PERFORMANCE EVALUATION

Scheduled Study

LPTP11-S3

27-Jul-2011 through 9-Sep-2011

RT2086
RTC Labcode

CA00111
US EPA Labcode

Participating Laboratory:

Calscience Environmental Laboratories, Inc.
Larry Lem
7440 Lincoln Way
Garden Grove CA 92841

Thank you for participating in study LPTP11-S3. Additional information about this study may be found online at www.rt-corp.com/reporting. If it is your first time to our website give me a call and I will simplify the initial registration process. If you have any questions or comments about this study please contact me:

Sigma-Aldrich, RTC Inc.
2931 Soldier Springs Rd.
Laramie, WY 82070 USA
1-307-742-5452
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Sincerely,

Jennifer Jones
Proficiency Testing Coordinator

Dataset

LPTP11-S3

Accreditors

Evaluations of this dataset will be sent to the accreditor(s) listed below using your laboratory's labcode listed above each accrediting agency. If any of the information listed below is incorrect, please contact RTC immediately.

Accrediting Labcode CA00111

California Department of Public Health
Environmental Lab Accred. Program Branch

223 Fred Choske
850 Marina Bay Parkway
Bldg. P, 1st Floor, MS 7103
Richmond CA 94804
UNITED STATES

RTC is accredited to perform PT programs for the scope of accreditation to ISO/IEC 17043 under ACLASS cerficate AP-1469.

ACCREDITED
PROFICIENCY TESTING PROVIDER

Miscellaneous Analytes

Analysis
DHS LUFT

Method Number 100000089

	Result Units	Assigned Value	Accept. Window	Z	Evaluation
Lead, Pb [4] 1075 / SPE-001-PB-1 - Lot 018566 /Analysis Date: 8/27/11	**4.12** mg/Kg	**4.11**	2.26 to 5.96	**0.02**	**Acceptable**
	Evaluation Criteria - **1**			*Evaluation Parameter* - **a:1, b:0, c:0.150, d:0**	
Lead, Pb [4] 1075 / SPE-001-PB-2 - Lot 018567 /Analysis Date: 8/27/11	**65.9** mg/Kg	**59.5**	32.7 to 86.3	**0.72**	**Acceptable**
	Evaluation Criteria - **1**			*Evaluation Parameter* - **a:1, b:0, c:0.15, d:0**	

Analysis
IN HOUSE

Method Number 0

	Result Units	Assigned Value	Accept. Window	Z	Evaluation
Tributyltin (TBT) [4] 897 / SPE-073 - Lot 019072 /Analysis Date: 9/6/11	**1.1** µg/Kg	**0.954**	0.477 to 1.43	**0.92**	**Acceptable**
	Evaluation Criteria - **1**			*Evaluation Parameter* - **a:0.9, b:0, c:0.15, d:0**	

End of LPTP11-S3

Sample Information

Organic Lead in Soil - Sample 1

SPE-001-PB-1 / Lot 018566

	Units	Gravimetric Value	Study Mean	Study Std. Dev.
Lead, Pb 1075 Miscellaneous Analytes	mg/Kg	4.11 ± 0.04		

Organic Lead in Soil - Sample 2

SPE-001-PB-2 / Lot 018567

	Units	Gravimetric Value	Study Mean	Study Std. Dev.
Lead, Pb 1075 Miscellaneous Analytes	mg/Kg	59.5 ± 0.577		

Organotins in Soil

SPE-073 / Lot 019072

	Units	Gravimetric Value	Study Mean	Study Std. Dev.
Tributyltin (TBT) 897 Miscellaneous Analytes	µg/Kg	1.06		

Definitions and Interpretation of Statistical Analysis:

Assigned Value: Value attributed to a particular quantity and accepted, sometimes by convention, as having an uncertainty appropriate for a given purpose. See ISO/IEC 17043 for additional information. In general the assigned value is the value used to assess proficiency and may or may not be the made to value (gravimetric value).

Accept. Window: The range of values that constitute acceptable performance for a laboratory participating in this PT study.

Z: A Z-Score tells how a single data point compares to normal data. A Z-Score says not only whether a point was above or below average, but how unusual the measurement is. Generally, a method result with a Z-Score less than |2| is considered to be in control, a Z-Score between |2| and |3| is considered 'Questionable', but still within control and a Z greater than |3| is considered not acceptable and the method is out of control. Calculated as **Z = (Reported Value - Assigned Value) / Proficiency Std. Dev.**

Proficiency Std. Dev.: Standard deviation calculated based on **Evaluation Criteria.**

Study Mean: Statistical study mean calculated using a robust statisitical model (RTC employs the 'Biweight Program'). Robust statistical techniques to minimize the influence that extreme results can have on estimates of the mean and standard deviation. NOTE - These techniques assign less weight to extreme results, rather than eliminate them from a data set.

Study Std. Dev.: Standard deviation calculated from study data using robust statisicals (Biweight).

Gravimetric Value: The 'prepared to' value, determined by gravimetric means. The uncertainty associated to this value is standard uncertainty and based on RTC's gravimetric tolerances.

Evaluation Criteria:

1 - Regression Equation - Acceptance windows based on TNI adopted equation of proficiency value +/- 3 proficiency standard deviations and check limits of proficiency value +/- 2 proficiency standard deviations. Proficiency value and proficiency standard deviation are calculated from gravimetric variables a, b, c, & d as proficiency value = a * gravimetric + b and proficiency standard deviation = c * gravimetric + d.

2 - Study Robust Mean and c,d regression - Acceptance windows based on TNI adopted equation of proficiency value +/- 3 proficiency standard deviations and check limits of proficiency value +/- 2 proficiency standard deviations. Proficiency value and proficiency standard deviation calculated from robust study mean and variables c & d as proficiency value = robust mean and proficiency standard deviation = c * proficiency value + d.

3 - Fixed Limits - Acceptance windows based on span of gravimetric percentage from gravimetric as gravimetric +/- gravimetric * percentage.

4 - Adjustable Fixed Limits - Acceptance windows base on a span of gravimetric percentage from gravimetric as gravimetric +/- gravimetric * lowPercentage where gravimetric < break and gravimetric +/- gravimetric * highPercentage where gravimetric >= break.

5 - Study Statistics - Acceptance windows based on a number of standard deviations span from the study mean as study mean +/- (deviations * standard deviation).

6 - Log Transform Statistics - Acceptance windows based on lognormal distributed data. Acceptance windows = mean(lognormal) +/- span * standard deviation(lognormal).

7 - Reserved

8 - Regression Equation 2SD - Acceptance windows based on EPA equation of proficiency value +/- 2 proficiency standard deviations. Proficiency value and proficiency standard deviation are calculated from gravimetric variables a, b, c, & d as proficiency value = a * gravimetric + b and proficiency standard deviation = c * gravimetric + d. Generally reserved for drinking water studies.

Proficiency Test Item Preparation, Homogeneity and Stability Assessment - RTC uses proprietary and published methods for the manufacture, homogeneity and stability testing of proficiency test items. RTC's proficiency test materials meet requirements of

ISO Guide 34. For more information contact RTC. Additionally RTC complies with TNI Volume 3 'General Requirements for Environmental Proficiency Test Providers', EL-V3-2009, 2009 for all TNI Fields of Proficiency Testing analytes.

Metrological Traceability - All preparations are made using balances calibrated annually traceable to NIST standards. Where appropriate analytical measurements are traceable through an unbroken chain to NIST standards, or a Certified Reference Material manufactured under ISO Guide 34 in conjunction with ISO/IEC 17025.

Statistical Analysis - RTC uses robust statistics to calculate study means and standard deviations - Reference - Kafadar, K, *A Biweight Approach to the One-Sample Problem*, Journal of the American Statistical Association, Vol. 77, No. 378, June, 1982, pp. 416-424.

Additional Information - Go to www.rt-corp.com/reporting for additional information on summary statistics for specific methods, advice on the interpretation of the statistical analysis, and additional comments/recommendations. If you failed an analyte it may be required to perform a corrective action and/or retest. RTC recommends that you contact your accreditation body for specific instruction.

Program analyte accrediting footnotes

1 NELAC Compliant, covered by RTC's ACLASS Proficiency Testing Provider accreditation, Cert. AP-1469
4 ISO 17043 Accredited, covered by RTC's ACLASS Proficiency Testing Provider accreditation, Cert AP-1469
5 NELAC Experimental

Authorizing Officer:
Patrick Brumfield, ASQ CQA
QA Manager

Date: 9/30/2011