55.0	130.0	10.0	All Target
		8260B	1		4-Bromofluorobenzene	79	85.0	120.0	10.0	All Target
TSASD-003(ST)-2505-SDMS	240-14079-10MS	8260B	1	SO	4-Bromofluorobenzene	82	85.0	120.0	10.0	All Target