Chemist Review Summary
Allnex – September 2014
Wallingford, Connecticut
SDG 240-42051-1

1.0 INTRODUCTION

Soil samples were collected in September 2014 at the Allnex Facility, Wallingford, Connecticut. Samples were analyzed by TestAmerica Laboratories, Inc. located in North Canton, Ohio (TAL-CAN). Analytical results were reported in TAL sample delivery group (SDG) 240-42051-1 as indicated in Table 1. The following U.S. Environmental Protection Agency (USEPA) analytical methods (USEPA, 1996a) were performed:

- Polychlorinated Biphenyls (PCBs) by USEPA Method 8082
- Synthetic precipitation Leaching Procedure (SPLP) PCB by USEPA Method 1312/8082

A chemist review was performed for all analyses to evaluate data quality in support of the Connecticut Department of Energy and Environmental Protection Recommended Reasonable Confidence Protocols (RCP) [CTDEEP, 2010]. Samples collected in July 2014 included in this data evaluation are presented in Table 1. Data quality evaluations were completed using quality control (QC) limits specified by the CTDEEP RCP and the subcontract laboratory and are summarized on Table 2. If data quality issues were identified during the review, results were qualified in the final data set and interpretations on data biases provided. Data qualifications were completed using the professional judgment of the validation chemist and general procedures specified in Region I EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996b).

Data qualifications were completed if necessary in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

J = The reported concentration is considered an estimated value
U = The target compound was not detected above the reporting limit
UJ = The target compound was not detected and the reporting limit is considered to be estimated

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions and associated validation reason codes applied to sample results are summarized on Table 3. The following data validation reason codes were applied to one or more sample results:

SS-L = Surrogate recovery below limits
MS-H = Matrix spike percent recovery greater than upper limit

A complete summary of final sample results is provided in Table 4.

Data were evaluated for the following parameters as applicable:

* Collection and Preservation
* Holding Times
* Data Completeness
* Blank Contamination
* Field Duplicates
  Surrogates
  Matrix Spike/Matrix Spike Duplicate (MS/MSD)

* Laboratory Control Sample (LCS)
* Reporting limits
* Miscellaneous

* - all criteria were met for this parameter

In addition to the above quality control evaluations performed as part of the chemist review, any problems with instrument calibration and target compound quantitation as noted in the case narratives are summarized in applicable sections below. A review of these potential QC issues however is outside the scope of the chemist review; therefore, the identified problems are documented below, but data qualifiers have not been applied for these potential issues.

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 PCBs

Surrogates

Surrogates were not recovered in sample SB-1127 (0-0.3') due to a 500X dilution. Based on professional judgment, no qualifications were necessary.

3.0 SPLP PCBs

Surrogates

Surrogate recoveries in SPLP PCB sample SB-1127 (0-0.3') were below the lower QC limit of 30 for decachlorobiphenyl (24/27) on both the primary and confirmation. All results in SPLP PCB sample SB-1127 (0-0.3') were qualified as estimated (J/UJ).

MS

The MS associated with SPLP PCB sample SB-1127 (0-0.3') had a percent recovery greater than the upper QC limit of 140 for PCB-1260 (141), which may indicate high bias. The detection of PCB-1260 in SPLP PCB sample SB-1127 (0-0.3') was qualified as estimated (J).

References:

U.S. Environmental Protection Agency (USEPA), 1996a. "Test Methods for Evaluating Solid Waste"; Laboratory Manual Physical/Chemical Methods; Office of Solid Waste and Emergency Response; Washington, DC; SW-846; November 1986; Revision 4 -December 1996.

U.S. Environmental Protection Agency (USEPA), 1996b. "Region 1 EPA-NE Data Validation Guidelines For Evaluating Environmental Analyses"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996.

State of Connecticut Department of Energy and Environmental Protection (CTDEEP), 2010. "Laboratory Quality Assurance and Quality Control Guidance Reasonable Confidence Protocols Guidance Document" November, 2007, Revised December 2010.

State of Connecticut Department of Energy and Environmental Protection (CTDEEP), 2010. "Laboratory Quality Assurance and Quality Control Data Quality Assessment and Data Usability Evaluation Guidance Document" May, 2009, Revised December 2010.

Data Validator: Bradley B. LaForest, NRCC-EAC October 3, 2014

TABLE 1
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SDG	Media	Location	Sample Date	Field Sample ID	Method Class / Analysis Method / Fraction / QC Code	PCBs 8082 Total	SPLP PCBs 8082 SPLP
240-42051-1	SOIL	CC-18	9/13/2014	CC-18 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-19	9/13/2014	CC-19 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-20	9/13/2014	CC-20 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-21	9/13/2014	CC-21 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-22	9/13/2014	CC-22 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-23	9/13/2014	CC-23 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-24	9/13/2014	CC-24 (0-0.5)"	FS	9	
240-42051-1	SOIL	CC-25	9/13/2014	CC-25 (0-0.5)"	FS	9	
240-42051-1	BW	QC	9/15/2014	RB-SUB-F	EB	9	
240-42051-1	SOIL	SB-1127	9/13/2014	SB-1127 (0-0.3')	FS	9	9
240-42051-1	SOIL	SB-1127	9/13/2014	SB-1127 (0.3-1.3')	FS	9	
240-42051-1	SOIL	SB-1128	9/13/2014	SB-1128 (0-0.3')	FS	9	9
240-42051-1	SOIL	SB-1128	9/13/2014	SB-1128 (0.3-1.3')	FS	9	
240-42051-1	SOIL	SB-1129	9/13/2014	SB-1129 (0-0.3')	FS	9	9
240-42051-1	SOIL	SB-1129	9/13/2014	SB-1129 DUP (0-0.3')	FD	9	
240-42051-1	SOIL	SB-1129	9/13/2014	SB-1129 (0.3-1.3')	FS	9	

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TABLE 2
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PARAMETER	QC TEST	ANALYTE	WATER (%R)	WATER (RPD)	SOIL (%R)	SOIL (RPD)
PCBs	**Surrogate**	All Surrogates	30 - 150	NA	30 - 150	NA
	Field Duplicate	All Target Compounds	NA	30	NA	50
	LCS	All Target Compounds	40 - 140	NA	40 - 140	NA
	MS/MSD	All Target Compounds	40 - 140	50	40 - 140	50

Notes:

LCS = Laboratory Control Sample
MS/MSD = Matrix spike/ Matrix Spike Duplicate
NA = Not Applicable
PCBs = Polychlorinated Biphenyl
%R = Percent Recovery
QC = Quality Control
RPD = Relative Percent Difference

TABLE 3
Chemist Review Summary
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Val Reason Code	Result Units
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1260	0.021	F1	0.021	J	MS-H, SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1248	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1016	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1242	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1254	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1221	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1232	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1262	0.02	U	0.02	UJ	SS-L	mg/L
240-42051-1	8082	240-42051-10	SB-1127 (0-0.3')	Aroclor-1268	0.02	U	0.02	UJ	SS-L	mg/L

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TABLE 4 - Total
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		Lab Sample Delivery Group	240-42051-1	240-42051-1	240-42051-1	240-42051-1	240-42051-1	240-42051-1
		Loc Name	CC-18	CC-19	CC-20	CC-21	CC-22	CC-23
		Field Sample Date	9/13/2014 12:05	9/13/2014 11:30	9/13/2014 11:45	9/13/2014 12:15	9/13/2014 12:35	9/13/2014 12:50
		Field Sample ID	CC-18 (0-0.5)"	CC-19 (0-0.5)"	CC-20 (0-0.5)"	CC-21 (0-0.5)"	CC-22 (0-0.5)"	CC-23 (0-0.5)"
		QC Code	FS	FS	FS	FS	FS	FS
Method	**Parameter**	**Units**						
8082	Aroclor-1016	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1221	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1232	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1242	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1248	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1254	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1260	ug/Kg	1,100	100	420	130	680	790
8082	Aroclor-1262	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U
8082	Aroclor-1268	ug/Kg	210 U	41 U	42 U	34 U	220 U	230 U

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TABLE 4 - Total
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		Lab Sample Delivery Group	240-42051-1	240-42051-1	240-42051-1	240-42051-1	240-42051-1	240-42051-1
		Loc Name	CC-24	CC-25	SB-1127	SB-1127	SB-1128	SB-1128
		Field Sample Date	9/13/2014 13:20	9/13/2014 13:00	9/13/2014 10:00	9/13/2014 10:50	9/13/2014 10:05	9/13/2014 10:40
		Field Sample ID	CC-24 (0-0.5)"	CC-25 (0-0.5)"	SB-1127 (0-0.3')	SB-1127 (0.3-1.3')	SB-1128 (0-0.3')	SB-1128 (0.3-1.3')
		QC Code	FS	FS	FS	FS	FS	FS
Method	**Parameter**	**Units**						
8082	Aroclor-1016	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1221	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1232	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1242	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1248	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1254	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1260	ug/Kg	170	700	130,000	3,100	370	51
8082	Aroclor-1262	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U
8082	Aroclor-1268	ug/Kg	44 U	180 U	17000 U	360 U	33 U	36 U

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TABLE 4 - Total
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		Lab Sample Delivery Group	240-42051-1	240-42051-1	240-42051-1
		Loc Name	SB-1129	SB-1129	SB-1129
		Field Sample Date	9/13/2014 10:20	9/13/2014 10:20	9/13/2014 10:30
		Field Sample ID	SB-1129 (0-0.3')	SB-1129 DUP (0-0.3')	SB-1129 (0.3-1.3')
		QC Code	FS	FD	FS
Method	Parameter	Units			
8082	Aroclor-1016	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1221	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1232	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1242	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1248	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1254	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1260	ug/Kg	9,500	8,800	77
8082	Aroclor-1262	ug/Kg	1700 U	1700 U	36 U
8082	Aroclor-1268	ug/Kg	1700 U	1700 U	36 U

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TABLE 4 - SPLP
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		Lab Sample Delivery Group	240-42051-1	240-42051-1	240-42051-1
		Loc Name	SB-1127	SB-1128	SB-1129
		Field Sample Date	9/13/2014 10:00	9/13/2014 10:05	9/13/2014 10:20
		Field Sample ID	SB-1127 (0-0.3')	SB-1128 (0-0.3')	SB-1129 (0-0.3')
		QC Code	FS	FS	FS
Method	Parameter	Units			
8082	Aroclor-1016	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1221	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1232	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1242	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1248	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1254	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1260	mg/L	0.021 J	0.004 U	0.004 U
8082	Aroclor-1262	mg/L	0.02 UJ	0.004 U	0.004 U
8082	Aroclor-1268	mg/L	0.02 UJ	0.004 U	0.004 U

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TABLE 4 - QC
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		Lab Sample Delivery Group	240-42051-1
		Loc Name	QC
		Field Sample Date	9/15/2014 10:00
		Field Sample ID	RB-SUB-F
		QC Code	EB
Method	Parameter	Units	
8082	Aroclor-1016	ug/L	0.48 U
8082	Aroclor-1221	ug/L	0.48 U
8082	Aroclor-1232	ug/L	0.48 U
8082	Aroclor-1242	ug/L	0.48 U
8082	Aroclor-1248	ug/L	0.48 U
8082	Aroclor-1254	ug/L	0.48 U
8082	Aroclor-1260	ug/L	0.48 U
8082	Aroclor-1262	ug/L	0.48 U
8082	Aroclor-1268	ug/L	0.48 U

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