

# Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling

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Laboratory: Test America, Knoxville, Tennessee

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Service Request: 580-79202-3

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Analyses/Method: Chlorinated Biphenyls by HRGC/HRMS / E1668A

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Validation Level: Stage 2A

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AECOM Project Number: 60566335.2.12

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Reviewed by: George Kisluk/AECOM File Name: 580-79202-3 DVR

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**SUMMARY**

The samples listed below were collected by AECOM in Portland Harbor in Portland, OR on July 27-28, 2018.

Sample ID	Matrix/Sample Type
PDI-SG-B482	Sediment
PDI-SG-B484	Sediment
PDI-SG-B485	Sediment
PDI-SG-B486	Sediment
PDI-SG-B487	Sediment
PDI-SG-B488	Sediment

Data validation activities were conducted with reference to:

- EPA Method 1668A: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS (USEPA, August 2003),
- USEPA Contract Laboratory Program National Functional Guidelines for High Resolution Superfund Methods Data Review (April 2016),
- Quality Assurance Project Plan, Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling, Portland Harbor Superfund Site (March 2018), and the
- Laboratory quality control (QC) limits.

The National Functional Guidelines were modified to accommodate the non-CLP methodologies. In the absence of method-specific information, laboratory QC limits, project-specific requirements and/or AECOM professional judgment were used as appropriate.

**REVIEW ELEMENTS**

The data were evaluated based on the following parameters (where applicable to the method):

- ✓ Data completeness [chain-of-custody (COC)/sample integrity]
- ✓ Holding times and sample preservation

X	Laboratory blanks/equipment blanks
NA	Matrix spike (MS) and/or matrix spike duplicate (MSD) results
✓	Ongoing precision and recovery results
NA	Field duplicate results
✓	Labeled compounds and labeled clean-up standard recoveries
X	Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. An NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The symbol (X) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as qualified and may be used for decision making purposes. Select data points were qualified as estimated or negated due to nonconformances of certain QC criteria (see discussion below). Qualified sample results are presented in Table 1.

## RESULTS

### Data Completeness (COC)/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- The COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody.
- The laboratory sample login sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory.
- Completeness of analyses was verified by comparing the reported results to the COC requests.

### Holding Times and Sample Preservation

Sample preservation and preparation/analysis holding times were reviewed for conformance with method criteria. All method QC acceptance criteria were met.

### Laboratory Blanks

Method blank results are evaluated as to whether there are contaminants detected above the estimated detection limit (EDL). Target compounds were detected in the laboratory method blanks associated with the samples in this data set. .

The NFG guidance stipulates that a conservative approach should be taken with regards to qualification of PCB congeners due to the toxicity of these compounds and the reporting of false negative results should be avoided. Therefore, in order to avoid the reporting of false negative results professional judgment was used to qualify the data in the following manner. As allowed in the NFG, a blank action limit (BAL) was determined as 5 times the method blank result:

- When the sample results were < the method blank result, the sample result was qualified as nondetect (U) at the sample result.

- When the sample result was  $\geq$  the method blank result and  $\leq$  the BAL, the sample result was qualified as estimated and potentially biased high (J+).
- When the sample result was  $>$  the BAL, sample result was not qualified.

Qualified sample results are summarized in Table 1.

### **MS/MSD Results**

A MS/MSD was not submitted with this sample delivery group (SDG).

### **Ongoing Precision and Recovery**

The OPR %Rs and/or RPDs were reviewed for conformance with the method QC acceptance criteria. All method QC acceptance criteria were met.

### **Field Duplicate Results**

A field duplicate was not submitted with this SDG.

### **Labeled Compounds and Labeled Clean-up Standard Recoveries**

The labeled compounds and labeled clean-up standard %Rs were reviewed for conformance with the QC acceptance criteria. No QC outliers were noted during the sample review.

### **Sample Results/Reporting Issues**

All sample results detected at concentrations less than the lowest calibration standard (or PQL) but greater than the EDL are qualified by the laboratory as estimated (J). This "J" qualifier is retained during data validation.

The laboratory qualified the sample results with a "q" to indicate that the ion abundance ratio was outside of the QC acceptance limits; the result should be considered as an Estimated Maximum Possible Concentration (EMPC). These results were qualified as estimated and tentatively identified (JN). Qualified sample results are summarized in Table 1.

It should be noted that the "JN" qualifier was retained rather than replacement with the conventional overall "J", "J+", and "J-" qualifiers in instances where sample results were qualified for multiple quality control nonconformances.

### **Percent Solids Content**

The percent solids data were reviewed since the amount of moisture in a solid sample may have an impact on data representativeness. Due to the extremely low solubility of PCB congeners in water, these analytes should be contained in the solid phase. Consequently, the NFG guidance does not stipulate a percent solids criterion. If applicable, EPA Regional guidance is used when assessing percent solids content. In the absence of EPA Regional guidance, AECOM uses 30% solids (from the NFG semivolatile guidance) as a benchmark to evaluate the percent solids content and professional judgment is used to determine the necessity to qualify data. Data were not qualified on the basis of percent solids content.

**QUALIFICATION ACTIONS**

Sample results qualified as a result of validation actions are summarized in Table 1. All actions are described above.

**ATTACHMENTS**

Attachment A: Qualifier Codes and Explanations

Attachment B: Reason Codes and Explanations

Table 1 - Data Validation Summary of Qualified Data

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B482	SE	PCB-1		0.00038	0.000072	ng/g	U	bl
PDI-SG-B482	SE	PCB-101	0.035	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-105	0.0093	0.00045	0.00045	ng/g	J+	bl
PDI-SG-B482	SE	PCB-107		0.0014	0.00052	ng/g	U	bl
PDI-SG-B482	SE	PCB-109	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-11	0.021	0.0021	0.0021	ng/g	J+	bl
PDI-SG-B482	SE	PCB-113	0.035	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-116		0.0060	0.00012	ng/g	U	bl
PDI-SG-B482	SE	PCB-117		0.0060	0.00012	ng/g	U	bl
PDI-SG-B482	SE	PCB-119	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-125	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-128	0.0074	0.00082	0.00082	ng/g	JN	k
PDI-SG-B482	SE	PCB-129	0.073	0.00084	0.00084	ng/g	J+	bl
PDI-SG-B482	SE	PCB-130		0.0037	0.0011	ng/g	U	bl
PDI-SG-B482	SE	PCB-132	0.018	0.0011	0.0011	ng/g	J+	bl
PDI-SG-B482	SE	PCB-135	0.027	0.000019	0.000019	ng/g	J+	bl
PDI-SG-B482	SE	PCB-136	0.0086	0.000014	0.000014	ng/g	J+	bl
PDI-SG-B482	SE	PCB-137	0.0034	0.00095	0.00095	ng/g	J+	bl
PDI-SG-B482	SE	PCB-138	0.073	0.00084	0.00084	ng/g	J+	bl
PDI-SG-B482	SE	PCB-141	0.014	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-144	0.0028	0.000017	0.000017	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-146	0.010	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B482	SE	PCB-15	0.0029	0.0023	0.0023	ng/g	JN	k
PDI-SG-B482	SE	PCB-151	0.027	0.000019	0.000019	ng/g	J+	bl
PDI-SG-B482	SE	PCB-154		0.00037	0.000015	ng/g	U	bl
PDI-SG-B482	SE	PCB-156		0.0071	0.00094	ng/g	U	bl
PDI-SG-B482	SE	PCB-157		0.0071	0.00094	ng/g	U	bl
PDI-SG-B482	SE	PCB-158	0.0075	0.00066	0.00066	ng/g	J+	bl
PDI-SG-B482	SE	PCB-16	0.00065	0.00015	0.00015	ng/g	JN	k
PDI-SG-B482	SE	PCB-160	0.073	0.00084	0.00084	ng/g	J+	bl
PDI-SG-B482	SE	PCB-163	0.073	0.00084	0.00084	ng/g	J+	bl
PDI-SG-B482	SE	PCB-164	0.0058	0.00074	0.00074	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-166		0.0074	0.00082	ng/g	U	bl
PDI-SG-B482	SE	PCB-167		0.0026	0.00057	ng/g	U	bl
PDI-SG-B482	SE	PCB-17	0.0022	0.00014	0.00014	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-171		0.0082	0.00031	ng/g	U	bl
PDI-SG-B482	SE	PCB-172	0.0065	0.00031	0.00031	ng/g	J+	bl
PDI-SG-B482	SE	PCB-173		0.0082	0.00031	ng/g	U	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B482	SE	PCB-176	0.0027	0.00021	0.00021	ng/g	J+	bl
PDI-SG-B482	SE	PCB-178	0.0065	0.00031	0.00031	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-179	0.012	0.00023	0.00023	ng/g	J+	bl
PDI-SG-B482	SE	PCB-18	0.0036	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-183	0.018	0.00028	0.00028	ng/g	J+	bl
PDI-SG-B482	SE	PCB-185	0.018	0.00028	0.00028	ng/g	J+	bl
PDI-SG-B482	SE	PCB-187	0.034	0.00026	0.00026	ng/g	JN	k
PDI-SG-B482	SE	PCB-190		0.0035	0.00020	ng/g	U	bl
PDI-SG-B482	SE	PCB-191		0.0012	0.00021	ng/g	U	bl
PDI-SG-B482	SE	PCB-194	0.016	0.00022	0.00022	ng/g	J+	bl
PDI-SG-B482	SE	PCB-195		0.0045	0.00024	ng/g	U	bl
PDI-SG-B482	SE	PCB-196	0.0070	0.000066	0.000066	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-198	0.018	0.000067	0.000067	ng/g	J+	bl
PDI-SG-B482	SE	PCB-199	0.018	0.000067	0.000067	ng/g	J+	bl
PDI-SG-B482	SE	PCB-2		0.0023	0.000085	ng/g	U	bl
PDI-SG-B482	SE	PCB-20	0.0082	0.00025	0.00025	ng/g	J+	bl
PDI-SG-B482	SE	PCB-200		0.0014	0.000045	ng/g	U	bl
PDI-SG-B482	SE	PCB-201		0.0019	0.000046	ng/g	U	bl
PDI-SG-B482	SE	PCB-202	0.0029	0.000051	0.000051	ng/g	JN	k
PDI-SG-B482	SE	PCB-203	0.011	0.000059	0.000059	ng/g	J+	bl
PDI-SG-B482	SE	PCB-205		0.00085	0.00018	ng/g	U	bl
PDI-SG-B482	SE	PCB-206	0.012	0.00053	0.00053	ng/g	J+	bl
PDI-SG-B482	SE	PCB-207		0.0017	0.00037	ng/g	U	bl
PDI-SG-B482	SE	PCB-208		0.0045	0.00037	ng/g	U	bl
PDI-SG-B482	SE	PCB-209 (decachlorobiphenyl)	0.016	0.000035	0.000035	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-21	0.0035	0.00024	0.00024	ng/g	J+	bl
PDI-SG-B482	SE	PCB-22	0.0017	0.00025	0.00025	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-25		0.00083	0.00023	ng/g	U	bl
PDI-SG-B482	SE	PCB-26		0.00091	0.00024	ng/g	U	bl
PDI-SG-B482	SE	PCB-28	0.0082	0.00025	0.00025	ng/g	J+	bl
PDI-SG-B482	SE	PCB-29		0.00091	0.00024	ng/g	U	bl
PDI-SG-B482	SE	PCB-3		0.0011	0.000095	ng/g	U	bl
PDI-SG-B482	SE	PCB-30	0.0036	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-31	0.0062	0.00024	0.00024	ng/g	J+	bl
PDI-SG-B482	SE	PCB-33	0.0035	0.00024	0.00024	ng/g	J+	bl
PDI-SG-B482	SE	PCB-37	0.0030	0.00025	0.00025	ng/g	J+	bl
PDI-SG-B482	SE	PCB-40		0.0044	0.00059	ng/g	U	bl
PDI-SG-B482	SE	PCB-41		0.0044	0.00059	ng/g	U	bl
PDI-SG-B482	SE	PCB-42	0.0034	0.00059	0.00059	ng/g	J+	bl
PDI-SG-B482	SE	PCB-44	0.013	0.00052	0.00052	ng/g	J+	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B482	SE	PCB-47	0.013	0.00052	0.00052	ng/g	J+	bl
PDI-SG-B482	SE	PCB-48		0.0016	0.00058	ng/g	U	bl
PDI-SG-B482	SE	PCB-49	0.0062	0.00048	0.00048	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-50		0.0015	0.00057	ng/g	U	bl
PDI-SG-B482	SE	PCB-53		0.0015	0.00057	ng/g	U	bl
PDI-SG-B482	SE	PCB-56	0.0052	0.00043	0.00043	ng/g	J+	bl
PDI-SG-B482	SE	PCB-60		0.0022	0.00043	ng/g	U	bl
PDI-SG-B482	SE	PCB-61	0.025	0.00041	0.00041	ng/g	J+	bl
PDI-SG-B482	SE	PCB-64	0.0052	0.00039	0.00039	ng/g	J+	bl
PDI-SG-B482	SE	PCB-65	0.013	0.00052	0.00052	ng/g	J+	bl
PDI-SG-B482	SE	PCB-69	0.0062	0.00048	0.00048	ng/g	JN	bl,k
PDI-SG-B482	SE	PCB-70	0.025	0.00041	0.00041	ng/g	J+	bl
PDI-SG-B482	SE	PCB-71	0.0044	0.00059	0.00059	ng/g	J+	bl
PDI-SG-B482	SE	PCB-74	0.025	0.00041	0.00041	ng/g	J+	bl
PDI-SG-B482	SE	PCB-76	0.025	0.00041	0.00041	ng/g	J+	bl
PDI-SG-B482	SE	PCB-8	0.0027	0.0019	0.0019	ng/g	JN	k
PDI-SG-B482	SE	PCB-82		0.0029	0.00016	ng/g	U	bl
PDI-SG-B482	SE	PCB-84	0.0045	0.00017	0.00017	ng/g	JN	k
PDI-SG-B482	SE	PCB-85		0.0060	0.00012	ng/g	U	bl
PDI-SG-B482	SE	PCB-86	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-87	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-88	0.0017	0.00015	0.00015	ng/g	JN	k
PDI-SG-B482	SE	PCB-90	0.035	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-91	0.0017	0.00015	0.00015	ng/g	JN	k
PDI-SG-B482	SE	PCB-92	0.0053	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B482	SE	PCB-97	0.018	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B482	SE	PCB-99	0.019	0.00015	0.00015	ng/g	J+	bl
PDI-SG-B484	SE	PCB-100	0.0038	0.00022	0.00022	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-101	0.050	0.00019	0.00019	ng/g	J+	bl
PDI-SG-B484	SE	PCB-102		0.0022	0.00022	ng/g	U	bl
PDI-SG-B484	SE	PCB-105	0.016	0.00088	0.00088	ng/g	J+	bl
PDI-SG-B484	SE	PCB-107	0.0046	0.00096	0.00096	ng/g	J+	bl
PDI-SG-B484	SE	PCB-109	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-110	0.052	0.00016	0.00016	ng/g	JN	k
PDI-SG-B484	SE	PCB-113	0.050	0.00019	0.00019	ng/g	J+	bl
PDI-SG-B484	SE	PCB-115	0.052	0.00016	0.00016	ng/g	JN	k
PDI-SG-B484	SE	PCB-116		0.0082	0.00019	ng/g	U	bl
PDI-SG-B484	SE	PCB-117		0.0082	0.00019	ng/g	U	bl
PDI-SG-B484	SE	PCB-119	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-120		0.00074	0.00016	ng/g	U	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B484	SE	PCB-125	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-128	0.014	0.0015	0.0015	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-130	0.0073	0.0020	0.0020	ng/g	J+	bl
PDI-SG-B484	SE	PCB-132	0.018	0.0020	0.0020	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-135	0.021	0.000086	0.000086	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-136	0.0078	0.000062	0.000062	ng/g	J+	bl
PDI-SG-B484	SE	PCB-141	0.011	0.0018	0.0018	ng/g	J+	bl
PDI-SG-B484	SE	PCB-146	0.015	0.0017	0.0017	ng/g	J+	bl
PDI-SG-B484	SE	PCB-151	0.021	0.000086	0.000086	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-156	0.010	0.0018	0.0018	ng/g	J+	bl
PDI-SG-B484	SE	PCB-157	0.010	0.0018	0.0018	ng/g	J+	bl
PDI-SG-B484	SE	PCB-158	0.0076	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B484	SE	PCB-164	0.0059	0.0013	0.0013	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-166	0.014	0.0015	0.0015	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-167		0.0029	0.00093	ng/g	U	bl
PDI-SG-B484	SE	PCB-170	0.021	0.00044	0.00044	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-171		0.0089	0.00041	ng/g	U	bl
PDI-SG-B484	SE	PCB-172		0.0047	0.00041	ng/g	U	bl
PDI-SG-B484	SE	PCB-173		0.0089	0.00041	ng/g	U	bl
PDI-SG-B484	SE	PCB-175		0.0013	0.00037	ng/g	U	bl
PDI-SG-B484	SE	PCB-176	0.0029	0.00028	0.00028	ng/g	J+	bl
PDI-SG-B484	SE	PCB-178	0.0069	0.00040	0.00040	ng/g	J+	bl
PDI-SG-B484	SE	PCB-179	0.014	0.00029	0.00029	ng/g	J+	bl
PDI-SG-B484	SE	PCB-18	0.0079	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B484	SE	PCB-180	0.052	0.00031	0.00031	ng/g	J+	bl
PDI-SG-B484	SE	PCB-182		0.0015	0.00036	ng/g	U	bl
PDI-SG-B484	SE	PCB-183	0.016	0.00036	0.00036	ng/g	J+	bl
PDI-SG-B484	SE	PCB-185	0.016	0.00036	0.00036	ng/g	J+	bl
PDI-SG-B484	SE	PCB-188		0.0019	0.00026	ng/g	U	bl
PDI-SG-B484	SE	PCB-190	0.0045	0.00027	0.00027	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-191		0.00089	0.00028	ng/g	U	bl
PDI-SG-B484	SE	PCB-193	0.052	0.00031	0.00031	ng/g	J+	bl
PDI-SG-B484	SE	PCB-194	0.017	0.00049	0.00049	ng/g	J+	bl
PDI-SG-B484	SE	PCB-195	0.0063	0.00053	0.00053	ng/g	J+	bl
PDI-SG-B484	SE	PCB-196	0.0071	0.00012	0.00012	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-197		0.00053	0.000093	ng/g	U	bl
PDI-SG-B484	SE	PCB-198	0.024	0.00012	0.00012	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-199	0.024	0.00012	0.00012	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-2	0.0052	0.00018	0.00018	ng/g	J+	bl
PDI-SG-B484	SE	PCB-20	0.019	0.00045	0.00045	ng/g	J+	bl



Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B484	SE	PCB-200		0.0013	0.000083	ng/g	U	bl
PDI-SG-B484	SE	PCB-201		0.0027	0.000085	ng/g	U	bl
PDI-SG-B484	SE	PCB-203	0.0095	0.00011	0.00011	ng/g	J+	bl
PDI-SG-B484	SE	PCB-206	0.025	0.00074	0.00074	ng/g	J+	bl
PDI-SG-B484	SE	PCB-207	0.0036	0.00049	0.00049	ng/g	J+	bl
PDI-SG-B484	SE	PCB-208	0.011	0.00047	0.00047	ng/g	J+	bl
PDI-SG-B484	SE	PCB-21	0.0077	0.00044	0.00044	ng/g	J+	bl
PDI-SG-B484	SE	PCB-22	0.0051	0.00046	0.00046	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-26	0.0032	0.00045	0.00045	ng/g	J+	bl
PDI-SG-B484	SE	PCB-28	0.019	0.00045	0.00045	ng/g	J+	bl
PDI-SG-B484	SE	PCB-29	0.0032	0.00045	0.00045	ng/g	J+	bl
PDI-SG-B484	SE	PCB-3		0.00099	0.00020	ng/g	U	bl
PDI-SG-B484	SE	PCB-30	0.0079	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B484	SE	PCB-33	0.0077	0.00044	0.00044	ng/g	J+	bl
PDI-SG-B484	SE	PCB-37	0.0053	0.00046	0.00046	ng/g	J+	bl
PDI-SG-B484	SE	PCB-40	0.013	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B484	SE	PCB-41	0.013	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B484	SE	PCB-42	0.0060	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B484	SE	PCB-44	0.033	0.00082	0.00082	ng/g	J+	bl
PDI-SG-B484	SE	PCB-45		0.0040	0.00098	ng/g	U	bl
PDI-SG-B484	SE	PCB-47	0.033	0.00082	0.00082	ng/g	J+	bl
PDI-SG-B484	SE	PCB-48	0.0044	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B484	SE	PCB-50	0.0037	0.00090	0.00090	ng/g	J+	bl
PDI-SG-B484	SE	PCB-51		0.0040	0.00098	ng/g	U	bl
PDI-SG-B484	SE	PCB-53	0.0037	0.00090	0.00090	ng/g	J+	bl
PDI-SG-B484	SE	PCB-56	0.0093	0.00068	0.00068	ng/g	J+	bl
PDI-SG-B484	SE	PCB-59	0.0023	0.00066	0.00066	ng/g	J+	bl
PDI-SG-B484	SE	PCB-60	0.0062	0.00069	0.00069	ng/g	J+	bl
PDI-SG-B484	SE	PCB-61	0.047	0.00065	0.00065	ng/g	J+	bl
PDI-SG-B484	SE	PCB-62		0.0023	0.00066	ng/g	U	bl
PDI-SG-B484	SE	PCB-64	0.0099	0.00062	0.00062	ng/g	J+	bl
PDI-SG-B484	SE	PCB-65	0.033	0.00082	0.00082	ng/g	J+	bl
PDI-SG-B484	SE	PCB-71	0.013	0.00093	0.00093	ng/g	J+	bl
PDI-SG-B484	SE	PCB-74	0.047	0.00065	0.00065	ng/g	J+	bl
PDI-SG-B484	SE	PCB-75		0.0023	0.00066	ng/g	U	bl
PDI-SG-B484	SE	PCB-77	0.0034	0.00065	0.00065	ng/g	JN	k
PDI-SG-B484	SE	PCB-8	0.0051	0.0026	0.0026	ng/g	JN	k
PDI-SG-B484	SE	PCB-82	0.0042	0.00026	0.00026	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-83	0.033	0.00023	0.00023	ng/g	JN	k
PDI-SG-B484	SE	PCB-85	0.0082	0.00019	0.00019	ng/g	JN	bl,k

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B484	SE	PCB-86	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-87	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-88	0.0069	0.00023	0.00023	ng/g	JN	k
PDI-SG-B484	SE	PCB-90	0.050	0.00019	0.00019	ng/g	J+	bl
PDI-SG-B484	SE	PCB-91	0.0069	0.00023	0.00023	ng/g	JN	k
PDI-SG-B484	SE	PCB-92	0.0066	0.00022	0.00022	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-93	0.0038	0.00022	0.00022	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-95	0.031	0.00024	0.00024	ng/g	JN	k
PDI-SG-B484	SE	PCB-97	0.027	0.00019	0.00019	ng/g	JN	bl,k
PDI-SG-B484	SE	PCB-98		0.0022	0.00022	ng/g	U	bl
PDI-SG-B484	SE	PCB-99	0.033	0.00023	0.00023	ng/g	JN	k
PDI-SG-B485	SE	PCB-1		0.0016	0.00014	ng/g	U	bl
PDI-SG-B485	SE	PCB-102	0.0071	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B485	SE	PCB-103	0.0054	0.00017	0.00017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-107	0.020	0.0010	0.0010	ng/g	JN	k
PDI-SG-B485	SE	PCB-108		0.0051	0.00097	ng/g	U	bl
PDI-SG-B485	SE	PCB-111	0.026	0.0026	0.0026	ng/g	JN	k
PDI-SG-B485	SE	PCB-114	0.0048	0.00087	0.00087	ng/g	J+	bl
PDI-SG-B485	SE	PCB-120		0.0015	0.00012	ng/g	U	bl
PDI-SG-B485	SE	PCB-122		0.0027	0.0011	ng/g	U	bl
PDI-SG-B485	SE	PCB-123		0.0037	0.00090	ng/g	U	bl
PDI-SG-B485	SE	PCB-124		0.0051	0.00097	ng/g	U	bl
PDI-SG-B485	SE	PCB-133	0.0089	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-134	0.019	0.0018	0.0018	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-137	0.018	0.0015	0.0015	ng/g	JN	k
PDI-SG-B485	SE	PCB-139		0.0075	0.0015	ng/g	U	bl
PDI-SG-B485	SE	PCB-140		0.0075	0.0015	ng/g	U	bl
PDI-SG-B485	SE	PCB-143	0.019	0.0018	0.0018	ng/g	JN	k
PDI-SG-B485	SE	PCB-15	0.015	0.0030	0.0030	ng/g	JN	k
PDI-SG-B485	SE	PCB-16	0.0048	0.00021	0.00021	ng/g	JN	k
PDI-SG-B485	SE	PCB-167	0.017	0.00078	0.00078	ng/g	J+	bl
PDI-SG-B485	SE	PCB-17	0.012	0.00018	0.00018	ng/g	JN	k
PDI-SG-B485	SE	PCB-171	0.042	0.00020	0.00020	ng/g	J+	bl
PDI-SG-B485	SE	PCB-172	0.019	0.00020	0.00020	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-173	0.042	0.00020	0.00020	ng/g	J+	bl
PDI-SG-B485	SE	PCB-177	0.062	0.00019	0.00019	ng/g	JN	k
PDI-SG-B485	SE	PCB-18	0.018	0.00016	0.00016	ng/g	JN	k
PDI-SG-B485	SE	PCB-182		0.0025	0.00017	ng/g	U	bl
PDI-SG-B485	SE	PCB-184	0.015	0.00015	0.00015	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-19	0.0030	0.00023	0.00023	ng/g	JN	k

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B485	SE	PCB-190	0.021	0.00013	0.00013	ng/g	J+	bl
PDI-SG-B485	SE	PCB-191		0.0043	0.00014	ng/g	U	bl
PDI-SG-B485	SE	PCB-196	0.023	0.000084	0.000084	ng/g	J+	bl
PDI-SG-B485	SE	PCB-197		0.0016	0.000064	ng/g	U	bl
PDI-SG-B485	SE	PCB-2	0.0040	0.00017	0.00017	ng/g	J+	bl
PDI-SG-B485	SE	PCB-200	0.0051	0.000057	0.000057	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-201	0.0069	0.000058	0.000058	ng/g	J+	bl
PDI-SG-B485	SE	PCB-205		0.0015	0.00043	ng/g	U	bl
PDI-SG-B485	SE	PCB-206	0.023	0.00059	0.00059	ng/g	J+	bl
PDI-SG-B485	SE	PCB-207	0.0032	0.00039	0.00039	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-208	0.0072	0.00037	0.00037	ng/g	J+	bl
PDI-SG-B485	SE	PCB-21	0.014	0.00060	0.00060	ng/g	JN	k
PDI-SG-B485	SE	PCB-25	0.0037	0.00057	0.00057	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-26	0.0069	0.00061	0.00061	ng/g	J+	bl
PDI-SG-B485	SE	PCB-27	0.0016	0.00013	0.00013	ng/g	JN	k
PDI-SG-B485	SE	PCB-29	0.0069	0.00061	0.00061	ng/g	J+	bl
PDI-SG-B485	SE	PCB-3		0.0016	0.00019	ng/g	U	bl
PDI-SG-B485	SE	PCB-30	0.018	0.00016	0.00016	ng/g	JN	k
PDI-SG-B485	SE	PCB-33	0.014	0.00060	0.00060	ng/g	JN	k
PDI-SG-B485	SE	PCB-34	0.0011	0.00065	0.00065	ng/g	J+	bl
PDI-SG-B485	SE	PCB-4	0.0048	0.0035	0.0035	ng/g	JN	k
PDI-SG-B485	SE	PCB-40	0.035	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-41	0.035	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-45	0.011	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-46		0.0026	0.0021	ng/g	U	bl
PDI-SG-B485	SE	PCB-48	0.011	0.0017	0.0017	ng/g	J+	bl
PDI-SG-B485	SE	PCB-50	0.0077	0.0016	0.0016	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-51	0.011	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-53	0.0077	0.0016	0.0016	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-60	0.0093	0.0012	0.0012	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-62	0.0080	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B485	SE	PCB-63	0.0035	0.0011	0.0011	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-68	0.0030	0.0011	0.0011	ng/g	J+	bl
PDI-SG-B485	SE	PCB-71	0.035	0.0017	0.0017	ng/g	JN	bl,k
PDI-SG-B485	SE	PCB-72	0.0038	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B485	SE	PCB-75	0.0080	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B485	SE	PCB-77	0.0093	0.0012	0.0012	ng/g	JN	k
PDI-SG-B485	SE	PCB-79		0.0028	0.0011	ng/g	U	bl
PDI-SG-B485	SE	PCB-98	0.0071	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-1		0.00039	0.000060	ng/g	U	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B486	SE	PCB-101	0.054	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-102		0.0017	0.00018	ng/g	U	bl
PDI-SG-B486	SE	PCB-105	0.0094	0.0011	0.0011	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-109	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-11	0.024	0.0028	0.0028	ng/g	J+	bl
PDI-SG-B486	SE	PCB-113	0.054	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-116	0.014	0.00016	0.00016	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-117	0.014	0.00016	0.00016	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-119	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-125	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-128	0.011	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-129	0.073	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-130	0.0043	0.0016	0.0016	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-132	0.013	0.0016	0.0016	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-135	0.022	0.000020	0.000020	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-136	0.0055	0.000014	0.000014	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-137		0.0027	0.0014	ng/g	U	bl
PDI-SG-B486	SE	PCB-138	0.073	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-141	0.0079	0.0014	0.0014	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-144		0.0016	0.000018	ng/g	U	bl
PDI-SG-B486	SE	PCB-146	0.0078	0.0013	0.0013	ng/g	J+	bl
PDI-SG-B486	SE	PCB-147	0.042	0.0015	0.0015	ng/g	J+	bl
PDI-SG-B486	SE	PCB-149	0.042	0.0015	0.0015	ng/g	J+	bl
PDI-SG-B486	SE	PCB-15	0.0077	0.0032	0.0032	ng/g	JN	k
PDI-SG-B486	SE	PCB-151	0.022	0.000020	0.000020	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-153	0.047	0.0011	0.0011	ng/g	JN	k
PDI-SG-B486	SE	PCB-154		0.00085	0.000015	ng/g	U	bl
PDI-SG-B486	SE	PCB-156	0.010	0.0013	0.0013	ng/g	J+	bl
PDI-SG-B486	SE	PCB-157	0.010	0.0013	0.0013	ng/g	J+	bl
PDI-SG-B486	SE	PCB-158	0.0062	0.00096	0.00096	ng/g	J+	bl
PDI-SG-B486	SE	PCB-16	0.0026	0.00012	0.00012	ng/g	JN	k
PDI-SG-B486	SE	PCB-160	0.073	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-163	0.073	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-166	0.011	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B486	SE	PCB-167		0.0031	0.00083	ng/g	U	bl
PDI-SG-B486	SE	PCB-168	0.047	0.0011	0.0011	ng/g	JN	k
PDI-SG-B486	SE	PCB-17	0.0036	0.00011	0.00011	ng/g	J+	bl
PDI-SG-B486	SE	PCB-171		0.0080	0.00029	ng/g	U	bl
PDI-SG-B486	SE	PCB-172		0.0048	0.00028	ng/g	U	bl
PDI-SG-B486	SE	PCB-173		0.0080	0.00029	ng/g	U	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B486	SE	PCB-175		0.00098	0.00026	ng/g	U	bl
PDI-SG-B486	SE	PCB-176		0.0014	0.00020	ng/g	U	bl
PDI-SG-B486	SE	PCB-178		0.0037	0.00028	ng/g	U	bl
PDI-SG-B486	SE	PCB-179	0.0091	0.00021	0.00021	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-18	0.0057	0.000097	0.000097	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-180	0.053	0.00022	0.00022	ng/g	J+	bl
PDI-SG-B486	SE	PCB-183	0.018	0.00025	0.00025	ng/g	J+	bl
PDI-SG-B486	SE	PCB-185	0.018	0.00025	0.00025	ng/g	J+	bl
PDI-SG-B486	SE	PCB-187	0.030	0.00024	0.00024	ng/g	JN	k
PDI-SG-B486	SE	PCB-190	0.0079	0.00019	0.00019	ng/g	J+	bl
PDI-SG-B486	SE	PCB-193	0.053	0.00022	0.00022	ng/g	J+	bl
PDI-SG-B486	SE	PCB-194	0.011	0.00030	0.00030	ng/g	J+	bl
PDI-SG-B486	SE	PCB-195		0.0039	0.00033	ng/g	U	bl
PDI-SG-B486	SE	PCB-196		0.0043	0.000055	ng/g	U	bl
PDI-SG-B486	SE	PCB-198	0.015	0.000056	0.000056	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-199	0.015	0.000056	0.000056	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-2		0.0014	0.000079	ng/g	U	bl
PDI-SG-B486	SE	PCB-20	0.011	0.00021	0.00021	ng/g	J+	bl
PDI-SG-B486	SE	PCB-200		0.0011	0.000038	ng/g	U	bl
PDI-SG-B486	SE	PCB-201		0.0011	0.000039	ng/g	U	bl
PDI-SG-B486	SE	PCB-203	0.010	0.000050	0.000050	ng/g	J+	bl
PDI-SG-B486	SE	PCB-205		0.00094	0.00025	ng/g	U	bl
PDI-SG-B486	SE	PCB-206	0.010	0.00052	0.00052	ng/g	J+	bl
PDI-SG-B486	SE	PCB-207		0.00046	0.00032	ng/g	U	bl
PDI-SG-B486	SE	PCB-208		0.0023	0.00030	ng/g	U	bl
PDI-SG-B486	SE	PCB-209 (decachlorobiphenyl)	0.022	0.000025	0.000025	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-21	0.0027	0.00021	0.00021	ng/g	J+	bl
PDI-SG-B486	SE	PCB-22	0.0032	0.00022	0.00022	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-25	0.0017	0.00020	0.00020	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-27	0.00078	0.000081	0.000081	ng/g	JN	k
PDI-SG-B486	SE	PCB-28	0.011	0.00021	0.00021	ng/g	J+	bl
PDI-SG-B486	SE	PCB-30	0.0057	0.000097	0.000097	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-31	0.0072	0.00021	0.00021	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-32	0.0030	0.000077	0.000077	ng/g	JN	k
PDI-SG-B486	SE	PCB-33	0.0027	0.00021	0.00021	ng/g	J+	bl
PDI-SG-B486	SE	PCB-37		0.0014	0.00022	ng/g	U	bl
PDI-SG-B486	SE	PCB-40	0.0082	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-41	0.0082	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-42	0.0042	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-44	0.022	0.00087	0.00087	ng/g	J+	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B486	SE	PCB-45		0.0027	0.0010	ng/g	U	bl
PDI-SG-B486	SE	PCB-47	0.022	0.00087	0.00087	ng/g	J+	bl
PDI-SG-B486	SE	PCB-48	0.0027	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-49	0.015	0.00080	0.00080	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-50		0.0020	0.00095	ng/g	U	bl
PDI-SG-B486	SE	PCB-51		0.0027	0.0010	ng/g	U	bl
PDI-SG-B486	SE	PCB-53		0.0020	0.00095	ng/g	U	bl
PDI-SG-B486	SE	PCB-56	0.0083	0.00071	0.00071	ng/g	J+	bl
PDI-SG-B486	SE	PCB-60	0.0033	0.00073	0.00073	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-61	0.042	0.00068	0.00068	ng/g	J+	bl
PDI-SG-B486	SE	PCB-65	0.022	0.00087	0.00087	ng/g	J+	bl
PDI-SG-B486	SE	PCB-69	0.015	0.00080	0.00080	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-70	0.042	0.00068	0.00068	ng/g	J+	bl
PDI-SG-B486	SE	PCB-71	0.0082	0.00098	0.00098	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-74	0.042	0.00068	0.00068	ng/g	J+	bl
PDI-SG-B486	SE	PCB-77	0.0030	0.00071	0.00071	ng/g	JN	k
PDI-SG-B486	SE	PCB-8	0.0046	0.0026	0.0026	ng/g	JN	k
PDI-SG-B486	SE	PCB-82	0.0054	0.00021	0.00021	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-83	0.034	0.00019	0.00019	ng/g	JN	k
PDI-SG-B486	SE	PCB-84	0.0080	0.00022	0.00022	ng/g	JN	k
PDI-SG-B486	SE	PCB-85	0.014	0.00016	0.00016	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-86	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-87	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-90	0.054	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-92	0.0066	0.00018	0.00018	ng/g	JN	bl,k
PDI-SG-B486	SE	PCB-96		0.00050	0.00016	ng/g	U	bl
PDI-SG-B486	SE	PCB-97	0.032	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B486	SE	PCB-98		0.0017	0.00018	ng/g	U	bl
PDI-SG-B486	SE	PCB-99	0.034	0.00019	0.00019	ng/g	JN	k
PDI-SG-B487	SE	PCB-1		0.0040	0.00010	ng/g	U	bl
PDI-SG-B487	SE	PCB-100	0.0051	0.000096	0.000096	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-102		0.0012	0.000093	ng/g	U	bl
PDI-SG-B487	SE	PCB-105	0.018	0.00077	0.00077	ng/g	J+	bl
PDI-SG-B487	SE	PCB-107	0.0066	0.00086	0.00086	ng/g	J+	bl
PDI-SG-B487	SE	PCB-109	0.038	0.000083	0.000083	ng/g	J+	bl
PDI-SG-B487	SE	PCB-116	0.016	0.000082	0.000082	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-117	0.016	0.000082	0.000082	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-119	0.038	0.000083	0.000083	ng/g	J+	bl
PDI-SG-B487	SE	PCB-123		0.0016	0.00080	ng/g	U	bl
PDI-SG-B487	SE	PCB-125	0.038	0.000083	0.000083	ng/g	J+	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B487	SE	PCB-128	0.018	0.00088	0.00088	ng/g	J+	bl
PDI-SG-B487	SE	PCB-130	0.0053	0.0012	0.0012	ng/g	J+	bl
PDI-SG-B487	SE	PCB-133		0.0019	0.0011	ng/g	U	bl
PDI-SG-B487	SE	PCB-134		0.0044	0.0012	ng/g	U	bl
PDI-SG-B487	SE	PCB-135	0.020	0.000022	0.000022	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-136	0.0063	0.000016	0.000016	ng/g	J+	bl
PDI-SG-B487	SE	PCB-137	0.0049	0.0010	0.0010	ng/g	J+	bl
PDI-SG-B487	SE	PCB-141	0.014	0.0011	0.0011	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-143		0.0044	0.0012	ng/g	U	bl
PDI-SG-B487	SE	PCB-144	0.0020	0.000020	0.000020	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-146	0.015	0.0010	0.0010	ng/g	J+	bl
PDI-SG-B487	SE	PCB-151	0.020	0.000022	0.000022	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-154	0.0019	0.000017	0.000017	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-156		0.0096	0.0011	ng/g	U	bl
PDI-SG-B487	SE	PCB-157		0.0096	0.0011	ng/g	U	bl
PDI-SG-B487	SE	PCB-158	0.0093	0.00072	0.00072	ng/g	J+	bl
PDI-SG-B487	SE	PCB-16	0.0021	0.000091	0.000091	ng/g	JN	k
PDI-SG-B487	SE	PCB-164	0.0062	0.00080	0.00080	ng/g	J+	bl
PDI-SG-B487	SE	PCB-166	0.018	0.00088	0.00088	ng/g	J+	bl
PDI-SG-B487	SE	PCB-167		0.0039	0.00052	ng/g	U	bl
PDI-SG-B487	SE	PCB-17	0.0042	0.000081	0.000081	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-170	0.025	0.00024	0.00024	ng/g	J+	bl
PDI-SG-B487	SE	PCB-171		0.0068	0.00021	ng/g	U	bl
PDI-SG-B487	SE	PCB-172		0.0053	0.00021	ng/g	U	bl
PDI-SG-B487	SE	PCB-173		0.0068	0.00021	ng/g	U	bl
PDI-SG-B487	SE	PCB-175		0.0012	0.00019	ng/g	U	bl
PDI-SG-B487	SE	PCB-176		0.0019	0.00014	ng/g	U	bl
PDI-SG-B487	SE	PCB-177	0.015	0.00020	0.00020	ng/g	JN	k
PDI-SG-B487	SE	PCB-178	0.0077	0.00020	0.00020	ng/g	J+	bl
PDI-SG-B487	SE	PCB-179	0.0080	0.00015	0.00015	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-18	0.0086	0.000072	0.000072	ng/g	J+	bl
PDI-SG-B487	SE	PCB-183	0.017	0.00018	0.00018	ng/g	J+	bl
PDI-SG-B487	SE	PCB-185	0.017	0.00018	0.00018	ng/g	J+	bl
PDI-SG-B487	SE	PCB-19	0.0010	0.00010	0.00010	ng/g	JN	k
PDI-SG-B487	SE	PCB-190	0.0055	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B487	SE	PCB-191		0.0014	0.00014	ng/g	U	bl
PDI-SG-B487	SE	PCB-194	0.013	0.00023	0.00023	ng/g	J+	bl
PDI-SG-B487	SE	PCB-195		0.0045	0.00026	ng/g	U	bl
PDI-SG-B487	SE	PCB-196		0.0037	0.000038	ng/g	U	bl
PDI-SG-B487	SE	PCB-198	0.018	0.000039	0.000039	ng/g	J+	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B487	SE	PCB-199	0.018	0.000039	0.000039	ng/g	J+	bl
PDI-SG-B487	SE	PCB-2	0.0063	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B487	SE	PCB-200		0.0016	0.000026	ng/g	U	bl
PDI-SG-B487	SE	PCB-201		0.0016	0.000027	ng/g	U	bl
PDI-SG-B487	SE	PCB-202	0.0032	0.000030	0.000030	ng/g	JN	k
PDI-SG-B487	SE	PCB-203	0.0091	0.000035	0.000035	ng/g	J+	bl
PDI-SG-B487	SE	PCB-206	0.011	0.00098	0.00098	ng/g	J+	bl
PDI-SG-B487	SE	PCB-208		0.0036	0.00057	ng/g	U	bl
PDI-SG-B487	SE	PCB-209 (decachlorobiphenyl)	0.022	0.000020	0.000020	ng/g	J+	bl
PDI-SG-B487	SE	PCB-21	0.0072	0.00056	0.00056	ng/g	J+	bl
PDI-SG-B487	SE	PCB-22	0.0048	0.00059	0.00059	ng/g	J+	bl
PDI-SG-B487	SE	PCB-25	0.0027	0.00053	0.00053	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-26	0.0041	0.00057	0.00057	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-29	0.0041	0.00057	0.00057	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-3		0.0039	0.00014	ng/g	U	bl
PDI-SG-B487	SE	PCB-30	0.0086	0.000072	0.000072	ng/g	J+	bl
PDI-SG-B487	SE	PCB-31	0.014	0.00056	0.00056	ng/g	JN	k
PDI-SG-B487	SE	PCB-33	0.0072	0.00056	0.00056	ng/g	J+	bl
PDI-SG-B487	SE	PCB-37	0.0036	0.00059	0.00059	ng/g	J+	bl
PDI-SG-B487	SE	PCB-4	0.0029	0.0025	0.0025	ng/g	JN	k
PDI-SG-B487	SE	PCB-40	0.0093	0.00090	0.00090	ng/g	J+	bl
PDI-SG-B487	SE	PCB-41	0.0093	0.00090	0.00090	ng/g	J+	bl
PDI-SG-B487	SE	PCB-42	0.0053	0.00091	0.00091	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-44	0.020	0.00080	0.00080	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-47	0.020	0.00080	0.00080	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-48		0.0025	0.00090	ng/g	U	bl
PDI-SG-B487	SE	PCB-49	0.018	0.00074	0.00074	ng/g	J+	bl
PDI-SG-B487	SE	PCB-50	0.0034	0.00088	0.00088	ng/g	J+	bl
PDI-SG-B487	SE	PCB-53	0.0034	0.00088	0.00088	ng/g	J+	bl
PDI-SG-B487	SE	PCB-56	0.010	0.00066	0.00066	ng/g	J+	bl
PDI-SG-B487	SE	PCB-6	0.0020	0.0018	0.0018	ng/g	JN	k
PDI-SG-B487	SE	PCB-60	0.0039	0.00067	0.00067	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-61	0.046	0.00063	0.00063	ng/g	J+	bl
PDI-SG-B487	SE	PCB-64	0.0078	0.00060	0.00060	ng/g	J+	bl
PDI-SG-B487	SE	PCB-65	0.020	0.00080	0.00080	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-69	0.018	0.00074	0.00074	ng/g	J+	bl
PDI-SG-B487	SE	PCB-70	0.046	0.00063	0.00063	ng/g	J+	bl
PDI-SG-B487	SE	PCB-71	0.0093	0.00090	0.00090	ng/g	J+	bl
PDI-SG-B487	SE	PCB-74	0.046	0.00063	0.00063	ng/g	J+	bl
PDI-SG-B487	SE	PCB-8	0.0034	0.0016	0.0016	ng/g	JN	k



Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B487	SE	PCB-82	0.0067	0.00011	0.00011	ng/g	J+	bl
PDI-SG-B487	SE	PCB-84	0.012	0.00011	0.00011	ng/g	JN	k
PDI-SG-B487	SE	PCB-85	0.016	0.000082	0.000082	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-86	0.038	0.000083	0.000083	ng/g	J+	bl
PDI-SG-B487	SE	PCB-87	0.038	0.000083	0.000083	ng/g	J+	bl
PDI-SG-B487	SE	PCB-92	0.0097	0.000095	0.000095	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-93	0.0051	0.000096	0.000096	ng/g	JN	bl,k
PDI-SG-B487	SE	PCB-97	0.038	0.000083	0.000083	ng/g	J+	bl
PDI-SG-B487	SE	PCB-98		0.0012	0.000093	ng/g	U	bl
PDI-SG-B488	SE	PCB-1		0.00076	0.000088	ng/g	U	bl
PDI-SG-B488	SE	PCB-100		0.0016	0.00016	ng/g	U	bl
PDI-SG-B488	SE	PCB-101	0.052	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-102		0.0012	0.00015	ng/g	U	bl
PDI-SG-B488	SE	PCB-105	0.011	0.00071	0.00071	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-107	0.0053	0.00076	0.00076	ng/g	J+	bl
PDI-SG-B488	SE	PCB-108		0.0025	0.00073	ng/g	U	bl
PDI-SG-B488	SE	PCB-109	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-11	0.024	0.0020	0.0020	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-113	0.052	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-116	0.0093	0.00014	0.00014	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-117	0.0093	0.00014	0.00014	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-119	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-123		0.0012	0.00069	ng/g	U	bl
PDI-SG-B488	SE	PCB-124		0.0025	0.00073	ng/g	U	bl
PDI-SG-B488	SE	PCB-125	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-128	0.012	0.00078	0.00078	ng/g	J+	bl
PDI-SG-B488	SE	PCB-129	0.083	0.00081	0.00081	ng/g	J+	bl
PDI-SG-B488	SE	PCB-130	0.0057	0.0011	0.0011	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-132	0.019	0.0010	0.0010	ng/g	J+	bl
PDI-SG-B488	SE	PCB-134		0.0032	0.0011	ng/g	U	bl
PDI-SG-B488	SE	PCB-135	0.022	0.000014	0.000014	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-136	0.0065	0.000010	0.000010	ng/g	J+	bl
PDI-SG-B488	SE	PCB-137		0.0026	0.00091	ng/g	U	bl
PDI-SG-B488	SE	PCB-138	0.083	0.00081	0.00081	ng/g	J+	bl
PDI-SG-B488	SE	PCB-141	0.0097	0.00094	0.00094	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-143		0.0032	0.0011	ng/g	U	bl
PDI-SG-B488	SE	PCB-144	0.0020	0.000013	0.000013	ng/g	J+	bl
PDI-SG-B488	SE	PCB-146	0.012	0.00089	0.00089	ng/g	J+	bl
PDI-SG-B488	SE	PCB-15	0.0035	0.0023	0.0023	ng/g	JN	k
PDI-SG-B488	SE	PCB-151	0.022	0.000014	0.000014	ng/g	JN	bl,k

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B488	SE	PCB-154		0.00059	0.000011	ng/g	U	bl
PDI-SG-B488	SE	PCB-156		0.0059	0.00095	ng/g	U	bl
PDI-SG-B488	SE	PCB-157		0.0059	0.00095	ng/g	U	bl
PDI-SG-B488	SE	PCB-158	0.0071	0.00063	0.00063	ng/g	J+	bl
PDI-SG-B488	SE	PCB-16	0.0029	0.00013	0.00013	ng/g	JN	k
PDI-SG-B488	SE	PCB-160	0.083	0.00081	0.00081	ng/g	J+	bl
PDI-SG-B488	SE	PCB-163	0.083	0.00081	0.00081	ng/g	J+	bl
PDI-SG-B488	SE	PCB-164	0.0054	0.00071	0.00071	ng/g	J+	bl
PDI-SG-B488	SE	PCB-166	0.012	0.00078	0.00078	ng/g	J+	bl
PDI-SG-B488	SE	PCB-167		0.0026	0.00048	ng/g	U	bl
PDI-SG-B488	SE	PCB-17	0.0032	0.00012	0.00012	ng/g	J+	bl
PDI-SG-B488	SE	PCB-170	0.021	0.00044	0.00044	ng/g	J+	bl
PDI-SG-B488	SE	PCB-171		0.0076	0.00042	ng/g	U	bl
PDI-SG-B488	SE	PCB-172		0.0037	0.00041	ng/g	U	bl
PDI-SG-B488	SE	PCB-173		0.0076	0.00042	ng/g	U	bl
PDI-SG-B488	SE	PCB-175		0.0012	0.00037	ng/g	U	bl
PDI-SG-B488	SE	PCB-176	0.0025	0.00028	0.00028	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-177	0.011	0.00040	0.00040	ng/g	JN	k
PDI-SG-B488	SE	PCB-178		0.0052	0.00041	ng/g	U	bl
PDI-SG-B488	SE	PCB-179	0.0090	0.00030	0.00030	ng/g	J+	bl
PDI-SG-B488	SE	PCB-18	0.0093	0.00010	0.00010	ng/g	J+	bl
PDI-SG-B488	SE	PCB-180	0.047	0.00031	0.00031	ng/g	J+	bl
PDI-SG-B488	SE	PCB-183	0.015	0.00037	0.00037	ng/g	J+	bl
PDI-SG-B488	SE	PCB-185	0.015	0.00037	0.00037	ng/g	J+	bl
PDI-SG-B488	SE	PCB-190		0.0041	0.00027	ng/g	U	bl
PDI-SG-B488	SE	PCB-191		0.00085	0.00028	ng/g	U	bl
PDI-SG-B488	SE	PCB-193	0.047	0.00031	0.00031	ng/g	J+	bl
PDI-SG-B488	SE	PCB-194	0.011	0.00029	0.00029	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-195		0.0038	0.00032	ng/g	U	bl
PDI-SG-B488	SE	PCB-196	0.0059	0.000091	0.000091	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-198	0.017	0.000092	0.000092	ng/g	J+	bl
PDI-SG-B488	SE	PCB-199	0.017	0.000092	0.000092	ng/g	J+	bl
PDI-SG-B488	SE	PCB-2	0.0040	0.00011	0.00011	ng/g	J+	bl
PDI-SG-B488	SE	PCB-20	0.016	0.00035	0.00035	ng/g	J+	bl
PDI-SG-B488	SE	PCB-200		0.0016	0.000062	ng/g	U	bl
PDI-SG-B488	SE	PCB-201		0.0016	0.000063	ng/g	U	bl
PDI-SG-B488	SE	PCB-203	0.0083	0.000082	0.000082	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-205		0.00089	0.00025	ng/g	U	bl
PDI-SG-B488	SE	PCB-206	0.0074	0.00071	0.00071	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-207		0.0018	0.00048	ng/g	U	bl

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B488	SE	PCB-208		0.0038	0.00047	ng/g	U	bl
PDI-SG-B488	SE	PCB-209 (decachlorobiphenyl)	0.018	0.000020	0.000020	ng/g	J+	bl
PDI-SG-B488	SE	PCB-21	0.0061	0.00034	0.00034	ng/g	J+	bl
PDI-SG-B488	SE	PCB-22	0.0041	0.00036	0.00036	ng/g	J+	bl
PDI-SG-B488	SE	PCB-25	0.0013	0.00032	0.00032	ng/g	J+	bl
PDI-SG-B488	SE	PCB-26	0.0020	0.00034	0.00034	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-27	0.00046	0.000085	0.000085	ng/g	JN	k
PDI-SG-B488	SE	PCB-28	0.016	0.00035	0.00035	ng/g	J+	bl
PDI-SG-B488	SE	PCB-29	0.0020	0.00034	0.00034	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-3		0.00092	0.00013	ng/g	U	bl
PDI-SG-B488	SE	PCB-31	0.011	0.00034	0.00034	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-33	0.0061	0.00034	0.00034	ng/g	J+	bl
PDI-SG-B488	SE	PCB-37	0.0051	0.00036	0.00036	ng/g	J+	bl
PDI-SG-B488	SE	PCB-40		0.0078	0.00070	ng/g	U	bl
PDI-SG-B488	SE	PCB-41		0.0078	0.00070	ng/g	U	bl
PDI-SG-B488	SE	PCB-42	0.0062	0.00070	0.00070	ng/g	J+	bl
PDI-SG-B488	SE	PCB-44	0.028	0.00062	0.00062	ng/g	J+	bl
PDI-SG-B488	SE	PCB-45		0.0040	0.00073	ng/g	U	bl
PDI-SG-B488	SE	PCB-47	0.028	0.00062	0.00062	ng/g	J+	bl
PDI-SG-B488	SE	PCB-48	0.0027	0.00069	0.00069	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-49	0.016	0.00057	0.00057	ng/g	J+	bl
PDI-SG-B488	SE	PCB-50		0.0019	0.00067	ng/g	U	bl
PDI-SG-B488	SE	PCB-51		0.0040	0.00073	ng/g	U	bl
PDI-SG-B488	SE	PCB-53		0.0019	0.00067	ng/g	U	bl
PDI-SG-B488	SE	PCB-55		0.0010	0.00051	ng/g	U	bl
PDI-SG-B488	SE	PCB-56	0.0094	0.00051	0.00051	ng/g	J+	bl
PDI-SG-B488	SE	PCB-58		0.00095	0.00052	ng/g	U	bl
PDI-SG-B488	SE	PCB-59	0.0020	0.00049	0.00049	ng/g	J+	bl
PDI-SG-B488	SE	PCB-60	0.0036	0.00052	0.00052	ng/g	J+	bl
PDI-SG-B488	SE	PCB-61	0.038	0.00048	0.00048	ng/g	J+	bl
PDI-SG-B488	SE	PCB-62		0.0020	0.00049	ng/g	U	bl
PDI-SG-B488	SE	PCB-64	0.0082	0.00047	0.00047	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-65	0.028	0.00062	0.00062	ng/g	J+	bl
PDI-SG-B488	SE	PCB-69	0.016	0.00057	0.00057	ng/g	J+	bl
PDI-SG-B488	SE	PCB-70	0.038	0.00048	0.00048	ng/g	J+	bl
PDI-SG-B488	SE	PCB-71	0.0078	0.00070	0.00070	ng/g	J+	bl
PDI-SG-B488	SE	PCB-74	0.038	0.00048	0.00048	ng/g	J+	bl
PDI-SG-B488	SE	PCB-75		0.0020	0.00049	ng/g	U	bl
PDI-SG-B488	SE	PCB-82	0.0041	0.00018	0.00018	ng/g	JN	bl,k
PDI-SG-B488	SE	PCB-84	0.010	0.00019	0.00019	ng/g	JN	k

Sample ID	Matrix	Compound	Result	RDL	EDL	Units	Validation Qualifiers	Validation Reason
PDI-SG-B488	SE	PCB-85	0.0093	0.00014	0.00014	ng/g	JN	k
PDI-SG-B488	SE	PCB-86	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-87	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-90	0.052	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-92	0.010	0.00016	0.00016	ng/g	J+	bl
PDI-SG-B488	SE	PCB-93		0.0016	0.00016	ng/g	U	bl
PDI-SG-B488	SE	PCB-97	0.028	0.00014	0.00014	ng/g	J+	bl
PDI-SG-B488	SE	PCB-98		0.0012	0.00015	ng/g	U	bl

**Attachment A****Qualifier Codes and Explanations**

<b>Qualifier</b>	<b>Explanation</b>
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a potential low bias.
J+	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a potential high bias.
JN	The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

## Attachment B

### Reason Codes and Explanations

Reason Code	Explanation
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
c	Calibration issue
cl	Clean-up standard recovery
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding times
i	Internal standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample/laboratory control sample duplicate RPDs
m	Matrix spike recovery
ma	Multiple analyses. Sample analyzed more than once, a value from another analysis should be used.
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r	Dual column RPD
q	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results