



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

## SVOC DATA PACKAGE

### Client Project Information

Project ID: 60566335

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

Contact: Amy Dahl

### ALSE Project Information

Project ID: AECOM100

Contact: Whitney Davis

Submission ID(s): L2144849

Final Package Review by:

A handwritten signature in black ink, appearing to read "Whitney Davis", is written over a horizontal line.

Date Reviewed: 31-Aug-18

## SVOC DATA PACKAGE

### SECTION 1: PROJECT NARRATIVE

#### ALSE Project Information

Project ID: AECOM100  
  
Contact: Whitney Davis  
Submission ID(s): L2144849

#### Client Project Information

Project ID: 60566335  
Project Description: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
Contact: Amy Dahl

**Analytical Method:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
L2144849-1	PDI-SC-S222-5TO7.2D	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	28-Aug-18
WG2845105-4	PDI-SC-S222-5TO7.2D Duplicate	QC	n/a	n/a	20-Aug-18	28-Aug-18
L2144849-2	PDI-SC-S222-7.2TO9.2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	30-Aug-18
L2144849-3	PDI-SC-S222-9.2TO11.2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-4	PDI-SC-S222-11.2TO13.2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	28-Aug-18
L2144849-5	PDI-SC-S222-13.2TO15.2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	28-Aug-18
L2144849-6	PDI-SC-S248-0TO2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-7	PDI-SC-S248-2TO4	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-8	PDI-SC-S248-4TO6.2	Sediment	07-Aug-18	11-Aug-18	20-Aug-18	30-Aug-18
L2144849-48	PDI-SC-S226-6TO8	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-49	PDI-SC-S226-10TO12	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-50	PDI-SC-S226-8TO10	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-51	PDI-SC-S226-0TO2	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-52	PDI-SC-S226-2TO4	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-53	PDI-SC-S226-12TO14	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-54	PDI-SC-S226-4TO6	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
L2144849-55	PDI-SC-S226-14TO15.8	Sediment	06-Aug-18	11-Aug-18	20-Aug-18	29-Aug-18
WG2845105-1	Method Blank	QC	n/a	n/a	20-Aug-18	28-Aug-18
WG2845105-2	Laboratory Control Sample	QC	n/a	n/a	20-Aug-18	28-Aug-18

#### Comments and Notes:

##### a) Sample Integrity:

All samples were received in good condition at 6.8 degrees C., which is above the recommended storage and transportation temperature. However, the brief exposure to above-recommended temperatures is not expected to have a negative impact on data quality.

##### b) Instrumental Analysis:

All results have been reported on a dry weight basis

The samples have been analyzed with an instrument method where conditions are optimized for acquisition of the selected targets only.

The highest available calibration level has not been analyzed as it was expected to saturate the instrument detector. Six calibration levels have been included.

For H6-18-CCV-0837, the post-run continuing calibration verification (CCV) for the analytical sequence 6-180827B, the recovery of the labelled standard 13C12-4,4'-DDD was marginally above the method control limit. The reported recoveries of this standard may be slightly elevated. Native target data are not expected to be biased as a result.

For H6-18-CCV-0845, the post-run continuing calibration verification (CCV) for the analytical sequence 6-180828A, the recovery of the labelled standard 13C12-4,4'-DDT was marginally above the method control limit. The reported recoveries of this standard may be slightly elevated. Native target data are not expected to be biased as a result.

Sample and duplicate replication criteria outside method limits for the low level detected targets. The sample may not be homogeneous.

For the laboratory control sample (LCS), the recovery of the native target 2,4'-DDD was marginally above the method control limit. As a result, the reported values for this target may be slightly elevated.

For the samples PDI-SC-S222-7.2TO9.2 and PDI-SC-S248-4TO6.2, the results have been reported from a re-analysis of the extracts in order to preclude the possibility of carryover from a prior higher level extract. Also for these samples, the extracts were found to contain water after extraction. The volume was reduced, and the organic layer separated from the aqueous layer prior to continuing laboratory preparation.

I certify that this data package is in compliance with the terms and condition of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package (hardcopy and/or electronic version) has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Stephen Kennedy, Technical Supervisor

31-Aug-18  
Date

## SVOC DATA PACKAGE

### SECTION 1: PROJECT NARRATIVE

**ALSE Project Information**

Project ID: AECOM100  
Contact: Whitney Davis  
Submission ID(s): L2144849

**Client Project Information**

Project ID: 60566335  
Project Description: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
Contact: Amy Dahl

**Analytical Method:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
L2144849-9	PDI-SC-S139-0TO2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
WG2848035-4	PDI-SC-S139-0TO2 Duplicate	QC	n/a	n/a	21-Aug-18	29-Aug-18
L2144849-10	PDI-SC-S139-2TO4.1	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-11	PDI-SC-S139-4.1TO5.9	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-12	PDI-SC-S139-4.1TO5.9D	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-13	PDI-SC-S176-0TO2	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-14	PDI-SC-S176-2TO4	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-15	PDI-SC-S176-4TO5.5	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-16	PDI-SC-S176-5.5TO7.5	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-17	PDI-SC-S176-7.5TO9.6	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-18	PDI-SC-S188-0TO1.5	Sediment	08-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-56	PDI-SC-S222-0TO2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-57	PDI-SC-S222-2TO4	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-58	PDI-SC-S222-4TO5	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-59	PDI-SC-S222-5TO7.2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-60	PDI-SC-S117-0TO2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-61	PDI-SC-S117-2TO4	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-62	PDI-SC-S117-4TO6	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-63	PDI-SC-S219-0TO2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-64	PDI-SC-S219-2TO4	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
L2144849-65	PDI-SC-S219-4TO5.2	Sediment	07-Aug-18	11-Aug-18	21-Aug-18	29-Aug-18
WG2848035-1	Method Blank	QC	n/a	n/a	21-Aug-18	29-Aug-18
WG2848035-2	Laboratory Control Sample	QC	n/a	n/a	21-Aug-18	30-Aug-18

**Comments and Notes:**

**a) Sample Integrity:**

All samples were received in good condition at 6.8 degrees C., which is above the recommended storage and transportation temperature. However, the brief exposure to above-recommended temperatures is not expected to have a negative impact on data quality.

**b) Instrumental Analysis:**

All results have been reported on a dry weight basis

The samples have been analyzed with an instrument method where conditions are optimized for acquisition of the selected targets only.

The highest available calibration level has not been analyzed as it was expected to saturate the instrument detector. Six calibration levels have been included.

For H6-18-CCV-0845, the post-run continuing calibration verification (CCV) for the analytical sequence 6-180828A, the recovery of the labelled standard 13C12-4,4'-DDT was marginally above the method control limit. The reported recoveries of this standard may be slightly elevated. Native target data are not expected to be biased as a result.

For H6-18-CCV-0857 & 0859, the CCVs for the last CCV bracket of analytical sequence 6-180830A, the recovery of the labelled standards 13C12-4,4'-DDD and/or 13C12-4,4'-DDT were below the method control limit. The reported recoveries of this standard may be biased, low as a result. Native target data are not expected to be biased as a result.

The recoveries of 13C12-4,4'-DDE are below the method control limit for a number of samples. As a result, the detection limits may be elevated. Detected native target results are not expected to be biased.

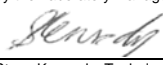
The results for some samples have been reported from the analysis of diluted extracts due to target levels, while others have been reported from a re-analysis of the extract in order to preclude the possibility of carryover.

Ran at 20x dilution:	Ran at 40x dilution:	Re-analyzed:
PDI-SC-S117-0TO2	PDI-SC-S222-0TO2	PDI-SC-S139-4.1TO5.9
PDI-SC-S117-2TO4	PDI-SC-S222-2TO4	PDI-SC-S176-4TO5.5
PDI-SC-S117-4TO6	PDI-SC-S222-4TO5	PDI-SC-S117-0TO2
		PDI-SC-S117-4TO6

For the forty-fold dilutions, the areas of the labelled extraction standards were below the level of the lowest calibration standard. Response linearity has been assumed. Standard signal/noise ratios are all at least 10/1 and allow for isotope dilution quantification. Where applicable, the results match the original five-fold diluted extract data. No bias to native target results is expected.

Sample and duplicate replication criteria outside method limits for the low level detected targets. The sample may not be homogeneous.

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Steve Kennedy, Technical Supervisor

31-Aug-18  
Date



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## SVOC DATA PACKAGE

### SECTION 1: PROJECT NARRATIVE

#### ALSE Project Information

Project ID: AECOM100

Contact: Whitney Davis

Submission ID(s): L2144849

#### Client Project Information

Project ID: 60566335

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

Contact: Amy Dahl

**Analytical Method:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
L2144849-32	PDI-RB-SS-180807	Water	07-Aug-18	11-Aug-18	13-Aug-18	30-Aug-18
L2144849-33	PDI-RB-SS-180808	Water	08-Aug-18	11-Aug-18	13-Aug-18	30-Aug-18
L2144849-34	PDI-RB-SS-180809	Water	09-Aug-18	11-Aug-18	13-Aug-18	30-Aug-18
L2144849-35	PDI-RB-SS-180806	Water	06-Aug-18	11-Aug-18	13-Aug-18	30-Aug-18
WG2847435-1	Method Blank	Qc	n/a	n/a	13-Aug-18	30-Aug-18
WG2847435-2	Laboratory Control Sample	Qc	n/a	n/a	13-Aug-18	30-Aug-18

#### Comments and Notes:

##### a) Sample Integrity:

All samples were received in good condition at 6.8 degrees C., which is above the recommended storage and transportation temperature. However, the brief exposure to above-recommended temperatures is not expected to have a negative impact on data quality.

##### b) Instrumental Analysis:

All results have been reported on a dry weight basis

The samples have been analyzed with an instrument method where conditions are optimized for acquisition of the selected targets only.

The highest available calibration level has not been analyzed as it was expected to saturate the instrument detector.

Six calibration levels have been included.

In the Instrument Runlist, the samples are annotated 5X, inferring that they were run at a dilution. However, the sample extracts were analyzed without dilution

For the sample PDI-RB-SS-180807, the recovery of 13C12-4,4'-DDE was below the method control limit. As a result, the detection limits are likely elevated. Detected native target data are not expected to be biased.

Low levels of selected targets were detected in the method blank. Low level sample data may be elevated where indicated.

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Steve Kennedy, Technical Supervisor

31-Aug-31

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#### ALSE Project Information

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Contact: Whitney Davis

Submission ID(s): L2144849

#### Client Project Information

Project ID: 60566335

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

Contact: Amy Dahl

**Analytical Method:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
L2144849-19	PDI-SC-S213-0TO2	Sediment	09-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
WG2848060-4	Duplicate	QC	n/a	n/a	22-Aug-18	30-Aug-18
L2144849-20	PDI-SC-S213-2TO4	Sediment	09-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
L2144849-36	PDI-SC-S191-4TO6	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-37	PDI-SC-S191-6TO8.1	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-38	PDI-SC-S192-0TO1.5	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-39	PDI-SC-S192-1.5TO3	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-40	PDI-SC-S192-3TO4.2	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-41	PDI-SC-S198-0TO2	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
L2144849-42	PDI-SC-S198-2TO4	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
L2144849-43	PDI-SC-S198-2TO4D	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
L2144849-44	PDI-SC-S198-4TO6	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	30-Aug-18
L2144849-45	PDI-SC-S198-6TO8	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-46	PDI-SC-S198-8TO10	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-47	PDI-SC-S198-10TO11.8	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-66	PDI-SC-S105-0TO2	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-67	PDI-SC-S105-2TO4	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-68	PDI-SC-S105-4TO5.6	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-69	PDI-SC-S105-5.6TO6.6	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-70	PDI-SC-S191-0TO2	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
L2144849-71	PDI-SC-S191-2TO4	Sediment	08-Aug-18	11-Aug-18	22-Aug-18	31-Aug-18
WG2848060-1	Method Blank	QC	n/a	n/a	22-Aug-18	30-Aug-18
WG2848060-2	Laboratory Control Sample	QC	n/a	n/a	22-Aug-18	30-Aug-18

#### Comments and Notes:

##### a) Sample Integrity:

All samples were received in good condition at 6.8 degrees C., which is above the recommended storage and transportation temperature. However, the brief exposure to above-recommended temperatures is not expected to have a negative impact on data quality.

##### b) Instrumental Analysis:

All results have been reported on a dry weight basis

The samples have been analyzed with an instrument method where conditions are optimized for acquisition of the selected targets only.

The highest available calibration level has not been analyzed as it was expected to saturate the instrument detector.

Six calibration levels have been included.

For H6-18-CCV-0857 & 0859, the CCVs for the last CCV bracket of analytical sequence 6-180830A, the recovery of the labelled standards 13C12-4,4'-DDD and/or 13C12-4,4'-DDT were below the method control limit. The reported recoveries of this standard may be biased low as a result. Native target data are not expected to be biased as a result.

For the samples PDI-SC-S191-6TO8.1 and PDI-SC-S105-2TO4, the results have been reported from the reanalysis of the sample extract in order to preclude the possibility of carryover from a prior higher level extract.

The replication of 2,4'-DDT and 4,4'-DDT between the sample and laboratory duplicate does not meet expected control limits. All other targets replicate well. Sample may not be homogeneous.

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Steve Kennedy, Technical Supervisor

31-Aug-18

Date



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## SVOC DATA PACKAGE

### SECTION 1: PROJECT NARRATIVE

#### ALSE Project Information

Project ID: AECOM100

Contact: Whitney Davis

Submission ID(s): L2144849

#### Client Project Information

Project ID: 60566335

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

Contact: Amy Dahl

**Analytical Method:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
L2144849-21	PDI-SC-S213-4TO6	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-22	PDI-SC-S213-6TO8	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-23	PDI-SC-S213-8TO10	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-24	PDI-SC-S213-10TO11.8	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-25	PDI-SC-S213-11.8TO12.8	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-26	PDI-SC-S098-0TO1.3	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-27	PDI-SC-S098-1.3TO3.3	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-28	PDI-SC-S098-3.3TO5.3	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-29	PDI-SC-S098-3.3TO5.3D	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-30	PDI-SC-S098-5.3TO7.2	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
L2144849-31	PDI-SC-S098-7.2TO8.2	Sediment	09-Aug-18	11-Aug-18	23-Aug-18	31-Aug-18
WG2848066-1	Method Blank	QC	n/a	n/a	23-Aug-18	31-Aug-18
WG2848066-2	Laboratory Control Sample	QC	n/a	n/a	23-Aug-18	31-Aug-18

#### Comments and Notes:

##### a) Sample Integrity:

All samples were received in good condition at 6.8 degrees C., which is above the recommended storage and transportation temperature. However, the brief exposure to above-recommended temperatures is not expected to have a negative impact on data quality.

##### b) Instrumental Analysis:

All results have been reported on a dry weight basis

The samples have been analyzed with an instrument method where conditions are optimized for acquisition of the selected targets only.

The highest available calibration level has not been analyzed as it was expected to saturate the instrument detector.

Six calibration levels have been included.

For H6-18-CCV-0857 & 0859, the CCVs for the last CCV bracket of analytical sequence 6-180830A, the recovery of the labelled standards 13C12-4,4'-DDD and/or 13C12-4,4'-DDT were below the method control limit. The reported recoveries of this standard may be biased low as a result. Native target data are not expected to be biased as a result.

I certify that this data package is in compliance with the terms and condition of the contract , both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package (hardcopy and/or electronic version) has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Steve Kennedy, Technical Supervisor

31-Aug-18

Date

**SVOC DATA PACKAGE**

**SECTION 2: DATA SUMMARY REPORT**



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6  
Phone: 905-331-3111, FAX: 905-331-4567

## Certificate of Analysis

**ALS Project Contact:** Whitney Davis  
**ALS Project ID:** AECOM100  
**ALS WO#:** L2144849  
**Date of Report:** 31-Aug-18  
**Date of Sample Receipt:** 11-Aug-18

**Client Name:** AECOM United States  
**Client Address:** 1111 Third Avenue  
Suite 1600  
Seattle, WA 98101, USA  
**Client Contact:** Amy Dahl  
**Client Project ID:** 60566335

**COMMENTS:** 2,4'- and 4,4'-DDE, DDD and DDT by EPA 1699 (modified)

Certified by:

A handwritten signature in black ink, appearing to read "Steve Kennedy", is written over a horizontal line.

Steve Kennedy  
Technical Supervisor



# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S222- 5T07.2D	PDI-SC-S222- 5T07.2D Duplicate	PDI-SC-S222- 7.2T09.2	PDI-SC-S222- 9.2T011.2	PDI-SC-S222- 11.2T013.2	PDI-SC-S222- 13.2T015.2
ALS Sample ID	L2144849-1	WG2845105-4	L2144849-2	L2144849-3	L2144849-4	L2144849-5
Sample Size	8.03	8.06	6.00	6.75	6.88	6.40
Sample size units	g	g	g	g	g	g
Percent Solid	80.2%	80.2%	59.0%	65.7%	67.3%	63.5%
Sample Matrix	Sediment	QC	Sediment	Sediment	Sediment	Sediment
Sampling Date	7-Aug-18	n/a	7-Aug-18	7-Aug-18	7-Aug-18	7-Aug-18
Extraction Date	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.661	0.401	0.0832	0.0419	0.0152	<0.023
4,4'-DDE	23.8	10.4	0.184	0.296	0.0669	0.277
2,4'-DDD	1.46	0.650	<0.040	<0.057	0.0375	0.0449
4,4'-DDD	4.42	1.55	<0.051	0.0679	0.0500	0.0809
2,4'-DDT	<0.040	<0.049	<0.051	<0.020	<0.023	<0.023
4,4'-DDT	0.102	0.0981	0.332	0.141	0.149	<0.075
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	70	59	52	68	57	71
4,4'-DDD, 13C12-	57	58	45	71	53	64
4,4'-DDT, 13C12-	52	55	40	73	50	63

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S248-0T02	PDI-SC-S248-2T04	PDI-SC-S248-4T06.2	PDI-SC-S226-6T08	PDI-SC-S226-10T012	PDI-SC-S226-8T010
ALS Sample ID	L2144849-6	L2144849-7	L2144849-8	L2144849-48	L2144849-49	L2144849-50
Sample Size	4.55	5.71	5.80	5.45	5.80	5.35
Sample size units	g	g	g	g	g	g
Percent Solid	44.9%	56.5%	56.8%	54.1%	57.3%	53.4%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	7-Aug-18	7-Aug-18	7-Aug-18	6-Aug-18	6-Aug-18	6-Aug-18
Extraction Date	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.0759	0.123	0.0899	0.783	0.160	0.222
4,4'-DDE	2.10	3.56	1.58	13.0	3.96	4.70
2,4'-DDD	0.300	3.27	0.353	1.45	0.351	0.430
4,4'-DDD	0.987	15.7	1.20	3.53	0.903	1.17
2,4'-DDT	0.128	0.502	0.113	<0.10	0.125	0.0610
4,4'-DDT	0.370	2.00	<0.25	0.393	0.433	0.235
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	74	79	70	71	79	75
4,4'-DDD, 13C12-	70	73	61	69	71	69
4,4'-DDT, 13C12-	68	71	54	71	72	68

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S226-0T02	PDI-SC-S226-2T04	PDI-SC-S226-12T014	PDI-SC-S226-4T06	PDI-SC-S226-14T015.8
ALS Sample ID	L2144849-51	L2144849-52	L2144849-53	L2144849-54	L2144849-55
Sample Size	4.99	5.43	5.89	5.99	5.73
Sample size units	g	g	g	g	g
Percent Solid	48.6%	53.2%	57.7%	58.4%	56.0%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	6-Aug-18	6-Aug-18	6-Aug-18	6-Aug-18	6-Aug-18
Extraction Date	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.142	0.258	0.214	0.221	0.410
4,4'-DDE	3.61	5.00	5.52	5.13	8.21
2,4'-DDD	0.399	0.505	0.567	0.677	0.659
4,4'-DDD	1.24	1.39	1.93	2.40	2.01
2,4'-DDT	0.116	0.125	0.0796	0.116	0.131
4,4'-DDT	0.333	0.313	0.248	0.307	0.423
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	77	80	75	77	81
4,4'-DDD, 13C12-	76	76	71	75	77
4,4'-DDT, 13C12-	72	75	72	73	75

# ALS Life sciences

## Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2845105-1	WG2845105-2
Sample Size	7.21	1.00
Sample size units	g	n/a
Percent Solid	100.0%	49.5%
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	20-Aug-18	20-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>% Rec</b>
2,4'-DDE	<0.0020	115
4,4'-DDE	0.00572	108
2,4'-DDD	0.00505	123
4,4'-DDD	0.00696	105
2,4'-DDT	<0.0076	119
4,4'-DDT	0.0213	108
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	79	81
4,4'-DDD, 13C12-	82	74
4,4'-DDT, 13C12-	75	70

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	CCV	CCV	CCV	CCV	CCV	CCV
ALS Sample ID	H6-18-RS1-065	H6-18-CCV-0837	H6-18-CCV-0839	H6-18-CCV-0841	H6-18-CCV-0843	H6-18-CCV-0845
Sample Size	1	1	1	1	1	1
Sample size units	n/a	n/a	n/a	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE	105	107	100	100	103	103
4,4'-DDE	92	108	110	99	100	101
2,4'-DDD	104	113	100	96	94	94
4,4'-DDD	95	110	97	102	100	100
2,4'-DDT	106	115	108	99	102	102
4,4'-DDT	92	110	108	97	99	101
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	104	122	116	95	102	98
4,4'-DDD, 13C12-	104	135	104	95	113	122
4,4'-DDT, 13C12-	110	126	90	96	119	135

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	CCV	CCV	CCV	CCV	CCV
ALS Sample ID	H6-18-CCV-0847	H6-18-RS1-064	H6-18-RS1-067	H6-18-CCV-0853	H6-18-CCV-0855
Sample Size	1	1	1	1	1
Sample size units	n/a	n/a	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE	101			100	98
4,4'-DDE	100	93	94	100	99
2,4'-DDD	103			99	99
4,4'-DDD	102	95	94	101	100
2,4'-DDT	104			99	101
4,4'-DDT	101	95	95	100	101
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	92	102	100	97	97
4,4'-DDD, 13C12-	85	105	104	99	93
4,4'-DDT, 13C12-	80	111	104	100	90

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S139-OTO2	PDI-SC-S139-OTO2 Duplicate	PDI-SC-S139- 2TO4.1	PDI-SC-S139- 4.1TO5.9	PDI-SC-S139- 4.1TO5.9D	PDI-SC-S176-OTO2
ALS Sample ID	L2144849-9	WG2848035-4	L2144849-10	L2144849-11	L2144849-12	L2144849-13
Sample Size	4.41	4.59	6.74	7.84	7.74	5.73
Sample size units	g	g	g	g	g	g
Percent Solid	43.8%	45.1%	66.0%	76.9%	77.1%	55.4%
Sample Matrix	Sediment	QC	Sediment	Sediment	Sediment	Sediment
Sampling Date	7-Aug-18	n/a	7-Aug-18	7-Aug-18	7-Aug-18	8-Aug-18
Extraction Date	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	3.85	2.38	0.504	<0.044	<0.061	0.575
4,4'-DDE	17.0	13.6	2.43	0.115	<0.15	3.98
2,4'-DDD	103	45.2	12.6	0.393	0.448	1.06
4,4'-DDD	198	94.4	22.6	0.682	0.755	2.72
2,4'-DDT	3.22	3.71	<0.85	<0.037	<0.052	<0.025
4,4'-DDT	16.5	96.2	37.4	0.474	<0.49	0.138
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	33	30	8	16	14	72
4,4'-DDD, 13C12-	63	63	17	37	27	70
4,4'-DDT, 13C12-	43	43	11	23	18	70

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S176-2TO4	PDI-SC-S176-4TO5.5	PDI-SC-S176-5.5TO7.5	PDI-SC-S176-7.5TO9.6	PDI-SC-S188-0TO1.5	PDI-SC-S222-0TO2
ALS Sample ID	L2144849-14	L2144849-15	L2144849-16	L2144849-17	L2144849-18	L2144849-56
Sample Size	5.85	6.83	7.35	7.31	3.86	4.32
Sample size units	g	g	g	g	g	g
Percent Solid	57.1%	66.3%	73.0%	71.3%	38.1%	42.0%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	7-Aug-18
Extraction Date	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.762	0.0374	0.0312	<0.023	0.266	185
4,4'-DDE	4.28	0.274	0.0984	0.0873	7.43	2470
2,4'-DDD	3.54	0.140	0.0738	<0.038	0.618	350
4,4'-DDD	6.40	0.256	0.155	<0.025	1.42	293
2,4'-DDT	<0.081	<0.020	<0.021	<0.026	0.623	6.28
4,4'-DDT	0.510	<0.11	<0.084	0.259	1.41	9.76
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	9	66	25	23	58	24
4,4'-DDD, 13C12-	18	64	49	46	65	28
4,4'-DDT, 13C12-	11	68	36	33	72	17



# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S222-2TO4	PDI-SC-S222-4TO5	PDI-SC-S222-5TO7.2	PDI-SC-S117-0TO2	PDI-SC-S117-2TO4	PDI-SC-S117-4TO6
ALS Sample ID	L2144849-57	L2144849-58	L2144849-59	L2144849-60	L2144849-61	L2144849-62
Sample Size	5.92	6.11	7.85	6.37	6.18	5.55
Sample size units	g	g	g	g	g	g
Percent Solid	58.9%	60.0%	77.4%	62.4%	60.9%	55.1%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	7-Aug-18	7-Aug-18	7-Aug-18	7-Aug-18	7-Aug-18	7-Aug-18
Extraction Date	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	25.8	37.6	0.418	4.74	14.7	17.6
4,4'-DDE	514	2080	10.8	22.7	54.4	93.2
2,4'-DDD	70.0	106	0.670	61.0	85.8	68.2
4,4'-DDD	99.2	286	1.49	148	241	167
2,4'-DDT	<1.8	<2.4	<0.038	1.82	3.42	2.41
4,4'-DDT	<4.5	7.08	<0.069	3.43	87.8	5.38
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	12	60	15	65	15	61
4,4'-DDD, 13C12-	18	40	28	34	21	41
4,4'-DDT, 13C12-	9	33	24	28	11	28

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S219-0T02	PDI-SC-S219-2T04	PDI-SC-S219-4T05.2
ALS Sample ID	L2144849-63	L2144849-64	L2144849-65
Sample Size	5.74	7.35	7.57
Sample size units	g	g	g
Percent Solid	56.8%	73.5%	73.4%
Sample Matrix	Sediment	Sediment	Sediment
Sampling Date	7-Aug-18	7-Aug-18	7-Aug-18
Extraction Date	21-Aug-18	21-Aug-18	21-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.623	<0.015	0.0984
4,4'-DDE	5.30	0.0614	3.61
2,4'-DDD	2.30	<0.028	0.194
4,4'-DDD	7.56	<0.057	0.534
2,4'-DDT	0.141	<0.029	<0.041
4,4'-DDT	0.466	0.162	0.190
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	70	24	13
4,4'-DDD, 13C12-	74	34	24
4,4'-DDT, 13C12-	83	32	20

# ALS Life sciences

## Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2848035-1	WG2848035-2
Sample Size	6.25	1.00
Sample size units	g	n/a
Percent Solid	100.0%	50.3%
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	21-Aug-18	21-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>% Rec</b>
2,4'-DDE	0.0246	129
4,4'-DDE	0.0481	96
2,4'-DDD	<0.0099	102
4,4'-DDD	0.0137	97
2,4'-DDT	<0.0071	89
4,4'-DDT	0.0347	100
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	16	24
4,4'-DDD, 13C12-	31	47
4,4'-DDT, 13C12-	23	33

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	CCV	CCV	CCV	CCV	CCV	CCV
ALS Sample ID	H6-18-RS1-065	H6-18-CCV-0843	H6-18-CCV-0845	H6-18-CCV-0847	H6-18-CCV-0853	H6-18-CCV-0855
Sample Size	1	1	1	1	1	1
Sample size units	n/a	n/a	n/a	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE	100	100	103	101	100	98
4,4'-DDE	92	100	101	100	100	99
2,4'-DDD	96	96	94	103	99	99
4,4'-DDD	95	102	100	102	101	100
2,4'-DDT	99	99	102	104	99	101
4,4'-DDT	92	99	101	101	100	101
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	104	102	98	92	97	97
4,4'-DDD, 13C12-	104	113	122	85	99	93
4,4'-DDT, 13C12-	110	119	135	80	100	90

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	ccv	ccv	ccv
ALS Sample ID	H6-18-RS1-067	H6-18-CCV-0857	H6-18-CCV-0859
Sample Size	1	1	1
Sample size units	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a
Sample Matrix	QC	QC	QC
Sampling Date	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE		98	101
4,4'-DDE	94	99	100
2,4'-DDD		106	106
4,4'-DDD	94	97	99
2,4'-DDT		105	108
4,4'-DDT	95	99	98
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	100	93	91
4,4'-DDD, 13C12-	104	64	74
4,4'-DDT, 13C12-	104	56	63

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-RB-SS-180807	PDI-RB-SS-180808	PDI-RB-SS-180809	PDI-RB-SS-180806
ALS Sample ID	L2144849-32	L2144849-33	L2144849-34	L2144849-35
Sample Size	0.93	1.02	1.00	0.97
Sample size units	L	L	L	L
Percent Solid	n/a	n/a	n/a	n/a
Sample Matrix	Water	Water	Water	Water
Sampling Date	7-Aug-18	8-Aug-18	9-Aug-18	6-Aug-18
Extraction Date	13-Aug-18	13-Aug-18	13-Aug-18	13-Aug-18
<b>Target Analytes</b>	<b>ng/L</b>	<b>ng/L</b>	<b>ng/L</b>	<b>ng/L</b>
2,4'-DDE	0.729	0.0968	0.0714	0.0943
4,4'-DDE	1.04	0.184	0.131	0.219
2,4'-DDD	<0.35	<0.17	0.102	0.141
4,4'-DDD	0.433	0.265	<0.11	0.132
2,4'-DDT	<0.18	0.166	<0.091	<0.12
4,4'-DDT	1.78	0.608	0.326	0.427
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	7	76	72	45
4,4'-DDD, 13C12-	15	70	67	49
4,4'-DDT, 13C12-	9	68	65	42

# ALS Life sciences

## Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2847435-1	WG2847435-2
Sample Size	1.00	1.00
Sample size units	L	n/a
Percent Solid	n/a	n/a
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	13-Aug-18	13-Aug-18
<b>Target Analytes</b>	<b>ng/L</b>	<b>% Rec</b>
2,4'-DDE	0.0969	111
4,4'-DDE	0.185	101
2,4'-DDD	<0.13	108
4,4'-DDD	0.132	97
2,4'-DDT	<0.16	107
4,4'-DDT	0.391	99
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	59	65
4,4'-DDD, 13C12-	61	68
4,4'-DDT, 13C12-	53	65

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	ccv	ccv	ccv
ALS Sample ID	H6-18-RS1-067	H6-18-CCV-0853	H6-18-CCV-0855
Sample Size	1	1	1
Sample size units	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a
Sample Matrix	QC	QC	QC
Sampling Date	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE	100	100	98
4,4'-DDE	94	100	99
2,4'-DDD	99	99	99
4,4'-DDD	94	101	100
2,4'-DDT	99	99	101
4,4'-DDT	95	100	101
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	100	97	97
4,4'-DDD, 13C12-	104	99	93
4,4'-DDT, 13C12-	104	100	90



# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S213-0T02	Duplicate WG2848060-4	PDI-SC-S213-2T04 L2144849-20	PDI-SC-S191-4T06 L2144849-36	PDI-SC-S191- 6T08.1 L2144849-37	PDI-SC-S192- OT01.5 L2144849-38
ALS Sample ID	L2144849-19	WG2848060-4	L2144849-20	L2144849-36	L2144849-37	L2144849-38
Sample Size	3.51	3.60	3.95	5.58	6.85	2.88
Sample size units	g	g	g	g	g	g
Percent Solid	34.9%	35.1%	38.5%	55.0%	67.7%	28.8%
Sample Matrix	Sediment	QC	Sediment	Sediment	Sediment	Sediment
Sampling Date	9-Aug-18	n/a	9-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18
Extraction Date	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.234	0.280	0.269	1.26	0.268	0.884
4,4'-DDE	3.81	4.56	3.57	17.5	3.20	16.2
2,4'-DDD	0.518	0.613	0.513	4.73	4.55	4.28
4,4'-DDD	1.32	1.83	1.05	11.4	11.2	8.72
2,4'-DDT	<0.29	1.88	<0.32	3.09	0.297	2.73
4,4'-DDT	0.690	5.76	1.20	10.9	0.803	6.15
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	80	83	64	78	77	84
4,4'-DDD, 13C12-	62	63	48	39	35	33
4,4'-DDT, 13C12-	53	52	42	32	31	27

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S192- 1.5TO3	PDI-SC-S192- 3TO4.2	PDI-SC-S198-0TO2	PDI-SC-S198-2TO4	PDI-SC-S198- 2TO4D	PDI-SC-S198-4TO6
ALS Sample ID	L2144849-39	L2144849-40	L2144849-41	L2144849-42	L2144849-43	L2144849-44
Sample Size	4.44	7.69	4.83	5.38	5.39	6.20
Sample size units	g	g	g	g	g	g
Percent Solid	43.5%	76.9%	48.1%	53.7%	53.5%	61.3%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18
Extraction Date	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.504	0.0966	0.755	0.973	1.09	0.247
4,4'-DDE	8.81	1.51	10.2	9.31	9.63	2.66
2,4'-DDD	2.06	0.506	0.841	0.762	0.785	0.346
4,4'-DDD	4.37	1.05	2.17	2.01	2.05	0.854
2,4'-DDT	1.87	0.251	<0.73	0.144	<0.17	0.269
4,4'-DDT	6.28	0.852	2.60	0.425	<0.41	0.914
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	77	75	83	89	84	75
4,4'-DDD, 13C12-	35	38	60	64	60	60
4,4'-DDT, 13C12-	30	33	53	56	51	50

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S198-6TO8	PDI-SC-S198-8TO10	PDI-SC-S198-10TO11.8	PDI-SC-S105-0TO2	PDI-SC-S105-2TO4	PDI-SC-S105-4TO5.6
ALS Sample ID	L2144849-45	L2144849-46	L2144849-47	L2144849-66	L2144849-67	L2144849-68
Sample Size	6.92	6.95	7.49	6.48	7.18	7.21
Sample size units	g	g	g	g	g	g
Percent Solid	68.7%	67.7%	74.8%	64.6%	69.9%	70.4%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18	8-Aug-18
Extraction Date	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18	22-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.0488	<0.017	<0.025	0.285	0.0855	0.0675
4,4'-DDE	0.305	0.0576	0.0582	1.43	<0.24	0.258
2,4'-DDD	<0.082	<0.031	0.0427	5.86	0.842	1.34
4,4'-DDD	0.152	0.0458	<0.041	15.3	2.34	3.05
2,4'-DDT	<0.029	<0.026	<0.039	0.380	<0.11	<0.11
4,4'-DDT	0.284	<0.12	<0.16	0.775	0.451	0.325
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	74	68	67	77	64	79
4,4'-DDD, 13C12-	57	58	57	48	40	51
4,4'-DDT, 13C12-	51	51	52	37	31	37

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S105- 5.6TO6.6	PDI-SC-S191-0T02	PDI-SC-S191-2T04
ALS Sample ID	L2144849-69	L2144849-70	L2144849-71
Sample Size	6.22	4.57	5.89
Sample size units	g	g	g
Percent Solid	61.9%	45.2%	58.4%
Sample Matrix	Sediment	Sediment	Sediment
Sampling Date	8-Aug-18	8-Aug-18	8-Aug-18
Extraction Date	22-Aug-18	22-Aug-18	22-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	1.11	0.264	0.837
4,4'-DDE	7.53	7.21	18.4
2,4'-DDD	30.1	1.54	6.68
4,4'-DDD	71.4	3.87	18.2
2,4'-DDT	<0.52	1.31	11.8
4,4'-DDT	1.28	4.20	43.4
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	66	77	85
4,4'-DDD, 13C12-	49	40	46
4,4'-DDT, 13C12-	29	34	40

# ALS Life sciences

## Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2848060-1	WG2848060-2
Sample Size	5.68	1.00
Sample size units	g	n/a
Percent Solid	100.0%	50.0%
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	22-Aug-18	22-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>% Rec</b>
2,4'-DDE	<0.046	98
4,4'-DDE	0.0789	90
2,4'-DDD	<0.039	104
4,4'-DDD	<0.068	88
2,4'-DDT	<0.049	105
4,4'-DDT	0.291	101
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	67	72
4,4'-DDD, 13C12-	61	63
4,4'-DDT, 13C12-	57	60

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	ccv	ccv	ccv	ccv
ALS Sample ID	H6-18-RS1-067	H6-18-CCV-0855	H6-18-CCV-0857	H6-18-CCV-0859
Sample Size	1	1	1	1
Sample size units	n/a	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE	98	98	98	101
4,4'-DDE	94	99	99	100
2,4'-DDD	99	99	106	106
4,4'-DDD	94	100	97	99
2,4'-DDT	101	101	105	108
4,4'-DDT	95	101	99	98
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	100	97	93	91
4,4'-DDD, 13C12-	104	93	64	74
4,4'-DDT, 13C12-	104	90	56	63

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S213-4TO6	PDI-SC-S213-6TO8	PDI-SC-S213-8TO10	PDI-SC-S213-10TO11.8	PDI-SC-S213-11.8TO12.8	PDI-SC-S098-OTO1.3
ALS Sample ID	L2144849-21	L2144849-22	L2144849-23	L2144849-24	L2144849-25	L2144849-26
Sample Size	4.33	5.05	5.67	5.32	5.45	5.47
Sample size units	g	g	g	g	g	g
Percent Solid	42.7%	50.3%	55.4%	52.6%	53.9%	53.5%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	9-Aug-18	9-Aug-18	9-Aug-18	9-Aug-18	9-Aug-18	9-Aug-18
Extraction Date	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.476	0.663	1.20	1.02	0.562	0.418
4,4'-DDE	6.15	9.28	13.4	10.2	4.66	4.74
2,4'-DDD	0.783	1.54	1.66	2.49	2.30	2.90
4,4'-DDD	2.05	4.80	6.35	6.83	4.57	8.65
2,4'-DDT	0.229	0.185	<0.11	0.186	<0.041	0.251
4,4'-DDT	0.771	0.949	0.510	0.402	0.258	0.649
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	80	81	92	80	84	81
4,4'-DDD, 13C12-	54	53	49	49	51	50
4,4'-DDT, 13C12-	45	43	38	37	37	39

# ALS Life sciences

## Sample Analysis summary Report

Sample Name	PDI-SC-S098- 1.3T03.3	PDI-SC-S098- 3.3T05.3	PDI-SC-S098- 3.3T05.3D	PDI-SC-S098- 5.3T07.2	PDI-SC-S098- 7.2T08.2
ALS Sample ID	L2144849-27	L2144849-28	L2144849-29	L2144849-30	L2144849-31
Sample Size	8.24	7.86	7.73	7.37	7.35
Sample size units	g	g	g	g	g
Percent Solid	80.7%	77.2%	75.6%	71.7%	71.7%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	9-Aug-18	9-Aug-18	9-Aug-18	9-Aug-18	9-Aug-18
Extraction Date	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>	<b>ng/g</b>
2,4'-DDE	0.204	<0.0095	<0.0075	0.0276	<0.011
4,4'-DDE	0.650	<0.026	0.0263	<0.046	<0.022
2,4'-DDD	1.13	<0.017	<0.014	0.0631	0.0458
4,4'-DDD	2.49	<0.031	0.0424	0.0783	0.0597
2,4'-DDT	<0.021	<0.031	<0.025	<0.077	<0.033
4,4'-DDT	0.112	<0.096	0.130	0.274	<0.14
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	75	71	70	56	68
4,4'-DDD, 13C12-	47	45	46	41	47
4,4'-DDT, 13C12-	39	38	39	33	40



# ALS Life sciences

## Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	WG2848066-1	WG2848066-2
Sample Size	6.07	1.00
Sample size units	g	n/a
Percent Solid	100.0%	50.2%
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	23-Aug-18	23-Aug-18
<b>Target Analytes</b>	<b>ng/g</b>	<b>% Rec</b>
2,4'-DDE	0.0337	107
4,4'-DDE	0.0742	99
2,4'-DDD	<0.078	112
4,4'-DDD	0.115	96
2,4'-DDT	<0.028	100
4,4'-DDT	0.299	95
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	68	68
4,4'-DDD, 13C12-	50	47
4,4'-DDT, 13C12-	43	42

# ALS Life sciences

## Continuing Calibration Summary Report

Sample Name	ccv	ccv	ccv
ALS Sample ID	H6-18-RS1-067	H6-18-CCV-0857	H6-18-CCV-0859
Sample Size	1	1	1
Sample size units	n/a	n/a	n/a
Percent Solid	n/a	n/a	n/a
Sample Matrix	QC	QC	QC
Sampling Date	n/a	n/a	n/a
Extraction Date	n/a	n/a	n/a
<b>Target Analytes</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
2,4'-DDE		98	101
4,4'-DDE	94	99	100
2,4'-DDD		106	106
4,4'-DDD	94	97	99
2,4'-DDT		105	108
4,4'-DDT	95	99	98
<b>Extraction Standards</b>	<b>% Rec</b>	<b>% Rec</b>	<b>% Rec</b>
4,4'-DDE, 13C12-	100	93	91
4,4'-DDD, 13C12-	104	64	74
4,4'-DDT, 13C12-	104	56	63

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-5TO7.2D  
 ALS Sample ID L2144849-1  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 8.03 g  
 Percent Solid 80.2%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A14  
 Run Date 28-Aug-18 22:15  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.661	0.0075	J		1.3
4,4'-DDE	11.42	23.8	0.0088			1.3
2,4'-DDD	11.59	1.46	0.014			1.3
4,4'-DDD	12.10	4.42	0.023	M		1.3
2,4'-DDT	12.15	<0.040	0.024	M,J,R	0.040	1.3
4,4'-DDT	12.59	0.102	0.047	J,B		1.3
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	70	21-125		
4,4'-DDD, 13C12-	125	12.09	57	5-150		
4,4'-DDT, 13C12-	125	12.59	52	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-5TO7.2D Duplicate  
 ALS Sample ID WG2845105-4  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix QC

Sampling Date n/a  
 Extraction Date 20-Aug-18  
 Sample Size 8.06 g  
 Percent Solid 80.2%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A15  
 Run Date 28-Aug-18 22:35  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.401	0.010	J	1.3	
4,4'-DDE	11.42	10.4	0.012	M	1.3	
2,4'-DDD	11.59	0.650	0.017	J	1.3	
4,4'-DDD	12.09	1.55	0.024	M	1.3	
2,4'-DDT	12.15	<0.049	0.025	M,J,R	0.049	1.3
4,4'-DDT	12.59	0.0981	0.044	M,J,B	1.3	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	59	21-125		
4,4'-DDD, 13C12-	125	12.09	58	5-150		
4,4'-DDT, 13C12-	125	12.58	55	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-7.2TO9.2  
 ALS Sample ID L2144849-2  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 6.00 g  
 Percent Solid 59.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A26  
 Run Date 30-Aug-18 18:04  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.86	0.0832	0.025	M,J	1.7	
4,4'-DDE	11.40	0.184	0.032	M,J	1.7	
2,4'-DDD	NotFnd	<0.040	0.040	U	1.7	
4,4'-DDD	NotFnd	<0.051	0.051	U	1.7	
2,4'-DDT	NotFnd	<0.051	0.051	U	1.7	
4,4'-DDT	12.57	0.332	0.091	J	1.7	
<b>Extraction Standards</b> <b>ng</b>						
4,4'-DDE, 13C12-	125	11.39	52	21-125		
4,4'-DDD, 13C12-	125	12.07	45	5-150		
4,4'-DDT, 13C12-	125	12.57	40	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-9.2TO11.2  
 ALS Sample ID L2144849-3  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 6.75 g  
 Percent Solid 65.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A60  
 Run Date 29-Aug-18 13:43  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.0419	0.0070	J	1.5	1.5
4,4'-DDE	11.42	0.296	0.0083	J	1.5	1.5
2,4'-DDD	11.59	<0.057	0.014	J,R	0.057	1.5
4,4'-DDD	12.09	0.0679	0.019	M,J,B	1.5	1.5
2,4'-DDT	NotFnd	<0.020	0.020	U	1.5	1.5
4,4'-DDT	12.59	0.141	0.029	M,J,B	1.5	1.5
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	68	21-125		
4,4'-DDD, 13C12-	125	12.09	71	5-150		
4,4'-DDT, 13C12-	125	12.58	73	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-11.2TO13.2  
 ALS Sample ID L2144849-4  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 6.88 g  
 Percent Solid 67.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A18  
 Run Date 28-Aug-18 23:36  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.0152	0.0095	M,J		1.5
4,4'-DDE	11.42	0.0669	0.011	M,J		1.5
2,4'-DDD	11.59	0.0375	0.016	M,J,B		1.5
4,4'-DDD	12.10	0.0500	0.022	M,J,B		1.5
2,4'-DDT	NotFnd	<0.023	0.023	U		1.5
4,4'-DDT	12.59	0.149	0.040	M,J,B		1.5
<b>Extraction Standards ng</b>						
4,4'-DDE, 13C12-	125	11.42	57	21-125		
4,4'-DDD, 13C12-	125	12.09	53	5-150		
4,4'-DDT, 13C12-	125	12.59	50	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-13.2TO15.2  
 ALS Sample ID L2144849-5  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 6.40 g  
 Percent Solid 63.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A19  
 Run Date 28-Aug-18 23:56  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	<0.023	0.0091	M,J,R	0.023	1.6
4,4'-DDE	11.41	0.277	0.011	M,J		1.6
2,4'-DDD	11.58	0.0449	0.016	M,J,B		1.6
4,4'-DDD	12.09	0.0809	0.022	M,J		1.6
2,4'-DDT	NotFnd	<0.023	0.023	U		1.6
4,4'-DDT	12.58	<0.075	0.043	M,J,R	0.075	1.6
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	71	21-125		
4,4'-DDD, 13C12-	125	12.08	64	5-150		
4,4'-DDT, 13C12-	125	12.57	63	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S248-0T02  
 ALS Sample ID L2144849-6  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 4.55 g  
 Percent Solid 44.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A20  
 Run Date 29-Aug-18 00:17  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.0759	0.013	M,J	2.2	
4,4'-DDE	11.42	2.10	0.015	M,J	2.2	
2,4'-DDD	11.59	0.300	0.021	M,J	2.2	
4,4'-DDD	12.10	0.987	0.030	J	2.2	
2,4'-DDT	12.16	0.128	0.031	J	2.2	
4,4'-DDT	12.60	0.370	0.050	J	2.2	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.42	74	21-125		
4,4'-DDD, 13C12-	125	12.09	70	5-150		
4,4'-DDT, 13C12-	125	12.59	68	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S248-2TO4  
 ALS Sample ID L2144849-7  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.71 g  
 Percent Solid 56.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A21  
 Run Date 29-Aug-18 00:37  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.123	0.0089	M,J	1.8	
4,4'-DDE	11.42	3.56	0.010	M	1.8	
2,4'-DDD	11.59	3.27	0.015		1.8	
4,4'-DDD	12.09	15.7	0.023	M	1.8	
2,4'-DDT	12.15	0.502	0.023	M,J	1.8	
4,4'-DDT	12.59	2.00	0.040	M	1.8	
<b>Extraction Standards</b> <b>ng</b>						
4,4'-DDE, 13C12-	125	11.41	79	21-125		
4,4'-DDD, 13C12-	125	12.09	73	5-150		
4,4'-DDT, 13C12-	125	12.58	71	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S248-4TO6.2  
 ALS Sample ID L2144849-8  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.80 g  
 Percent Solid 56.8%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A27  
 Run Date 30-Aug-18 18:24  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.0899	0.017	M,J	1.8	1.8
4,4'-DDE	11.40	1.58	0.022	M,J	1.8	1.8
2,4'-DDD	11.57	0.353	0.024	M,J	1.8	1.8
4,4'-DDD	12.08	1.20	0.029	M,J	1.8	1.8
2,4'-DDT	12.13	0.113	0.029	M,J	1.8	1.8
4,4'-DDT	12.57	<0.25	0.050	M,J,R	0.25	1.8
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.39	70	21-125		
4,4'-DDD, 13C12-	125	12.07	61	5-150		
4,4'-DDT, 13C12-	125	12.57	54	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S139-0T02  
 ALS Sample ID L2144849-9  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 4.41 g  
 Percent Solid 43.8%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A39  
 Run Date 29-Aug-18 06:40  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	3.85	0.023		2.3	
4,4'-DDE	11.41	17.0	0.027	M	2.3	
2,4'-DDD	11.58	103	0.038	M	2.3	
4,4'-DDD	12.08	198	0.028	M	2.3	
2,4'-DDT	12.13	3.22	0.029	M	2.3	
4,4'-DDT	12.58	16.5	0.066	M	2.3	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	33	21-125		
4,4'-DDD, 13C12-	125	12.08	63	5-150		
4,4'-DDT, 13C12-	125	12.57	43	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S139-OTO2 Duplicate  
 ALS Sample ID WG2848035-4  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix QC

Sampling Date n/a  
 Extraction Date 21-Aug-18  
 Sample Size 4.59 g  
 Percent Solid 45.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A40  
 Run Date 29-Aug-18 07:00  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	2.38	0.026			2.2
4,4'-DDE	11.42	13.6	0.030	M		2.2
2,4'-DDD	11.59	45.2	0.038	M		2.2
4,4'-DDD	12.09	94.4	0.025	M		2.2
2,4'-DDT	12.15	3.71	0.026	M		2.2
4,4'-DDT	12.59	96.2	0.062	M		2.2
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	30	21-125		
4,4'-DDD, 13C12-	125	12.09	63	5-150		
4,4'-DDT, 13C12-	125	12.58	43	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S139-2TO4.1  
 ALS Sample ID L2144849-10  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 6.74 g  
 Percent Solid 66.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A41  
 Run Date 29-Aug-18 07:20  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.504	0.058	M,J	1.5	
4,4'-DDE	11.42	2.43	0.068	M	1.5	
2,4'-DDD	11.59	12.6	0.10	M	1.5	
4,4'-DDD	12.10	22.6	0.064	M	1.5	
2,4'-DDT	12.15	<0.85	0.067	M,J,R	0.85	1.5
4,4'-DDT	12.59	37.4	0.17	M	1.5	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	8	21-125		
4,4'-DDD, 13C12-	125	12.09	17	5-150		
4,4'-DDT, 13C12-	125	12.59	11	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S139-4.1T05.9  
 ALS Sample ID L2144849-11  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.84 g  
 Percent Solid 76.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A42  
 Run Date 29-Aug-18 07:40  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	<0.044	0.034	M,J,R	0.044	1.3
4,4'-DDE	11.42	0.115	0.040	M,J,B		1.3
2,4'-DDD	11.59	0.393	0.063	M,J		1.3
4,4'-DDD	12.10	0.682	0.036	M,J		1.3
2,4'-DDT	NotFnd	<0.037	0.037	U		1.3
4,4'-DDT	12.59	0.474	0.10	M,J		1.3
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.41	16	21-125		
4,4'-DDD, 13C12-	125	12.09	37	5-150		
4,4'-DDT, 13C12-	125	12.59	23	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S139-4.1TO5.9D  
 ALS Sample ID L2144849-12  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.74 g  
 Percent Solid 77.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A43  
 Run Date 29-Aug-18 08:01  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC		
	Time	ng/g	ng/g	Flags	ng/g	LQL
2,4'-DDE	10.89	<0.061	0.041	M,J,R	0.061	1.3
4,4'-DDE	11.42	<0.15	0.048	M,J,R	0.15	1.3
2,4'-DDD	11.59	0.448	0.071	M,J		1.3
4,4'-DDD	12.10	0.755	0.050	M,J		1.3
2,4'-DDT	NotFnd	<0.052	0.052	U		1.3
4,4'-DDT	12.59	<0.49	0.13	M,J,R	0.49	1.3
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.41	14	21-125		
4,4'-DDD, 13C12-	125	12.09	27	5-150		
4,4'-DDT, 13C12-	125	12.59	18	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S176-0T02  
 ALS Sample ID L2144849-13  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 5.73 g  
 Percent Solid 55.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A44  
 Run Date 29-Aug-18 08:21  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.575	0.011	J		1.8
4,4'-DDE	11.41	3.98	0.013	M		1.8
2,4'-DDD	11.58	1.06	0.018	M,J		1.8
4,4'-DDD	12.09	2.72	0.024	M		1.8
2,4'-DDT	NotFnd	<0.025	0.025	U		1.8
4,4'-DDT	12.58	0.138	0.040	M,J,B		1.8
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	72	21-125		
4,4'-DDD, 13C12-	125	12.08	70	5-150		
4,4'-DDT, 13C12-	125	12.58	70	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S176-2TO4  
 ALS Sample ID L2144849-14  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 5.85 g  
 Percent Solid 57.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A45  
 Run Date 29-Aug-18 08:41  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.762	0.070	M,J	1.7	1.7
4,4'-DDE	11.42	4.28	0.082		1.7	1.7
2,4'-DDD	11.59	3.54	0.11	M	1.7	1.7
4,4'-DDD	12.09	6.40	0.078	M	1.7	1.7
2,4'-DDT	NotFnd	<0.081	0.081	U	1.7	1.7
4,4'-DDT	12.59	0.510	0.19	M,J	1.7	1.7
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	9	21-125		
4,4'-DDD, 13C12-	125	12.09	18	5-150		
4,4'-DDT, 13C12-	125	12.58	11	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S176-4TO5.5  
 ALS Sample ID L2144849-15  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 6.83 g  
 Percent Solid 66.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A46  
 Run Date 29-Aug-18 09:01  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.88	0.0374	0.0079	M,J,B	1.5
4,4'-DDE	11.41	0.274	0.0093	M,J,B	1.5
2,4'-DDD	11.58	0.140	0.013	M,J	1.5
4,4'-DDD	12.09	0.256	0.019	M,J	1.5
2,4'-DDT	NotFnd	<0.020	0.020	U	1.5
4,4'-DDT	12.59	<0.11	0.028	M,J,R	0.11 1.5
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.41	66	21-125	
4,4'-DDD, 13C12-	125	12.08	64	5-150	
4,4'-DDT, 13C12-	125	12.58	68	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S176-5.5TO7.5  
 ALS Sample ID L2144849-16  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.35 g  
 Percent Solid 73.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A47  
 Run Date 29-Aug-18 09:21  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.0312	0.019	M,J,B		1.4
4,4'-DDE	11.42	0.0984	0.022	M,J,B		1.4
2,4'-DDD	11.59	0.0738	0.030	M,J		1.4
4,4'-DDD	12.09	0.155	0.020	M,J		1.4
2,4'-DDT	NotFnd	<0.021	0.021	U		1.4
4,4'-DDT	12.59	<0.084	0.049	M,J,R	0.084	1.4
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	25	21-125		
4,4'-DDD, 13C12-	125	12.09	49	5-150		
4,4'-DDT, 13C12-	125	12.58	36	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S176-7.5TO9.6  
 ALS Sample ID L2144849-17  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.31 g  
 Percent Solid 71.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A48  
 Run Date 29-Aug-18 09:41  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	NotFnd	<0.023	0.023	U	1.4
4,4'-DDE	11.42	0.0873	0.027	M,J,B	1.4
2,4'-DDD	NotFnd	<0.038	0.038	U	1.4
4,4'-DDD	NotFnd	<0.025	0.025	U	1.4
2,4'-DDT	NotFnd	<0.026	0.026	U	1.4
4,4'-DDT	12.59	0.259	0.061	M,J,B	1.4
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.41	23	21-125	
4,4'-DDD, 13C12-	125	12.09	46	5-150	
4,4'-DDT, 13C12-	125	12.59	33	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S188-OTO1.5  
 ALS Sample ID L2144849-18  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 3.86 g  
 Percent Solid 38.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A49  
 Run Date 29-Aug-18 10:01  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.266	0.018	J	2.6	
4,4'-DDE	11.42	7.43	0.021	M	2.6	
2,4'-DDD	11.59	0.618	0.030	M,J	2.6	
4,4'-DDD	12.10	1.42	0.035	M,J	2.6	
2,4'-DDT	12.15	0.623	0.036	M,J	2.6	
4,4'-DDT	12.59	1.41	0.059	M,J	2.6	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	58	21-125		
4,4'-DDD, 13C12-	125	12.09	65	5-150		
4,4'-DDT, 13C12-	125	12.59	72	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-0T02  
 ALS Sample ID L2144849-19  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 3.51 g  
 Percent Solid 34.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A37  
 Run Date 30-Aug-18 21:44  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.88	0.234	0.027	M,J	2.9
4,4'-DDE	11.41	3.81	0.034	M	2.9
2,4'-DDD	11.58	0.518	0.038	M,J	2.9
4,4'-DDD	12.09	1.32	0.052	M,J	2.9
2,4'-DDT	12.14	<0.29	0.052	M,J,R	0.29
4,4'-DDT	12.58	0.690	0.089	M,J,B	2.9
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.40	80	21-125	
4,4'-DDD, 13C12-	125	12.08	62	5-150	
4,4'-DDT, 13C12-	125	12.58	53	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

<b>Sample Name</b>	<b>Duplicate</b>	Sampling Date	n/a	
ALS Sample ID	WG2848060-4	Extraction Date	22-Aug-18	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	3.60 g	
Analysis Type	Sample	Percent Solid	35.1%	
Sample Matrix	QC	Split Ratio	1	

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A38
Run Date	30-Aug-18 22:05
Final Volume	1020 uL
Dilution Factor	5
Analysis Units	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.280	0.025	M,J	2.8	
4,4'-DDE	11.40	4.56	0.032	M	2.8	
2,4'-DDD	11.57	0.613	0.037	J	2.8	
4,4'-DDD	12.08	1.83	0.056	J	2.8	
2,4'-DDT	12.14	1.88	0.056	J	2.8	
4,4'-DDT	12.58	5.76	0.092		2.8	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	83	21-125		
4,4'-DDD, 13C12-	125	12.08	63	5-150		
4,4'-DDT, 13C12-	125	12.57	52	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M Indicates that a peak has been manually integrated.

J indicates that a target analyte was detected below the calibrated range.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-2TO4  
 ALS Sample ID L2144849-20  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 3.95 g  
 Percent Solid 38.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A39  
 Run Date 30-Aug-18 22:25  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.269	0.034	M,J	2.6	
4,4'-DDE	11.41	3.57	0.043	M	2.6	
2,4'-DDD	11.58	0.513	0.049	J	2.6	
4,4'-DDD	12.09	1.05	0.070	M,J	2.6	
2,4'-DDT	12.14	<0.32	0.070	M,J,R	0.32	2.6
4,4'-DDT	12.59	1.20	0.12	M,J,B	2.6	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	64	21-125		
4,4'-DDD, 13C12-	125	12.08	48	5-150		
4,4'-DDT, 13C12-	125	12.58	42	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-4TO6  
 ALS Sample ID L2144849-21  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 4.33 g  
 Percent Solid 42.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A66  
 Run Date 31-Aug-18 07:28  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.87	0.476	0.014	M,J	2.3
4,4'-DDE	11.40	6.15	0.019	M	2.3
2,4'-DDD	11.57	0.783	0.027	M,J	2.3
4,4'-DDD	12.08	2.05	0.044	M,J	2.3
2,4'-DDT	12.13	0.229	0.044	M,J	2.3
4,4'-DDT	12.57	0.771	0.087	M,J,B	2.3
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	80	21-125	
4,4'-DDD, 13C12-	125	12.07	54	5-150	
4,4'-DDT, 13C12-	125	12.57	45	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-6TO8  
 ALS Sample ID L2144849-22  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 5.05 g  
 Percent Solid 50.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A67  
 Run Date 31-Aug-18 07:48  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.663	0.012	J	2.0	
4,4'-DDE	11.40	9.28	0.015	M	2.0	
2,4'-DDD	11.57	1.54	0.021	J	2.0	
4,4'-DDD	12.08	4.80	0.035	M	2.0	
2,4'-DDT	12.13	0.185	0.035	M,J	2.0	
4,4'-DDT	12.57	0.949	0.065	M,J,B	2.0	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.39	81	21-125		
4,4'-DDD, 13C12-	125	12.07	53	5-150		
4,4'-DDT, 13C12-	125	12.57	43	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-8TO10  
 ALS Sample ID L2144849-23  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 5.67 g  
 Percent Solid 55.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A68  
 Run Date 31-Aug-18 08:08  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	1.20	0.0094	M,J	1.8	1.8
4,4'-DDE	11.41	13.4	0.012	M	1.8	1.8
2,4'-DDD	11.58	1.66	0.019	M,J	1.8	1.8
4,4'-DDD	12.08	6.35	0.038	M	1.8	1.8
2,4'-DDT	12.14	<0.11	0.038	M,J,R	0.11	1.8
4,4'-DDT	12.58	0.510	0.081	M,J,B	1.8	1.8
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	92	21-125		
4,4'-DDD, 13C12-	125	12.08	49	5-150		
4,4'-DDT, 13C12-	125	12.57	38	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-10T011.8  
 ALS Sample ID L2144849-24  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 5.32 g  
 Percent Solid 52.6%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A69  
 Run Date 31-Aug-18 08:28  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	1.02	0.015	J	1.9	
4,4'-DDE	11.40	10.2	0.019	M	1.9	
2,4'-DDD	11.57	2.49	0.028	M	1.9	
4,4'-DDD	12.08	6.83	0.052	M	1.9	
2,4'-DDT	12.14	0.186	0.052	M,J	1.9	
4,4'-DDT	12.58	0.402	0.096	M,J,B	1.9	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	80	21-125		
4,4'-DDD, 13C12-	125	12.07	49	5-150		
4,4'-DDT, 13C12-	125	12.57	37	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S213-11.8TO12.8  
 ALS Sample ID L2144849-25  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 5.45 g  
 Percent Solid 53.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A70  
 Run Date 31-Aug-18 08:48  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.562	0.012	J	1.8	1.8
4,4'-DDE	11.40	4.66	0.016	M	1.8	1.8
2,4'-DDD	11.58	2.30	0.022	M	1.8	1.8
4,4'-DDD	12.08	4.57	0.041	M	1.8	1.8
2,4'-DDT	NotFnd	<0.041	0.041	U	1.8	1.8
4,4'-DDT	12.58	0.258	0.088	M,J,B	1.8	1.8
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	84	21-125		
4,4'-DDD, 13C12-	125	12.08	51	5-150		
4,4'-DDT, 13C12-	125	12.57	37	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-OTO1.3  
 ALS Sample ID L2144849-26  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 5.47 g  
 Percent Solid 53.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A71  
 Run Date 31-Aug-18 09:08  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.418	0.0095	J	1.8	1.8
4,4'-DDE	11.40	4.74	0.012	M	1.8	1.8
2,4'-DDD	11.58	2.90	0.017		1.8	1.8
4,4'-DDD	12.08	8.65	0.030	M	1.8	1.8
2,4'-DDT	12.14	0.251	0.030	M,J	1.8	1.8
4,4'-DDT	12.58	0.649	0.058	M,J,B	1.8	1.8
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	81	21-125		
4,4'-DDD, 13C12-	125	12.08	50	5-150		
4,4'-DDT, 13C12-	125	12.57	39	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-1.3TO3.3  
 ALS Sample ID L2144849-27  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 8.24 g  
 Percent Solid 80.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A72  
 Run Date 31-Aug-18 09:28  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.87	0.204	0.0064	M,J,B	1.2
4,4'-DDE	11.40	0.650	0.0084	J,B	1.2
2,4'-DDD	11.57	1.13	0.012	M,J	1.2
4,4'-DDD	12.08	2.49	0.021	M	1.2
2,4'-DDT	NotFnd	<0.021	0.021	U	1.2
4,4'-DDT	12.57	0.112	0.038	M,J,B	1.2
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	75	21-125	
4,4'-DDD, 13C12-	125	12.07	47	5-150	
4,4'-DDT, 13C12-	125	12.57	39	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-3.3T05.3  
 ALS Sample ID L2144849-28  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 7.86 g  
 Percent Solid 77.2%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A73  
 Run Date 31-Aug-18 09:51  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC		LQL
	Time	ng/g	ng/g	Flags	ng/g	
2,4'-DDE	NotFnd	<0.0095	0.0095	U		1.3
4,4'-DDE	11.40	<0.026	0.012	M,J,R	0.026	1.3
2,4'-DDD	NotFnd	<0.017	0.017	U		1.3
4,4'-DDD	NotFnd	<0.031	0.031	U		1.3
2,4'-DDT	NotFnd	<0.031	0.031	U		1.3
4,4'-DDT	12.57	<0.096	0.051	M,J,R	0.096	1.3
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.39	71	21-125		
4,4'-DDD, 13C12-	125	12.07	45	5-150		
4,4'-DDT, 13C12-	125	12.57	38	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-3.3T05.3D  
 ALS Sample ID L2144849-29  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 7.73 g  
 Percent Solid 75.6%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A74  
 Run Date 31-Aug-18 10:08  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags	
2,4'-DDE	10.87	<0.0075	0.0075	M,U 0.0062	1.3
4,4'-DDE	11.40	0.0263	0.0097	M,J,B	1.3
2,4'-DDD	NotFnd	<0.014	0.014	U	1.3
4,4'-DDD	12.08	0.0424	0.025	M,J,B	1.3
2,4'-DDT	NotFnd	<0.025	0.025	U	1.3
4,4'-DDT	12.58	0.130	0.040	M,J,B	1.3
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.40	70	21-125	
4,4'-DDD, 13C12-	125	12.08	46	5-150	
4,4'-DDT, 13C12-	125	12.57	39	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-5.3TO7.2  
 ALS Sample ID L2144849-30  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 7.37 g  
 Percent Solid 71.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A75  
 Run Date 31-Aug-18 10:29  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.0276	0.014	M,J,B		1.4
4,4'-DDE	11.40	<0.046	0.018	M,J,R	0.046	1.4
2,4'-DDD	11.57	0.0631	0.021	M,J		1.4
4,4'-DDD	12.08	0.0783	0.033	M,J,B		1.4
2,4'-DDT	12.14	<0.077	0.033	M,J,R	0.077	1.4
4,4'-DDT	12.58	0.274	0.053	M,J,B		1.4
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.39	56	21-125		
4,4'-DDD, 13C12-	125	12.07	41	5-150		
4,4'-DDT, 13C12-	125	12.57	33	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S098-7.2T08.2  
 ALS Sample ID L2144849-31  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 9-Aug-18  
 Extraction Date 23-Aug-18  
 Sample Size 7.35 g  
 Percent Solid 71.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A76  
 Run Date 31-Aug-18 10:49  
 Final Volume 1000 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC		LQL
	Time	ng/g	ng/g	Flags	ng/g	
2,4'-DDE	NotFnd	<0.011	0.011	U		1.4
4,4'-DDE	11.40	<0.022	0.014	M,J,R	0.022	1.4
2,4'-DDD	11.57	0.0458	0.020	M,J		1.4
4,4'-DDD	12.08	0.0597	0.033	M,J,B		1.4
2,4'-DDT	NotFnd	<0.033	0.033	U		1.4
4,4'-DDT	12.57	<0.14	0.052	M,J,R	0.14	1.4
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.39	68	21-125		
4,4'-DDD, 13C12-	125	12.07	47	5-150		
4,4'-DDT, 13C12-	125	12.57	40	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-RB-SS-180807  
 ALS Sample ID L2144849-32  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Water

Sampling Date 7-Aug-18  
 Extraction Date 13-Aug-18  
 Sample Size 0.93 L  
 Percent Solid n/a  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A22  
 Run Date 30-Aug-18 16:43  
 Final Volume 1020 uL  
 Dilution Factor 1  
 Analysis Units ng/L  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/L	EDL ng/L	Flags	EMPC ng/L	LQL
2,4'-DDE	10.88	0.729	0.16	M,J,B	2.2	
4,4'-DDE	11.41	1.04	0.21	M,J,B	2.2	
2,4'-DDD	NotFnd	<0.35	0.35	U	2.2	
4,4'-DDD	12.09	0.433	0.18	M,J,B	2.2	
2,4'-DDT	NotFnd	<0.18	0.18	U	2.2	
4,4'-DDT	12.58	1.78	0.50	M,J,B	2.2	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	7	21-125		
4,4'-DDD, 13C12-	125	12.08	15	5-150		
4,4'-DDT, 13C12-	125	12.58	9	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-RB-SS-180808  
 ALS Sample ID L2144849-33  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Water

Sampling Date 8-Aug-18  
 Extraction Date 13-Aug-18  
 Sample Size 1.02 L  
 Percent Solid n/a  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A23  
 Run Date 30-Aug-18 17:03  
 Final Volume 1020 uL  
 Dilution Factor 1  
 Analysis Units ng/L  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/L	EDL ng/L	Flags	EMPC ng/L	LQL
2,4'-DDE	10.88	0.0968	0.014	M,J,B	2.0	
4,4'-DDE	11.41	0.184	0.018	M,J,B	2.0	
2,4'-DDD	11.58	<0.17	0.024	M,J,R	0.17	2.0
4,4'-DDD	12.09	0.265	0.028	J,B	2.0	
2,4'-DDT	12.14	0.166	0.028	J	2.0	
4,4'-DDT	12.58	0.608	0.044	J,B	2.0	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	76	21-125		
4,4'-DDD, 13C12-	125	12.08	70	5-150		
4,4'-DDT, 13C12-	125	12.58	68	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-RB-SS-180809  
 ALS Sample ID L2144849-34  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Water

Sampling Date 9-Aug-18  
 Extraction Date 13-Aug-18  
 Sample Size 1 L  
 Percent Solid n/a  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A24  
 Run Date 30-Aug-18 17:24  
 Final Volume 1020 uL  
 Dilution Factor 1  
 Analysis Units ng/L  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/L	ng/L	Flags	LQL
2,4'-DDE	10.88	0.0714	0.017	M,J,B	2.0
4,4'-DDE	11.41	0.131	0.022	M,J,B	2.0
2,4'-DDD	11.58	0.102	0.029	M,J	2.0
4,4'-DDD	12.09	<0.11	0.033	M,J,R	0.11 2.0
2,4'-DDT	12.14	<0.091	0.033	M,J,R	0.091 2.0
4,4'-DDT	12.59	0.326	0.049	M,J,B	2.0
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.40	72	21-125	
4,4'-DDD, 13C12-	125	12.08	67	5-150	
4,4'-DDT, 13C12-	125	12.58	65	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-RB-SS-180806  
 ALS Sample ID L2144849-35  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Water

Sampling Date 6-Aug-18  
 Extraction Date 13-Aug-18  
 Sample Size 0.97 L  
 Percent Solid n/a  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A25  
 Run Date 30-Aug-18 17:44  
 Final Volume 1020 uL  
 Dilution Factor 1  
 Analysis Units ng/L  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/L	EDL ng/L	Flags	EMPC ng/L	LQL
2,4'-DDE	10.88	0.0943	0.027	M,J,B	2.1	
4,4'-DDE	11.41	0.219	0.035	M,J,B	2.1	
2,4'-DDD	11.58	0.141	0.040	M,J	2.1	
4,4'-DDD	12.09	0.132	0.038	M,J,B	2.1	
2,4'-DDT	12.14	<0.12	0.038	M,J,R	0.12	2.1
4,4'-DDT	12.58	0.427	0.069	M,J,B	2.1	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	45	21-125		
4,4'-DDD, 13C12-	125	12.08	49	5-150		
4,4'-DDT, 13C12-	125	12.58	42	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S191-4TO6  
 ALS Sample ID L2144849-36  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 5.58 g  
 Percent Solid 55.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A81  
 Run Date 31-Aug-18 12:29  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	1.26	0.031	M,J		1.8
4,4'-DDE	11.40	17.5	0.040	M		1.8
2,4'-DDD	11.57	4.73	0.051			1.8
4,4'-DDD	12.08	11.4	0.11			1.8
2,4'-DDT	12.13	3.09	0.11			1.8
4,4'-DDT	12.57	10.9	0.23			1.8
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.39	78	21-125		
4,4'-DDD, 13C12-	125	12.07	39	5-150		
4,4'-DDT, 13C12-	125	12.57	32	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S191-6TO8.1  
 ALS Sample ID L2144849-37  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.85 g  
 Percent Solid 67.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A52  
 Run Date 31-Aug-18 02:46  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	LQL
2,4'-DDE	10.87	0.268	0.016	J	1.5
4,4'-DDE	11.40	3.20	0.021	M	1.5
2,4'-DDD	11.57	4.55	0.027		1.5
4,4'-DDD	12.08	11.2	0.064	M	1.5
2,4'-DDT	12.13	0.297	0.064	M,J	1.5
4,4'-DDT	12.57	0.803	0.12	J,B	1.5
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	77	21-125	
4,4'-DDD, 13C12-	125	12.07	35	5-150	
4,4'-DDT, 13C12-	125	12.57	31	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S192-OTO1.5  
 ALS Sample ID L2144849-38  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 2.88 g  
 Percent Solid 28.8%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A53  
 Run Date 31-Aug-18 03:06  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	LQL
2,4'-DDE	10.88	0.884	0.046	J	3.5
4,4'-DDE	11.41	16.2	0.060	M	3.5
2,4'-DDD	11.58	4.28	0.079	M	3.5
4,4'-DDD	12.09	8.72	0.21	M	3.5
2,4'-DDT	12.15	2.73	0.21	M,J	3.5
4,4'-DDT	12.58	6.15	0.38	M	3.5
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.40	84	21-125	
4,4'-DDD, 13C12-	125	12.08	33	5-150	
4,4'-DDT, 13C12-	125	12.58	27	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S192-1.5TO3  
 ALS Sample ID L2144849-39  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 4.44 g  
 Percent Solid 43.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A54  
 Run Date 31-Aug-18 03:26  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.504	0.028	M,J	2.3	
4,4'-DDE	11.41	8.81	0.036	M	2.3	
2,4'-DDD	11.58	2.06	0.050	J	2.3	
4,4'-DDD	12.09	4.37	0.12		2.3	
2,4'-DDT	12.14	1.87	0.12	J	2.3	
4,4'-DDT	12.58	6.28	0.22	M	2.3	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	77	21-125		
4,4'-DDD, 13C12-	125	12.08	35	5-150		
4,4'-DDT, 13C12-	125	12.58	30	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S192-3TO4.2  
 ALS Sample ID L2144849-40  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 7.69 g  
 Percent Solid 76.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A55  
 Run Date 31-Aug-18 03:46  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	LQL
2,4'-DDE	10.86	0.0966	0.017	M,J	1.3
4,4'-DDE	11.40	1.51	0.022	M	1.3
2,4'-DDD	11.57	0.506	0.034	M,J	1.3
4,4'-DDD	12.07	1.05	0.072	M,J	1.3
2,4'-DDT	12.13	0.251	0.072	M,J	1.3
4,4'-DDT	12.57	0.852	0.13	M,J,B	1.3
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	75	21-125	
4,4'-DDD, 13C12-	125	12.07	38	5-150	
4,4'-DDT, 13C12-	125	12.57	33	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-OTO2  
 ALS Sample ID L2144849-41  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 4.83 g  
 Percent Solid 48.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A40  
 Run Date 30-Aug-18 22:45  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.87	0.755	0.027	M,J	2.1
4,4'-DDE	11.40	10.2	0.034	M	2.1
2,4'-DDD	11.57	0.841	0.044	M,J	2.1
4,4'-DDD	12.08	2.17	0.067	M	2.1
2,4'-DDT	12.13	<0.73	0.067	M,J,R	0.73
4,4'-DDT	12.57	2.60	0.12	M,B	2.1
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	83	21-125	
4,4'-DDD, 13C12-	125	12.07	60	5-150	
4,4'-DDT, 13C12-	125	12.57	53	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-2TO4  
 ALS Sample ID L2144849-42  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 5.38 g  
 Percent Solid 53.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A41  
 Run Date 30-Aug-18 23:05  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.87	0.973	0.013	M,J	1.9
4,4'-DDE	11.40	9.31	0.017	M	1.9
2,4'-DDD	11.57	0.762	0.022	M,J	1.9
4,4'-DDD	12.08	2.01	0.033	M	1.9
2,4'-DDT	12.13	0.144	0.033	M,J	1.9
4,4'-DDT	12.57	0.425	0.060	M,J,B	1.9
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	89	21-125	
4,4'-DDD, 13C12-	125	12.07	64	5-150	
4,4'-DDT, 13C12-	125	12.57	56	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-2TO4D  
 ALS Sample ID L2144849-43  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 5.39 g  
 Percent Solid 53.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A42  
 Run Date 30-Aug-18 23:25  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	1.09	0.018	M,J	1.9	
4,4'-DDE	11.40	9.63	0.023	M	1.9	
2,4'-DDD	11.57	0.785	0.042	M,J	1.9	
4,4'-DDD	12.08	2.05	0.064		1.9	
2,4'-DDT	12.14	<0.17	0.064	M,J,R	0.17	1.9
4,4'-DDT	12.57	<0.41	0.11	M,J,R	0.41	1.9
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.39	84	21-125		
4,4'-DDD, 13C12-	125	12.07	60	5-150		
4,4'-DDT, 13C12-	125	12.57	51	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-4TO6  
 ALS Sample ID L2144849-44  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.20 g  
 Percent Solid 61.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A43  
 Run Date 30-Aug-18 23:45  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	LQL
2,4'-DDE	10.86	0.247	0.012	M,J	1.6
4,4'-DDE	11.39	2.66	0.016	M	1.6
2,4'-DDD	11.56	0.346	0.020	M,J	1.6
4,4'-DDD	12.07	0.854	0.029	M,J	1.6
2,4'-DDT	12.13	0.269	0.029	M,J	1.6
4,4'-DDT	12.57	0.914	0.050	M,J,B	1.6
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.39	75	21-125	
4,4'-DDD, 13C12-	125	12.07	60	5-150	
4,4'-DDT, 13C12-	125	12.56	50	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-6TO8  
 ALS Sample ID L2144849-45  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.92 g  
 Percent Solid 68.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A44  
 Run Date 31-Aug-18 00:05  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.0488	0.013	M,J		1.5
4,4'-DDE	11.41	0.305	0.016	J,B		1.5
2,4'-DDD	11.58	<0.082	0.021	M,J,R	0.082	1.5
4,4'-DDD	12.09	0.152	0.029	M,J		1.5
2,4'-DDT	NotFnd	<0.029	0.029	U		1.5
4,4'-DDT	12.58	0.284	0.051	M,J,B		1.5
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	74	21-125		
4,4'-DDD, 13C12-	125	12.08	57	5-150		
4,4'-DDT, 13C12-	125	12.58	51	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-8TO10  
 ALS Sample ID L2144849-46  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.95 g  
 Percent Solid 67.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A45  
 Run Date 31-Aug-18 00:25  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	<0.017	0.012	M,J,R	0.017	1.5
4,4'-DDE	11.41	0.0576	0.016	M,J,B		1.5
2,4'-DDD	11.58	<0.031	0.020	M,J,R	0.031	1.5
4,4'-DDD	12.09	0.0458	0.026	M,J		1.5
2,4'-DDT	NotFnd	<0.026	0.026	U		1.5
4,4'-DDT	12.59	<0.12	0.043	M,J,R	0.12	1.5
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	68	21-125		
4,4'-DDD, 13C12-	125	12.08	58	5-150		
4,4'-DDT, 13C12-	125	12.58	51	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S198-10TO11.8  
 ALS Sample ID L2144849-47  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 7.49 g  
 Percent Solid 74.8%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A46  
 Run Date 31-Aug-18 00:45  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC		
	Time	ng/g	ng/g	Flags	ng/g	LQL
2,4'-DDE	10.87	<0.025	0.0088	M,J,R	0.025	1.4
4,4'-DDE	11.40	0.0582	0.011	M,J,B		1.4
2,4'-DDD	11.57	0.0427	0.018	M,J		1.4
4,4'-DDD	12.08	<0.041	0.025	M,J,R	0.041	1.4
2,4'-DDT	12.14	<0.039	0.025	M,J,R	0.039	1.4
4,4'-DDT	12.58	<0.16	0.038	M,J,R	0.16	1.4
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	67	21-125		
4,4'-DDD, 13C12-	125	12.08	57	5-150		
4,4'-DDT, 13C12-	125	12.57	52	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-6TO8  
 ALS Sample ID L2144849-48  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.45 g  
 Percent Solid 54.1%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A24  
 Run Date 29-Aug-18 01:38  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.783	0.0083	M,J		1.9
4,4'-DDE	11.42	13.0	0.0097	M		1.9
2,4'-DDD	11.59	1.45	0.016	M,J		1.9
4,4'-DDD	12.10	3.53	0.021	M		1.9
2,4'-DDT	12.15	<0.10	0.022	M,J,R	0.10	1.9
4,4'-DDT	12.59	0.393	0.035	J		1.9
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.42	71	21-125		
4,4'-DDD, 13C12-	125	12.09	69	5-150		
4,4'-DDT, 13C12-	125	12.59	71	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-10T012  
 ALS Sample ID L2144849-49  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.80 g  
 Percent Solid 57.3%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A25  
 Run Date 29-Aug-18 01:58  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.89	0.160	0.0066	M,J	1.8
4,4'-DDE	11.42	3.96	0.0077	M	1.8
2,4'-DDD	11.59	0.351	0.011	J	1.8
4,4'-DDD	12.10	0.903	0.015	J	1.8
2,4'-DDT	12.15	0.125	0.016	M,J	1.8
4,4'-DDT	12.60	0.433	0.025	M,J	1.8
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.42	79	21-125	
4,4'-DDD, 13C12-	125	12.09	71	5-150	
4,4'-DDT, 13C12-	125	12.59	72	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-8TO10  
 ALS Sample ID L2144849-50  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.35 g  
 Percent Solid 53.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A26  
 Run Date 29-Aug-18 02:18  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.222	0.0099	M,J	1.9	
4,4'-DDE	11.42	4.70	0.012	M	1.9	
2,4'-DDD	11.58	0.430	0.015	M,J	1.9	
4,4'-DDD	12.09	1.17	0.023	M,J	1.9	
2,4'-DDT	12.15	0.0610	0.024	M,J	1.9	
4,4'-DDT	12.59	0.235	0.037	J	1.9	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	75	21-125		
4,4'-DDD, 13C12-	125	12.08	69	5-150		
4,4'-DDT, 13C12-	125	12.58	68	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-0T02  
 ALS Sample ID L2144849-51  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 4.99 g  
 Percent Solid 48.6%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A27  
 Run Date 29-Aug-18 02:38  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.142	0.011	J	2.0	
4,4'-DDE	11.42	3.61	0.013	M	2.0	
2,4'-DDD	11.59	0.399	0.017	J	2.0	
4,4'-DDD	12.09	1.24	0.025	J	2.0	
2,4'-DDT	12.15	0.116	0.026	J	2.0	
4,4'-DDT	12.59	0.333	0.041	M,J	2.0	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	77	21-125		
4,4'-DDD, 13C12-	125	12.09	76	5-150		
4,4'-DDT, 13C12-	125	12.58	72	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-2TO4  
 ALS Sample ID L2144849-52  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.43 g  
 Percent Solid 53.2%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A28  
 Run Date 29-Aug-18 02:58  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.258	0.0078	M,J	1.9	
4,4'-DDE	11.42	5.00	0.0091	M	1.9	
2,4'-DDD	11.59	0.505	0.015	M,J	1.9	
4,4'-DDD	12.09	1.39	0.023	M,J	1.9	
2,4'-DDT	12.15	0.125	0.024	M,J	1.9	
4,4'-DDT	12.59	0.313	0.037	M,J	1.9	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	80	21-125		
4,4'-DDD, 13C12-	125	12.09	76	5-150		
4,4'-DDT, 13C12-	125	12.58	75	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-12T014  
 ALS Sample ID L2144849-53  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.89 g  
 Percent Solid 57.7%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A29  
 Run Date 29-Aug-18 03:18  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	LQL
2,4'-DDE	10.88	0.214	0.0053	J	1.7
4,4'-DDE	11.41	5.52	0.0062	M	1.7
2,4'-DDD	11.58	0.567	0.010	M,J	1.7
4,4'-DDD	12.09	1.93	0.014	M	1.7
2,4'-DDT	12.14	0.0796	0.014	M,J	1.7
4,4'-DDT	12.58	0.248	0.023	M,J	1.7
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.41	75	21-125	
4,4'-DDD, 13C12-	125	12.08	71	5-150	
4,4'-DDT, 13C12-	125	12.58	72	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-4TO6  
 ALS Sample ID L2144849-54  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.99 g  
 Percent Solid 58.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A30  
 Run Date 29-Aug-18 03:39  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.221	0.0073	J	1.7	1.7
4,4'-DDE	11.41	5.13	0.0086	M	1.7	1.7
2,4'-DDD	11.58	0.677	0.014	J	1.7	1.7
4,4'-DDD	12.08	2.40	0.019	M	1.7	1.7
2,4'-DDT	12.14	0.116	0.020	M,J	1.7	1.7
4,4'-DDT	12.58	0.307	0.034	J	1.7	1.7
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	77	21-125		
4,4'-DDD, 13C12-	125	12.08	75	5-150		
4,4'-DDT, 13C12-	125	12.57	73	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S226-14T015.8  
 ALS Sample ID L2144849-55  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 6-Aug-18  
 Extraction Date 20-Aug-18  
 Sample Size 5.73 g  
 Percent Solid 56.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A31  
 Run Date 29-Aug-18 03:59  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.410	0.0073	J		1.8
4,4'-DDE	11.42	8.21	0.0086	M		1.8
2,4'-DDD	11.59	0.659	0.014	M,J		1.8
4,4'-DDD	12.09	2.01	0.020	M		1.8
2,4'-DDT	12.15	0.131	0.021	M,J		1.8
4,4'-DDT	12.59	0.423	0.038	M,J		1.8
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	81	21-125		
4,4'-DDD, 13C12-	125	12.09	77	5-150		
4,4'-DDT, 13C12-	125	12.59	75	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-0T02  
 ALS Sample ID L2144849-56  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 4.32 g  
 Percent Solid 42.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Run Information	Run 1	Run 2
Filename	6-180828A61	6-180830A86
Run Date	29-Aug-18 14:03	31-Aug-18 14:10
Final Volume	1020 uL	1020 uL
Dilution Factor	5	40
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags		ng/g	Time	ng/g	ng/g	
2,4'-DDE	10.87	185	0.63	M		10.87	185	0.63	M	19
4,4'-DDE	11.41	2470	0.82	M		11.41	2470	0.82	M	19
2,4'-DDD	11.58	350	1.2			11.58	350	1.2		19
4,4'-DDD	12.08	293	1.2	M		12.08	293	1.2	M	19
2,4'-DDT	12.12	6.28	1.2	M,J		12.12	6.28	1.2	M,J	19
4,4'-DDT	12.58	9.76	3.1	J		12.58	9.76	3.1	J	19
<b>Extraction Standards</b>	<b>ng</b>									
4,4'-DDE, 13C12-	125		21-125			11.40	24			
4,4'-DDD, 13C12-	125		5-150			12.08	28			
4,4'-DDT, 13C12-	125		5-120			12.57	17			

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-2TO4  
 ALS Sample ID L2144849-57  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 5.92 g  
 Percent Solid 58.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Run Information	Run 1	Run 2
Filename	6-180828A62	6-180830A85
Run Date	29-Aug-18 14:23	31-Aug-18 13:50
Final Volume	1020 uL	1020 uL
Dilution Factor	5	40
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags		ng/g	Time	ng/g	ng/g	
2,4'-DDE	10.86	25.8	1.0	M	14					
4,4'-DDE	11.39	514	1.3	M	14					
2,4'-DDD	11.57	70.0	1.9		14					
4,4'-DDD	12.07	99.2	1.5	M	14					
2,4'-DDT	12.13	<1.8	1.5	M,J,R	1.8	14				
4,4'-DDT	NotFnd	<4.5	4.5	U	14					
<b>Extraction Standards</b>	<b>ng</b>									
4,4'-DDE, 13C12-	125		21-125			11.39	12			
4,4'-DDD, 13C12-	125		5-150			12.07	18			
4,4'-DDT, 13C12-	125		5-120			12.56	9			

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-4TO5  
 ALS Sample ID L2144849-58  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 6.11 g  
 Percent Solid 60.0%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Run Information	Run 1	Run 2
Filename	6-180828A63	6-180830A87
Run Date	29-Aug-18 14:43	31-Aug-18 14:30
Final Volume	1020 uL	1020 uL
Dilution Factor	5	40
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags		ng/g	Time	ng/g	ng/g	
2,4'-DDE	10.87	37.6	0.21			10.87	37.6	0.21		13
4,4'-DDE	11.40	2080	0.28			11.40	2080	0.28	M	13
2,4'-DDD	11.57	106	0.39			11.57	106	0.39		13
4,4'-DDD	12.08	286	0.64			12.08	286	0.64	M	13
2,4'-DDT	12.12	<2.4	0.64	M,J,R	2.4	12.12	<2.4	0.64	M,J,R	13
4,4'-DDT	12.58	7.08	1.1			12.58	7.08	1.1	J	13
<b>Extraction Standards</b>	<b>ng</b>									
4,4'-DDE, 13C12-	125		21-125			11.40	60			
4,4'-DDD, 13C12-	125		5-150			12.07	40			
4,4'-DDT, 13C12-	125		5-120			12.57	33			

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S222-5TO7.2  
 ALS Sample ID L2144849-59  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.85 g  
 Percent Solid 77.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A51  
 Run Date 29-Aug-18 10:41  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.418	0.025	M,J	1.3	
4,4'-DDE	11.42	10.8	0.029	M	1.3	
2,4'-DDD	11.59	0.670	0.048	M,J	1.3	
4,4'-DDD	12.09	1.49	0.037	M	1.3	
2,4'-DDT	NotFnd	<0.038	0.038	U	1.3	
4,4'-DDT	NotFnd	<0.069	0.069	U	1.3	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	15	21-125		
4,4'-DDD, 13C12-	125	12.09	28	5-150		
4,4'-DDT, 13C12-	125	12.58	24	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S117-OTO2  
 ALS Sample ID L2144849-60  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 6.37 g  
 Percent Solid 62.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Run Information	Run 1	Run 2
Filename	6-180828A64	6-180830A82
Run Date	29-Aug-18 15:04	31-Aug-18 12:50
Final Volume	1020 uL	1020 uL
Dilution Factor	5	20
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags		ng/g	Time	ng/g	ng/g	
2,4'-DDE						10.86	4.74	0.12	M,J	6.4
4,4'-DDE						11.40	22.7	0.16	M	6.4
2,4'-DDD						11.57	61.0	0.16		6.4
4,4'-DDD						12.07	148	0.34	M	6.4
2,4'-DDT						12.12	1.82	0.35	M,J	6.4
4,4'-DDT						12.57	3.43	0.68	J	6.4
<b>Extraction Standards</b>	<b>ng</b>									
4,4'-DDE, 13C12-	125		21-125			11.39	65			
4,4'-DDD, 13C12-	125		5-150			12.07	34			
4,4'-DDT, 13C12-	125		5-120			12.56	28			

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S117-2TO4  
 ALS Sample ID L2144849-61  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 6.18 g  
 Percent Solid 60.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Run Information	Run 1	Run 2
Filename	6-180828A65	6-180830A83
Run Date	29-Aug-18 15:24	31-Aug-18 13:10
Final Volume	1020 uL	1020 uL
Dilution Factor	5	20
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	LQL	Ret.	Conc.	EDL	EMPC	LQL
	Time	ng/g	ng/g	Flags		ng/g	Time	ng/g	ng/g	
2,4'-DDE	10.87	14.7	0.52	M		10.87	14.7	0.52	M	6.6
4,4'-DDE	11.41	54.4	0.67	M		11.41	54.4	0.67	M	6.6
2,4'-DDD	11.58	85.8	0.76			11.58	85.8	0.76		6.6
4,4'-DDD	12.08	241	0.59	M		12.08	241	0.59	M	6.6
2,4'-DDT	12.14	3.42	0.59	M,J		12.14	3.42	0.59	M,J	6.6
4,4'-DDT	12.58	87.8	1.8			12.58	87.8	1.8		6.6
<b>Extraction Standards</b>	<b>ng</b>									
4,4'-DDE, 13C12-	125		21-125			11.40	15			
4,4'-DDD, 13C12-	125		5-150			12.08	21			
4,4'-DDT, 13C12-	125		5-120			12.58	11			

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

<b>Sample Name</b>	PDI-SC-S117-4TO6	Sampling Date	7-Aug-18	
ALS Sample ID	L2144849-62	Extraction Date	21-Aug-18	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	5.55 g	
Analysis Type	Sample	Percent Solid	55.1%	
Sample Matrix	Sediment	Split Ratio	1	

Run Information	Run 1	Run 2
Filename	6-180828A66	6-180830A84
Run Date	29-Aug-18 15:44	31-Aug-18 13:30
Final Volume	1020 uL	1020 uL
Dilution Factor	5	20
Analysis Units	ng/g	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	Ret.	Conc.	EDL	EMPC
	Time	ng/g	ng/g	Flags	Time	ng/g	ng/g	Flags
2,4'-DDE	10.87	17.6	0.10		10.87	17.6	0.10	7.4
4,4'-DDE	11.40	93.2	0.14	M	11.40	93.2	0.14	M 7.4
2,4'-DDD	11.58	68.2	0.17	M	11.58	68.2	0.17	M 7.4
4,4'-DDD	12.08	167	0.36	M	12.08	167	0.36	M 7.4
2,4'-DDT	12.12	2.41	0.36	M,J	12.12	2.41	0.36	M,J 7.4
4,4'-DDT	12.58	5.38	0.66	M,J	12.58	5.38	0.66	M,J 7.4
<b>Extraction Standards</b>	<b>ng</b>							
4,4'-DDE, 13C12-	125		21-125		11.40	61		
4,4'-DDD, 13C12-	125		5-150		12.08	41		
4,4'-DDT, 13C12-	125		5-120		12.57	28		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M Indicates that a peak has been manually integrated.

J indicates that a target analyte was detected below the calibrated range.

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S219-0T02  
 ALS Sample ID L2144849-63  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 5.74 g  
 Percent Solid 56.8%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A52  
 Run Date 29-Aug-18 11:02  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.623	0.011	J		1.8
4,4'-DDE	11.41	5.30	0.013	M		1.8
2,4'-DDD	11.58	2.30	0.017			1.8
4,4'-DDD	12.09	7.56	0.020			1.8
2,4'-DDT	12.14	0.141	0.021	J		1.8
4,4'-DDT	12.58	0.466	0.033	J		1.8
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	70	21-125		
4,4'-DDD, 13C12-	125	12.08	74	5-150		
4,4'-DDT, 13C12-	125	12.58	83	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S219-2TO4  
 ALS Sample ID L2144849-64  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.35 g  
 Percent Solid 73.5%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A53  
 Run Date 29-Aug-18 11:22  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	NotFnd	<0.015	0.015	U		1.4
4,4'-DDE	11.42	0.0614	0.017	M,J,B		1.4
2,4'-DDD	NotFnd	<0.028	0.028	U		1.4
4,4'-DDD	12.09	<0.057	0.028	M,J,R	0.057	1.4
2,4'-DDT	NotFnd	<0.029	0.029	U		1.4
4,4'-DDT	12.59	0.162	0.050	M,J,B		1.4
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.41	24	21-125		
4,4'-DDD, 13C12-	125	12.09	34	5-150		
4,4'-DDT, 13C12-	125	12.58	32	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S219-4TO5.2  
 ALS Sample ID L2144849-65  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 7-Aug-18  
 Extraction Date 21-Aug-18  
 Sample Size 7.57 g  
 Percent Solid 73.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180828A54  
 Run Date 29-Aug-18 11:42  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.0984	0.033	M,J,B	1.3	
4,4'-DDE	11.41	3.61	0.038	M	1.3	
2,4'-DDD	11.58	0.194	0.050	M,J	1.3	
4,4'-DDD	12.09	0.534	0.039	M,J	1.3	
2,4'-DDT	NotFnd	<0.041	0.041	U	1.3	
4,4'-DDT	12.59	0.190	0.076	M,J,B	1.3	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.41	13	21-125		
4,4'-DDD, 13C12-	125	12.08	24	5-150		
4,4'-DDT, 13C12-	125	12.58	20	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S105-0T02  
 ALS Sample ID L2144849-66  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.48 g  
 Percent Solid 64.6%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A47  
 Run Date 31-Aug-18 01:06  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.285	0.011	J		1.6
4,4'-DDE	11.41	1.43	0.015	M,J		1.6
2,4'-DDD	11.58	5.86	0.018			1.6
4,4'-DDD	12.09	15.3	0.031	M		1.6
2,4'-DDT	12.14	0.380	0.031	M,J		1.6
4,4'-DDT	12.58	0.775	0.064	J,B		1.6
<b>Extraction Standards</b> <span style="float: right;">ng</span>						
4,4'-DDE, 13C12-	125	11.40	77	21-125		
4,4'-DDD, 13C12-	125	12.08	48	5-150		
4,4'-DDT, 13C12-	125	12.58	37	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S105-2TO4  
 ALS Sample ID L2144849-67  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 7.18 g  
 Percent Solid 69.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A80  
 Run Date 31-Aug-18 12:09  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.0855	0.033	M,J	1.4	
4,4'-DDE	11.40	<0.24	0.043	M,J,R	0.24	1.4
2,4'-DDD	11.57	0.842	0.056	J	1.4	
4,4'-DDD	12.08	2.34	0.11	M	1.4	
2,4'-DDT	NotFnd	<0.11	0.11	U	1.4	
4,4'-DDT	12.58	0.451	0.19	M,J,B	1.4	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	64	21-125		
4,4'-DDD, 13C12-	125	12.07	40	5-150		
4,4'-DDT, 13C12-	125	12.57	31	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S105-4TO5.6  
 ALS Sample ID L2144849-68  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 7.21 g  
 Percent Solid 70.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A49  
 Run Date 31-Aug-18 01:46  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.0675	0.0084	M,J	1.4	
4,4'-DDE	11.41	0.258	0.011	M,J,B	1.4	
2,4'-DDD	11.58	1.34	0.013	M,J	1.4	
4,4'-DDD	12.08	3.05	0.023	M	1.4	
2,4'-DDT	12.14	<0.11	0.024	M,J,R	0.11	1.4
4,4'-DDT	12.58	0.325	0.052	M,J,B	1.4	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	79	21-125		
4,4'-DDD, 13C12-	125	12.08	51	5-150		
4,4'-DDT, 13C12-	125	12.57	37	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S105-5.6TO6.6  
 ALS Sample ID L2144849-69  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 6.22 g  
 Percent Solid 61.9%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A50  
 Run Date 31-Aug-18 02:06  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret.	Conc.	EDL	EMPC	
	Time	ng/g	ng/g	Flags	ng/g
2,4'-DDE	10.88	1.11	0.023	M,J	1.6
4,4'-DDE	11.41	7.53	0.030	M	1.6
2,4'-DDD	11.58	30.1	0.038	M	1.6
4,4'-DDD	12.09	71.4	0.056	M	1.6
2,4'-DDT	12.14	<0.52	0.056	M,J,R	0.52
4,4'-DDT	12.58	1.28	0.14	M,J,B	1.6
<b>Extraction Standards</b>	<b>ng</b>				
4,4'-DDE, 13C12-	125	11.41	66	21-125	
4,4'-DDD, 13C12-	125	12.08	49	5-150	
4,4'-DDT, 13C12-	125	12.58	29	5-120	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S191-0T02  
 ALS Sample ID L2144849-70  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 4.57 g  
 Percent Solid 45.2%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A56  
 Run Date 31-Aug-18 04:06  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.264	0.014	J	2.2	
4,4'-DDE	11.41	7.21	0.018	M	2.2	
2,4'-DDD	11.58	1.54	0.029	M,J	2.2	
4,4'-DDD	12.09	3.87	0.059	M	2.2	
2,4'-DDT	12.14	1.31	0.059	M,J	2.2	
4,4'-DDT	12.58	4.20	0.11	M	2.2	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	77	21-125		
4,4'-DDD, 13C12-	125	12.08	40	5-150		
4,4'-DDT, 13C12-	125	12.58	34	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Sample Analysis Report

**Sample Name** PDI-SC-S191-2TO4  
 ALS Sample ID L2144849-71  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Sample  
 Sample Matrix Sediment

Sampling Date 8-Aug-18  
 Extraction Date 22-Aug-18  
 Sample Size 5.89 g  
 Percent Solid 58.4%  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information** **Run 1**  
 Filename 6-180830A57  
 Run Date 31-Aug-18 04:26  
 Final Volume 1020 uL  
 Dilution Factor 5  
 Analysis Units ng/g  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	0.837	0.014	M,J	1.7	
4,4'-DDE	11.40	18.4	0.018	M	1.7	
2,4'-DDD	11.57	6.68	0.024	M	1.7	
4,4'-DDD	12.08	18.2	0.049	M	1.7	
2,4'-DDT	12.14	11.8	0.049	M	1.7	
4,4'-DDT	12.58	43.4	0.084	M	1.7	
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	85	21-125		
4,4'-DDD, 13C12-	125	12.08	46	5-150		
4,4'-DDT, 13C12-	125	12.57	40	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 M Indicates that a peak has been manually integrated.  
  
 J indicates that a target analyte was detected below the calibrated range.  
  
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

**SVOC DATA PACKAGE**

**SECTION 3: METHOD SUMMARY**

**OC Pesticide METHOD SUMMARY**  
**Method EPA 1699**

***Introduction:***

This summary is to provide ALSE Burlington OC pesticide method details in order to provide persons reviewing or validating this data package sufficient information to re-construct the sample calculation, data verification and review. It incorporates the analysis of organochlorine pesticides via EPA method 1699. Deviations from this reference method are documented in ALS Standard Operating Procedures (available upon request) and in this Method Summary.

Any deviations to what is listed herein or in the ALS Standard Operating Procedures would be listed in the project narrative.

To avoid the confusion and conflicting nomenclature within the performance based methods, we have defined the labeled standards in terms relating to the time of addition to the sample or extract. Therefore;

- Laboratory Surrogate (when provided/requested by the client) are added prior to sample extraction
- The Field or Sampling Standards (where used) are added prior to field sampling
- The Extraction Standards are added prior to extraction
- The GPC Recovery Standard is added (when used) prior to Gel Permeation Chromatographic cleanup
- The Clean-up Standards (where used) are added prior to extract clean-up
- The Injection Standards are added prior to extract injection.

Additional method information, such as Instrumental Descriptors, is documented in ALS Standard Operating Procedures and available upon request.

***Calibration Standard Levels:***

Seven levels of standard are available for calibration as listed in Table 1. These targets give a wide range of responses on the analytical instruments, thus it is expected that for any given target, either the lowest standard level(s) or the highest standard level(s) may be excluded due to poor response, poor linearity, or detector saturation. With seven levels of standard, it is expected that at least 5 points can be used for calibration for each target.

**Table 1: Calibration Standards (conc in ng/mL)**

	CS1	CS2	CS3	CS4	CS5	CS6	CS7
<b>Natives</b>							
Hexachlorobutadiene	2	7.5	20	50	150	400	1200
1,2,4,5-Tetrachlorobenzene	2	7.5	20	50	150	400	1200
1,2,3,4-Tetrachlorobenzene	2	7.5	20	50	150	400	1200
Pentachlorobenzene	2	7.5	20	50	150	400	1200
Hexachlorobenzene	2	7.5	20	50	150	400	1200
3,4,5,6-Tetrachloroveratrole	2	7.5	20	50	150	400	1200
Pentachloroanisole	2	7.5	20	50	150	400	1200
alpha-BHC	2	7.5	20	50	150	400	1200
beta-BHC	2	7.5	20	50	150	400	1200
gamma-BHC	2	7.5	20	50	150	400	1200
delta-BHC	2	7.5	20	50	150	400	1200
Pentachloronitrobenzene	2	7.5	20	50	150	400	1200
Heptachlor	2	7.5	20	50	150	400	1200
Aldrin	2	7.5	20	50	150	400	1200
4,4'-DDNU	2	7.5	20	50	150	400	1200
Dacthal	2	7.5	20	50	150	400	1200
Chlorpyrifos	10	37.5	100	250	750	2000	6000
Octachlorostyrene	2	7.5	20	50	150	400	1200
Heptachlor Epoxide B	2	7.5	20	50	150	400	1200
Heptachlor Epoxide A	2	7.5	20	50	150	400	1200
Oxychlordane	2	7.5	20	50	150	400	1200
4,4'-DDMU	2	7.5	20	50	150	400	1200
trans-Chlordane	2	7.5	20	50	150	400	1200
cis-Chlordane	2	7.5	20	50	150	400	1200
trans-Nonachlor	2	7.5	20	50	150	400	1200
Dieldrin	2	7.5	20	50	150	400	1200
Endrin	2	7.5	20	50	150	400	1200
cis-Nonachlor	2	7.5	20	50	150	400	1200
Endosulfan I	2	7.5	20	50	150	400	1200
Endosulfan II	2	7.5	20	50	150	400	1200
Endosulfan Sulfate	2	7.5	20	50	150	400	1200
24'-DDE	2	7.5	20	50	150	400	1200
44'-DDE	2	7.5	20	50	150	400	1200
24'-DDD	2	7.5	20	50	150	400	1200
44'-DDD	2	7.5	20	50	150	400	1200
24'-DDT	2	7.5	20	50	150	400	1200
44'-DDT	2	7.5	20	50	150	400	1200
Endrin Aldehyde	2	7.5	20	50	150	400	1200
Endrin Ketone	2	7.5	20	50	150	400	1200
Methoxychlor	2	7.5	20	50	150	400	1200
Dicofol	20	75	200	500	1500	4000	12000
Mirex	2	7.5	20	50	150	400	1200
Parlar-26	2	7.5	20	50	150	400	1200
Parlar-50	2	7.5	20	50	150	400	1200
Parlar-62	2	7.5	20	50	150	400	1200





### Calibration and Quality Control Limits

The calibration and QC Sample control limits are presented in Table 2 below. For the lowest standard used for initial calibration, and for each calibration verification CS3, the signal to noise ratio for each ion for both labelled and non-labelled analytes must be greater than or equal to 10:1

		Calibration		Samples and QC Samples	
		Initial Cal. %RSD	Cal. Ver. %Exp	LCS % Rec	Samples % Rec
<b>Natives</b>	Hexachlorobutadiene	35	70-130	5-200	
	1,2,4,5-Tetrachlorobenzene	35	70-130	5-200	
	1,2,3,4-Tetrachlorobenzene	35	70-130	5-200	
	Pentachlorobenzene	20	70-130	5-200	
	Hexachlorobenzene	20	75-125	10-150	
	3,4,5,6-Tetrachloroveratrole	35	70-130	20-200	
	Pentachloroanisole	35	70-130	20-200	
	alpha-BHC	20	75-125	50-120	
	beta-BHC	35	75-125	50-120	
	gamma-BHC	20	75-125	50-120	
	delta-BHC	35	75-125	50-120	
	Pentachloronitrobenzene	35	70-130	20-200	
	Heptachlor	20	75-125	50-120	
	Aldrin	35	75-125	50-120	
	4,4'-DDNU	35	75-125	20-160	
	Dacthal	35	50-150	20-200	
	Chlorpyrifos	35	75-125	19-163	
	Octachlorostyrene	35	70-130	50-175	
	Heptachlor Epoxide B	35	70-130	20-200	
	Heptachlor Epoxide A	35	75-125	50-120	
	Oxychlordan	20	75-125	50-120	
	4,4'-DDMU	35	75-125	20-160	
	trans-Chlordane	35	75-125	50-120	
	cis-Chlordane	35	75-125	50-120	
	trans-Nonachlor	20	75-125	50-120	
	Dieldrin	20	75-125	50-120	
	Endrin	20	75-125	50-120	
	cis-Nonachlor	35	75-125	50-120	
	Endosulfan I	35	75-125	50-120	
	Endosulfan II	20	75-125	5-200	
	Endosulfan Sulfate	35	75-125	50-200	
	24'-DDE	35	75-125	24-123	
	44'-DDE	20	75-125	50-120	
	24'-DDD	35	75-125	50-120	
	44'-DDD	20	75-125	42-120	
	24'-DDT	35	75-125	50-120	
	44'-DDT	20	75-125	50-120	
	Endrin Aldehyde	35	70-130	20-200	
	Endrin Ketone	35	75-125	50-134	
	Methoxychlor	20	75-125	50-120	
	Dicofol	35	50-150	20-200	
	Mirex	20	75-125	50-120	
	Parlar-26	35	70-130	20-200	
	Parlar-50	35	70-130	20-200	
	Parlar-62	35	70-130	20-200	

<b>Laboratory Surrogate</b>	1,3-Dibromobenzene	35	50-150	50-150	40-120
	Endrin Ketone	35	50-150	50-150	40-150
<b>Field Surrogate</b>	1,3,5-Tribromobenzene	35	50-150	50-150	60-120
	1,2,4,5-Tetrabromobenzene	35	50-150	50-150	60-120
	delta-BHC	35	50-150	50-150	60-120
<b>GPC Recovery Standard</b>	13C12-PCB-133	35	50-150	50-150	50-120
<b>Extraction Standard</b>	13C6-Pentachlorobenzene	35	70-130	5-120	5-120
	13C6-Hexachlorobenzene	35	70-130	5-120	5-120
	13C6-alpha-BHC	35	70-130	13-138	16-129
	d6-gamma-BHC	35	70-130	5-124	11-120
	13C10-Heptachlor	35	70-130	5-128	5-120
	13C10-Oxychlorane	35	70-130	5-144	23-135
	13C10-trans-Nonachlor	35	70-130	17-154	36-139
	13C12-Dieldrin	35	70-130	19-161	40-151
	13C12-Endrin	35	70-130	20-157	35-155
	13C9-Endosulfan-II	35	70-130	5-144	15-148
	13C12-44'-DDE	35	70-130	26-169	47-160
	13C12-44'-DDD	35	70-130	13-200	5-150
	13C12-44'-DDT	35	70-130	13-200	5-120
	d6-Methoxychlor	35	70-130	8-200	5-120
	13C10-Mirex	35	70-130	5-138	5-120

### ***Additional Continuing Calibration Details:***

After initial calibration is established, a CS4 standard is injected as a Continuing Calibration Verification (CCV) at the beginning of every 12 hour shift in which samples are analyzed. If the following performance criteria are met, analysis of samples may proceed:

- Ion abundance ratios are within their respective theoretical limits (see Table 3)
- All targets have a s/n ratio of at least 10:1
- The RT of each analyte is within 15 seconds of that in the initial calibration
- Endin and DDT breakdown is less than 20% (see Section 5.2.4.2)
- The %Diff is within the CCV limits (see Table 2)

If these performance criteria are not met, GC maintenance is performed or the system is adjusted and a new CCV is injected, or a new initial calibration is run.

### ***Mid-run Calibration Verification:***

While the EPA 1699 does not require a post-run calibration verification standard to be run, it is recognized that responses and/or relative responses of some targets may change significantly during HRMS analysis due to sample related contamination of GC or MS components. This problem is compounded by chemical dissimilarities between some targets and their quantification reference standards in the case of internal standard quantification. Enhanced quantification and a measure of confidence in sample results obtained during an analytical shift can be attained by injecting a CS4 calibration verification (VER) standard in the middle of, and at the end of a 12-hour run, and quantifying samples against the average of bracketing calibration standards where improved results would be achieved.

#### ***a) Mid-Run VER:***

If this analysis meets the performance criteria for a pre-run CCV, then all of the samples preceding the mid-run VER can be quantified vs. the initial calibration, and analysis can proceed. If the mid-run VER does not meet pre-run CCV criteria, the preceding samples can be quantified vs. bracketing calibration runs (using the pre-run CCV and mid-run VER as a two-point calibration) and analysis can proceed, provided that the following criteria are met:

- Ion abundance ratios are within their respective theoretical limits (see Table 1) or within 15% of the ratios in the pre-run CCV
- All targets have a s/n ratio of at least 10:1
- The RT of each analyte is within 15 seconds of that in the initial calibration
- Endin and DDT breakdown is less than 20%
- The %RPD of the mid-run VER vs. the pre-run CCV meets the CCV %Diff limits (See Table 2)

If the mid-run VER does not meet the above criteria either, analysis cannot continue without corrective action (samples analyzed after the mid-run VER in an automated sequence must be re-analyzed). The samples preceding the failing mid-run VER may be flagged and reported, but must be assessed for impact on data quality:

- If a failing native target is present in any of the preceding samples above the Method Detection Limit (or above the client's lower required Detection Limit, if known), that sample must be re-analyzed for that target.
- If a failing native target's Estimated Detection Limit is above the Method Detection Limit (or above the client's lower required Detection Limit, if known) due to deterioration of system performance, that sample must be re-analyzed for that target.

**a) Post-Run VER:**

If this analysis meets the performance criteria for a pre-run CCV, then all of the samples preceding the post-run VER can be quantified vs. the initial calibration. If the post-run VER does not meet pre-run CCV criteria, the preceding samples can be quantified vs. bracketing calibration runs (using the post-run VER and mid-run VER as a two-point calibration) provided that the following criteria are met:

- Ion abundance ratios are within their respective theoretical limits (see Table 1) or within 15% of the ratios in the mid-run CCV
- All targets have a s/n ratio of at least 10:1
- The RT of each analyte is within 15 seconds of that in the initial calibration
- Endin and DDT breakdown is less than 20%
- The %RPD of the post-run VER vs. the mid-run VER meets the CCV %Diff limits (See Table 2)

If the post-run VER does not meet the above criteria either, the samples preceding the failing post-run VER may be flagged and reported, but must be assessed for impact on data quality:

- If a failing native target is present in any of the preceding samples above the Method Detection Limit (or above the client's lower required Detection Limit, if known), that sample must be re-analyzed for that target.
- If a failing native target's Estimated Detection Limit is above the Method Detection Limit (or above the client's lower required Detection Limit, if known) due to deterioration of system performance, that sample must be re-analyzed for that target.

### **Reporting Limits:**

Unless indicated in the otherwise, native target data is reported down to 2.5:1 signal to noise for each isomer grouping for each extract injection. This is consistent to SW846 8290 defined protocols (i.e. EDL or Estimated Detection Limit) and is commonly applied throughout the industry to any and all performance based HRMS methods.

### **Method Blank:**

The method blank levels must be below the response to the lowest calibration standard used for initial calibration.

### **MS/MSD (where required):**

The % relative difference between the MS and MSD spike recoveries should be less than or equal to 20%.

### **Instrument/Run Performance Criteria:**

#### **a) Chromatographic Performance**

For the DB-5 column, 44'-DDT and 24'-DDT (or the labelled analogues) must be uniquely resolved to a valley height of less than 60% of the shorter of the two peaks.

#### **b) DDT and Endrin Breakdown**

A custom standard (HROCP-GC\_BD#1) is injected to measure the breakdown of endrin and DDT during the run. This standard must be injected at the beginning and end of each 12 hour shift, and it is also recommended that it be injected along with the mid-run CCV where used. This standard contains 13C12-4,4'-DDT, 13C12-endrin, and native endrin, endrin aldehyde and endrin ketone.

- For measurement of DDT breakdown, measure the concentration for 13C12-44'-DDE, 13C12-44'-DDD and 13C12-44'-DDT (the labelled DDT is part of the standard, and the labelled DDE and DDD are breakdown products). Calculate breakdown using the following formula:

13C12-44'-DDT % Breakdown =

$$\frac{(\text{concentration of 13C12-44'-DDD} + \text{concentration of 13C12-44'-DDE})}{\text{concentration of 13C12-44'-DDT}} \times 100\%$$

labelled DDT = part of standard; labelled DDE and DDD = breakdown products

- Additionally, measurement of endrin breakdown can be performed. For measurement of endrin breakdown, measure the concentration of endrin, endrin aldehyde, and endrin ketone (these natives are quantified by isotope dilution vs. the 13C12-endrin). Calculate breakdown using the following formula:

Endrin % Breakdown =

$$\frac{(\text{concentration of endrin aldehyde} + \text{concentration of endrin ketone})}{\text{concentration of endrin}} \times 100\%$$

If the breakdown of endrin and/or DDT exceeds 20% in a standard, the targets are decomposing on the inlet or column, and remedial action must be taken (inlet maintenance and trimming of the analytical column) before any valid sample data can be produced. If the breakdown of DDT or endrin in a sample exceeds 20% and there is that native in the sample above the MDL, that sample will have to be reanalyzed for that target (further cleanup or dilution of that sample is recommended before reanalysis).

Breakdown exceedences can be ignored under the following circumstances:

- Where the endrin breakdown fails but DDT breakdown passes and where DDT and/or it's metabolites are the only targets.
- Where the DDT breakdown fails but endrin breakdown passes and where endrin and/or it's metabolites are the only targets.
- For the determination of other pesticide targets (i.e. non-DDT and non-Endrin and metabolite targets) which have a corresponding labelled extraction/internal standard of exactly the same isomer.

**c) Mass Resolution:**

At the beginning of and just following the end of each 12 hour run sequence, the instrument must be checked to demonstrate a resolution of 10,000 for each quantification window.

The maximum time between scans within a descriptor is 1 second.

Lock mass deviations to the average response must be less than or equal 20%.

**Laboratory Duplicates:**

The % relative difference between duplicates should be less than or equal to 25% but only where the response is greater than the low calibration standard.

**Analyte Identification Criteria:**

**Ion Ratio Criteria**

For all compounds, a pair of ions with a specific isotopic ratio are being monitored. To have a confirmed positive response to a native or labelled OCP, that ratio must be within the theoretical limits in Table 1, or within 15% of the observed values on the most recent CS4 analysis.

**Signal to Noise Criteria**

The signal to noise ratio for each quantification and confirmation ion for labelled and non-labelled analytes must be greater than or equal to 10:1 for the initial calibration CS1 and for each calibration verification CS4. For positive identification of a native target in a sample, both ions must have a s/n ratio exceeding 2.5:1.

**Matched RT on Peak Maxima**

The retention time (RT) of the peak maxima for each pair of quantification ions must be no more than 2 seconds (i.e. 2 scans) difference.

**Expected Retention Time (RT)**

The peak must be at the expected RT

- within -1/+3 seconds of the labelled standard for natives with their own <sup>13</sup>C labelled standard
- within +/- 0.008 RRT units of the RRT in the most recent CS4 analysis for targets with their own <sup>2</sup>H labelled standard
- within +/- 0.010 RRT units of the RRT in the most recent CS4 analysis for targets without their own labelled standard

As per EPA 1699 Sections 16.5-16.6, it is possible that not all of the positive ID criteria are met. If a pesticide is deemed to be present in this case by the experienced spectroscopist, the result may be flagged as "this result is unconfirmed and must not be used for permitting or regulatory compliance purposes". If the ion abundance ratio criteria are not met, the result must also include an "R" flag.

**Table 3: Monitored Masses, Ion Abundance Ratios, and Quantitation/RT References**

Entry	Native Standard	Quantification Method	Quantification vs. Entry #:	Quantitation Ion	Confirmation Ion	Theoretical Ion Abundance ratio	Ion Abundance Ratio Tolerance
1	24'-DDE	rel_int	7	246.0003	247.9974	1.56	0.25
2	44'-DDE	rel_int	7	246.0003	247.9974	1.56	0.25
3	24'-DDD	rel_int	8	235.0082	237.0053	1.56	0.25
4	44'-DDD	rel_int	8	235.0082	237.0053	1.56	0.25
5	24'-DDT	rel_int	9	235.0082	237.0053	1.56	0.25
6	44'-DDT	rel_int	9	235.0082	237.0053	1.56	0.25
<b>Extraction Standard</b>							
7	13C12-44'-DDE	rel_int	10	258.0405	260.0376	1.56	0.25
8	13C12-44'-DDD	rel_int	10	247.0483	249.0454	1.56	0.25
9	13C12-44'-DDT	rel_int	10	247.0483	249.0454	1.56	0.25
<b>Injection Standard</b>							
10	13C12-PCB-52	abs_int	-	301.9625	303.9597	0.77	0.15

## Data Calculations:

### a) Analyte Concentrations:

The relative response factor of each target relative to the standard against which it is to be calculated is determined using the area responses of both quantification ions via equation 9.1.

In cases where a native target is calculated against an exact labelled analogue, the quantification will be considered to be by isotope dilution. In other cases, the quantification will be considered to be by internal standard.

$$\text{RRF} = \frac{(A1_t + A2_t) C_s}{(A1_s + A2_s) C_t} \quad \text{Equ. 9.1}$$

Where,

$A1_t + A2_t$ : The areas of the two quantification ions for the target analyte

$A1_s + A2_s$ : The areas of the two quantification ions for the labelled compound against which the target analyte will be calculated.

$C_t$ : The concentration in the calibration standard of the target analyte.

$C_s$ : The concentration in the calibration standard of the labelled compound against which the target will be calculated.

For all analytes to be quantified and from the initial calibration series of standard injections, a table of RRFs is prepared. The relative standard deviation (%RSD, or the coefficient of variance) is checked to confirm that appropriate method criteria has been met as listed in Table 3. The average of the five or six levels of for each analyte,  $\text{RRF}_{av}$  is applied for quantification of samples according to Equations 9.2 and 9.3 below.

$$\text{Amount in sample (ng)} = \frac{(A1_n + A2_n) Q_l}{(A1_l + A2_l) (\text{RRF}_{av})} \quad \text{Equ. 9.2}$$

$$\text{Concentration in sample (ng/g or ng/L)} = \frac{(A1_n + A2_n) Q_l}{(A1_l + A2_l) (\text{RRF}_{av}) (W_s)} \quad \text{Equ. 9.3}$$

Where,

$Q_l$  = The amount (pg) of labelled compound added to the sample

$W_s$  = The weight (g) or volume (l) of sample

### b) Extraction, Clean-up, and Sampling Standard Recovery Calculation:

The extraction, clean-up, and sampling standard recoveries are determined by Equation 9.4 below.

$$\% \text{ Recovery} = \frac{\text{Amount in sample}}{\text{Amount added to sample}} \times 100 \quad \text{Equ. 9.4}$$



### c) Estimated Detection Limit

$$\text{EDL} = \frac{2.5 \times H_x \times Q_{\text{es}}}{H_{\text{es}} \times W \times \text{RFF}_{\text{av}}} \quad \text{Equ. 9.5}$$

Where,

EDL = estimated detection limit for native targets

$H_x$  = sum of the height of the noise level for each quantification ions for the unlabeled target

$H_{\text{es}}$  = Sum of the heights of responses of both quantification ions for the labelled extraction standard.

$W$  = weight of volume of sample

$\text{RFF}_{\text{av}}$  = average relative response factor

$Q_{\text{es}}$  = Amount of extraction standard added

## Chromatogram Annotation Codes

All manually integrated peaks are expanded and reprinted with the following annotations:

\* Analyst Initials                    AA  
\* Date                                    YYMMDD  
\* integration code                    CC

The Syntax is:                            Example:  
AAYYMMDDCC                            SK111220MB

Code	Mnemonic	Description
MB	Manual Baseline	The peak was manually integrated because the initial baseline was determined incorrectly by the software
MS	Manual Split	The peak was manually integrated because the peak was incorrectly or not split by the software
MJ/MC	Manual Join/Manual Combine	The peak was manually integrated because the peak was split by the software and the peak should be integrated as a single peak
MA	Manual Add	The peak was manually integrated because the signal:noise ratio was judged to be >2.5
MD	Manual Delete	The peak was excluded because the signal:noise ratio was judged to be <2.5
MX	Manual Exclude	The peak was excluded due to an interference
MT	Manual Time	The peak retention time was manually chosen

The following explanatory annotation codes may appear on the chromatograms of peaks that have been reviewed:

Code	Mnemonic	Description
+	Detected Peak	A peak was detected at this mass and retention time that was above 2.5:1 signal to noise
<	Below Detection Limit	The signal at this mass and retention time was below 2.5:1 signal to noise
EMPC	Estimated Maximum Possible Concentration	The signal at this mass and retention time is an interference such that the target compound could not be confirmed
X-RT	Not Detected due to Retention Time non-conformance	The signal at this retention time could not be used to positively identify the target compound because of retention time non-conformance (apex of quantification and confirmation ions do not maximize within the same two seconds, or the retention time of the peak does not fall within the expected range with respect to its labeled analogue)
X-LOC	Not Detected due to interference from a higher level of chlorination	The signal at this retention time is attributable to a fragment from a co-eluting compound at a higher level of chlorination, and cannot be used to positively identify the target. The result is expressed as an Estimated Maximum Possible Concentration (EMPC)
X-DPE	Not Detected due to diphenyl ether interference	The signal at this retention time is attributable to interference from a chlorinated diphenyl ether, and cannot be used to positively identify the target. The result is expressed as an Estimated Maximum Possible Concentration (EMPC)
X-IF	Not Detected due to interference	The signal at this retention time is attributable to a co-eluting interference, and cannot be used to positively identify the target. The result is expressed as an Estimated Maximum Possible Concentration (EMPC)

## **SVOC DATA PACKAGE**

### **SECTION 4: CALIBRATION DATA**

Including:

for Multi-Point Calibration(s)

- Multi-Point Calibration Tables
- Individual Quantitation Reports

for Continuing Calibration(s)

- Individual Quantitation Reports

# ALS Life sciences

## Calibration Summary Report

Calibration Level	Filename	Run Date
CS-1	6-180828A02	28-Aug-2018 18:13
CS-2	6-180828A01	28-Aug-2018 17:56
CS-3	6-180828A06	28-Aug-2018 19:33
CS-4	6-180828A05	28-Aug-2018 19:13
CS-5	6-180828A04	28-Aug-2018 18:53
CS-6	6-180828A03	28-Aug-2018 18:33

Approved:	<i>R. Bakhtiari</i>
	--e-signature--
	31-Aug-2018

Target Analytes	Relative Response Factors						Mean	% RSD
	CS-1	CS-2	CS-3	CS-4	CS-5	CS-6		
<b>2,4'-DDE</b>	1.419	1.442	1.264	1.383	1.456	1.459	1.404	5%
<b>4,4'-DDE</b>	1.275	1.259	1.125	1.175	1.198	1.155	1.198	5%
<b>2,4'-DDD</b>	1.284	1.338	1.170	1.248	1.307	1.273	1.270	5%
<b>4,4'-DDD</b>	1.288	1.331	1.189	1.186	1.251	1.211	1.243	5%
<b>2,4'-DDT</b>	1.289	1.242	1.099	1.223	1.163	1.157	1.196	6%
<b>4,4'-DDT</b>	1.251	1.148	1.019	1.074	1.084	1.065	1.107	7%
<b>Extraction Standards</b>								
<b>4,4'-DDE, 13C12-</b>	0.970	0.940	1.013	0.968	1.004	1.053	0.991	4%
<b>4,4'-DDD, 13C12-</b>	0.614	0.618	0.690	0.672	0.715	0.789	0.683	10%
<b>4,4'-DDT, 13C12-</b>	0.366	0.361	0.437	0.408	0.468	0.501	0.424	13%

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS1-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A02    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 28-Aug-2018 18:13

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.62	2.00	1.32E+05	1.419
<b>4,4'-DDE</b>	11.42	1.59	2.00	1.18E+05	1.275
<b>2,4'-DDD</b>	11.59	1.66	2.00	7.54E+04	1.284
<b>4,4'-DDD</b>	12.1	1.63	2.00	7.56E+04	1.288
<b>2,4'-DDT</b>	12.16	1.63	2.00	4.51E+04	1.289
<b>4,4'-DDT</b>	12.6	1.63	2.00	4.38E+04	1.251
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.42	1.56	250.00	1.16E+07	0.970
<b>4,4'-DDD, 13C12-</b>	12.09	1.55	250.00	7.34E+06	0.614
<b>4,4'-DDT, 13C12-</b>	12.59	1.54	250.00	4.37E+06	0.366
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.80	100.00	4.78E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS2-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A01    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 28-Aug-2018 17:56

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.56	7.50	5.13E+05	1.442
<b>4,4'-DDE</b>	11.42	1.53	7.50	4.48E+05	1.259
<b>2,4'-DDD</b>	11.59	1.61	7.50	3.13E+05	1.338
<b>4,4'-DDD</b>	12.1	1.58	7.50	3.11E+05	1.331
<b>2,4'-DDT</b>	12.15	1.56	7.50	1.70E+05	1.242
<b>4,4'-DDT</b>	12.59	1.60	7.50	1.57E+05	1.148
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.55	250.00	1.18E+07	0.940
<b>4,4'-DDD, 13C12-</b>	12.09	1.57	250.00	7.79E+06	0.618
<b>4,4'-DDT, 13C12-</b>	12.59	1.59	250.00	4.55E+06	0.361
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.80	100.00	5.04E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS3-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A06    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 28-Aug-2018 19:33

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.57	20.00	1.18E+06	1.264
<b>4,4'-DDE</b>	11.42	1.56	20.00	1.05E+06	1.125
<b>2,4'-DDD</b>	11.59	1.62	20.00	7.43E+05	1.170
<b>4,4'-DDD</b>	12.1	1.61	20.00	7.55E+05	1.189
<b>2,4'-DDT</b>	12.15	1.60	20.00	4.42E+05	1.099
<b>4,4'-DDT</b>	12.59	1.65	20.00	4.09E+05	1.019
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.54	250.00	1.17E+07	1.013
<b>4,4'-DDD, 13C12-</b>	12.09	1.58	250.00	7.94E+06	0.690
<b>4,4'-DDT, 13C12-</b>	12.59	1.58	250.00	5.02E+06	0.437
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.81	100.00	4.60E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS4-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A05    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 28-Aug-2018 19:13

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.55	50.00	2.96E+06	1.383
<b>4,4'-DDE</b>	11.41	1.57	50.00	2.52E+06	1.175
<b>2,4'-DDD</b>	11.58	1.62	50.00	1.86E+06	1.248
<b>4,4'-DDD</b>	12.09	1.60	50.00	1.76E+06	1.186
<b>2,4'-DDT</b>	12.15	1.61	50.00	1.10E+06	1.223
<b>4,4'-DDT</b>	12.59	1.63	50.00	9.69E+05	1.074
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.54	250.00	1.07E+07	0.968
<b>4,4'-DDD, 13C12-</b>	12.08	1.59	250.00	7.43E+06	0.672
<b>4,4'-DDT, 13C12-</b>	12.58	1.57	250.00	4.51E+06	0.408
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.81	100.00	4.42E+06	



# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS5-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A04      Inst # HRMS-6      Column HP5MSUSR163634H      Run Date 28-Aug-2018 18:53

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.55	150.00	1.05E+07	1.456
<b>4,4'-DDE</b>	11.41	1.57	150.00	8.61E+06	1.198
<b>2,4'-DDD</b>	11.58	1.61	150.00	6.69E+06	1.307
<b>4,4'-DDD</b>	12.09	1.61	150.00	6.40E+06	1.251
<b>2,4'-DDT</b>	12.15	1.61	150.00	3.89E+06	1.163
<b>4,4'-DDT</b>	12.58	1.62	150.00	3.63E+06	1.084
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.55	250.00	1.20E+07	1.004
<b>4,4'-DDD, 13C12-</b>	12.08	1.58	250.00	8.53E+06	0.715
<b>4,4'-DDT, 13C12-</b>	12.58	1.56	250.00	5.58E+06	0.468
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.80	100.00	4.77E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS6-065**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180828A03    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 28-Aug-2018 18:33

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.57	400.00	3.14E+07	1.459
<b>4,4'-DDE</b>	11.41	1.56	400.00	2.49E+07	1.155
<b>2,4'-DDD</b>	11.58	1.62	400.00	2.06E+07	1.273
<b>4,4'-DDD</b>	12.09	1.62	400.00	1.96E+07	1.211
<b>2,4'-DDT</b>	12.15	1.60	400.00	1.19E+07	1.157
<b>4,4'-DDT</b>	12.59	1.62	400.00	1.09E+07	1.065
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.55	250.00	1.35E+07	1.053
<b>4,4'-DDD, 13C12-</b>	12.08	1.57	250.00	1.01E+07	0.789
<b>4,4'-DDT, 13C12-</b>	12.58	1.56	250.00	6.41E+06	0.501
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.80	100.00	5.12E+06	

# ALS Life sciences

## Calibration Summary Report

Calibration Level	Filename	Run Date
CS-1	6-180827B09	27-Aug-2018 21:10
CS-2	6-180827B08	27-Aug-2018 20:50
CS-3	6-180827B07	27-Aug-2018 20:30
CS-4	6-180827B05	27-Aug-2018 19:49
CS-5	6-180827B04	27-Aug-2018 19:29
CS-6	6-180827B03	27-Aug-2018 19:13

Approved:	<i>R. Bakhtiari</i>
	--e-signature--
	31-Aug-2018

Target Analytes	Relative Response Factors						Mean	% RSD
	CS-1	CS-2	CS-3	CS-4	CS-5	CS-6		
<b>2,4'-DDE</b>	1.384	1.482	1.298	1.475	1.498	1.508	1.441	6%
<b>4,4'-DDE</b>	1.212	1.293	1.145	1.207	1.208	1.165	1.205	4%
<b>2,4'-DDD</b>	1.276	1.329	1.176	1.323	1.322	1.303	1.288	5%
<b>4,4'-DDD</b>	1.300	1.367	1.249	1.315	1.303	1.274	1.301	3%
<b>2,4'-DDT</b>	1.248	1.350	1.123	1.269	1.237	1.202	1.238	6%
<b>4,4'-DDT</b>	1.186	1.217	1.056	1.136	1.123	1.107	1.138	5%
<b>Extraction Standards</b>								
<b>4,4'-DDE, 13C12-</b>	0.940	0.905	0.952	0.892	0.949	0.969	0.935	3%
<b>4,4'-DDD, 13C12-</b>	0.738	0.728	0.751	0.690	0.784	0.839	0.755	7%
<b>4,4'-DDT, 13C12-</b>	0.486	0.478	0.503	0.448	0.531	0.564	0.502	8%

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS1-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B09      Inst # HRMS-6      Column HP5MSUSR163634H      Run Date 27-Aug-2018 21:10

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.60	2.00	1.38E+05	1.384
<b>4,4'-DDE</b>	11.43	1.61	2.00	1.20E+05	1.212
<b>2,4'-DDD</b>	11.6	1.61	2.00	9.96E+04	1.276
<b>4,4'-DDD</b>	12.1	1.68	2.00	1.01E+05	1.300
<b>2,4'-DDT</b>	12.16	1.66	2.00	6.41E+04	1.248
<b>4,4'-DDT</b>	12.6	1.60	2.00	6.09E+04	1.186
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.42	1.54	250.00	1.24E+07	0.940
<b>4,4'-DDD, 13C12-</b>	12.1	1.58	250.00	9.75E+06	0.738
<b>4,4'-DDT, 13C12-</b>	12.59	1.59	250.00	6.42E+06	0.486
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.80	100.00	5.28E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS2-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B08      Inst # HRMS-6      Column HP5MSUSR163634H      Run Date 27-Aug-2018 20:50

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.57	7.50	5.52E+05	1.482
<b>4,4'-DDE</b>	11.42	1.60	7.50	4.82E+05	1.293
<b>2,4'-DDD</b>	11.59	1.63	7.50	3.98E+05	1.329
<b>4,4'-DDD</b>	12.1	1.64	7.50	4.09E+05	1.367
<b>2,4'-DDT</b>	12.15	1.64	7.50	2.66E+05	1.350
<b>4,4'-DDT</b>	12.59	1.63	7.50	2.40E+05	1.217
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.54	250.00	1.24E+07	0.905
<b>4,4'-DDD, 13C12-</b>	12.09	1.57	250.00	9.99E+06	0.728
<b>4,4'-DDT, 13C12-</b>	12.59	1.59	250.00	6.56E+06	0.478
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.79	100.00	5.49E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS3-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B07    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 27-Aug-2018 20:30

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.56	20.00	1.23E+06	1.298
<b>4,4'-DDE</b>	11.41	1.58	20.00	1.08E+06	1.145
<b>2,4'-DDD</b>	11.58	1.61	20.00	8.77E+05	1.176
<b>4,4'-DDD</b>	12.09	1.61	20.00	9.31E+05	1.249
<b>2,4'-DDT</b>	12.14	1.64	20.00	5.61E+05	1.123
<b>4,4'-DDT</b>	12.58	1.64	20.00	5.27E+05	1.056
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.54	250.00	1.18E+07	0.952
<b>4,4'-DDD, 13C12-</b>	12.08	1.59	250.00	9.32E+06	0.751
<b>4,4'-DDT, 13C12-</b>	12.58	1.58	250.00	6.24E+06	0.503
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.79	100.00	4.96E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS4-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B05    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 27-Aug-2018 19:49

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.56	50.00	3.68E+06	1.475
<b>4,4'-DDE</b>	11.41	1.58	50.00	3.01E+06	1.207
<b>2,4'-DDD</b>	11.58	1.61	50.00	2.55E+06	1.323
<b>4,4'-DDD</b>	12.09	1.62	50.00	2.54E+06	1.315
<b>2,4'-DDT</b>	12.14	1.61	50.00	1.59E+06	1.269
<b>4,4'-DDT</b>	12.58	1.63	50.00	1.43E+06	1.136
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.53	250.00	1.25E+07	0.892
<b>4,4'-DDD, 13C12-</b>	12.08	1.57	250.00	9.65E+06	0.690
<b>4,4'-DDT, 13C12-</b>	12.58	1.56	250.00	6.27E+06	0.448
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.79	100.00	5.60E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS5-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B04      Inst # HRMS-6      Column HP5MSUSR163634H      Run Date 27-Aug-2018 19:29

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.89	1.58	150.00	1.11E+07	1.498
<b>4,4'-DDE</b>	11.42	1.59	150.00	8.94E+06	1.208
<b>2,4'-DDD</b>	11.59	1.63	150.00	8.08E+06	1.322
<b>4,4'-DDD</b>	12.09	1.61	150.00	7.96E+06	1.303
<b>2,4'-DDT</b>	12.15	1.61	150.00	5.12E+06	1.237
<b>4,4'-DDT</b>	12.59	1.61	150.00	4.65E+06	1.123
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.54	250.00	1.23E+07	0.949
<b>4,4'-DDD, 13C12-</b>	12.09	1.58	250.00	1.02E+07	0.784
<b>4,4'-DDT, 13C12-</b>	12.59	1.59	250.00	6.90E+06	0.531
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.55	0.79	100.00	5.20E+06	



# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS6-064**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180827B03    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 27-Aug-2018 19:13

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.56	400.00	3.11E+07	1.508
<b>4,4'-DDE</b>	11.42	1.57	400.00	2.40E+07	1.165
<b>2,4'-DDD</b>	11.59	1.63	400.00	2.32E+07	1.303
<b>4,4'-DDD</b>	12.09	1.63	400.00	2.27E+07	1.274
<b>2,4'-DDT</b>	12.15	1.61	400.00	1.44E+07	1.202
<b>4,4'-DDT</b>	12.59	1.63	400.00	1.33E+07	1.107
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.41	1.54	250.00	1.29E+07	0.969
<b>4,4'-DDD, 13C12-</b>	12.09	1.58	250.00	1.11E+07	0.839
<b>4,4'-DDT, 13C12-</b>	12.58	1.58	250.00	7.49E+06	0.564
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.78	100.00	5.32E+06	

# ALS Life sciences

## Calibration Summary Report

Calibration Level	Filename	Run Date
CS-1	6-180830A07	30-Aug-2018 11:38
CS-2	6-180830A06	30-Aug-2018 11:20
CS-3	6-180830A11	30-Aug-2018 13:01
CS-4	6-180830A10	30-Aug-2018 12:41
CS-5	6-180830A09	30-Aug-2018 12:21
CS-6	6-180830A08	30-Aug-2018 12:04

Approved:	<i>R. Bakhtiari</i>
	--e-signature--
	31-Aug-2018

Target Analytes	Relative Response Factors						Mean	% RSD
	CS-1	CS-2	CS-3	CS-4	CS-5	CS-6		
<b>2,4'-DDE</b>	1.360	1.482	1.322	1.419	1.498	1.464	1.424	5%
<b>4,4'-DDE</b>	1.072	1.163	1.032	1.114	1.124	1.090	1.099	4%
<b>2,4'-DDD</b>	1.157	1.280	1.168	1.210	1.259	1.249	1.221	4%
<b>4,4'-DDD</b>	1.136	1.249	1.126	1.133	1.226	1.141	1.169	5%
<b>2,4'-DDT</b>	1.095	1.216	1.086	1.237	1.172	1.185	1.165	5%
<b>4,4'-DDT</b>	0.986	1.097	0.986	1.066	1.051	1.038	1.037	4%
<b>Extraction Standards</b>								
<b>4,4'-DDE, 13C12-</b>	0.551	0.535	0.558	0.528	0.539	0.554	0.544	2%
<b>4,4'-DDD, 13C12-</b>	0.441	0.431	0.474	0.454	0.480	0.518	0.466	7%
<b>4,4'-DDT, 13C12-</b>	0.306	0.293	0.339	0.314	0.345	0.370	0.328	9%

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS1-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A07    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 11:38

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.87	1.53	2.00	5.80E+04	1.360
<b>4,4'-DDE</b>	11.4	1.57	2.00	4.57E+04	1.072
<b>2,4'-DDD</b>	11.57	1.51	2.00	3.95E+04	1.157
<b>4,4'-DDD</b>	12.08	1.49	2.00	3.88E+04	1.136
<b>2,4'-DDT</b>	12.14	1.43	2.00	2.60E+04	1.095
<b>4,4'-DDT</b>	12.58	1.58	2.00	2.34E+04	0.986
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.39	1.52	250.00	5.33E+06	0.551
<b>4,4'-DDD, 13C12-</b>	12.07	1.56	250.00	4.27E+06	0.441
<b>4,4'-DDT, 13C12-</b>	12.57	1.56	250.00	2.97E+06	0.306
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.53	0.78	100.00	3.87E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS2-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A06    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 11:20

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.57	7.50	2.28E+05	1.482
<b>4,4'-DDE</b>	11.41	1.57	7.50	1.79E+05	1.163
<b>2,4'-DDD</b>	11.58	1.59	7.50	1.59E+05	1.280
<b>4,4'-DDD</b>	12.09	1.59	7.50	1.55E+05	1.249
<b>2,4'-DDT</b>	12.14	1.59	7.50	1.02E+05	1.216
<b>4,4'-DDT</b>	12.58	1.61	7.50	9.23E+04	1.097
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.53	250.00	5.13E+06	0.535
<b>4,4'-DDD, 13C12-</b>	12.08	1.54	250.00	4.13E+06	0.431
<b>4,4'-DDT, 13C12-</b>	12.58	1.58	250.00	2.81E+06	0.293
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.78	100.00	3.84E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS3-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A11    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 13:01

Approved: *R. Bakhtiari*  
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 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.56	20.00	5.38E+05	1.322
<b>4,4'-DDE</b>	11.41	1.53	20.00	4.20E+05	1.032
<b>2,4'-DDD</b>	11.58	1.64	20.00	4.04E+05	1.168
<b>4,4'-DDD</b>	12.09	1.62	20.00	3.89E+05	1.126
<b>2,4'-DDT</b>	12.14	1.63	20.00	2.68E+05	1.086
<b>4,4'-DDT</b>	12.59	1.66	20.00	2.44E+05	0.986
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.53	250.00	5.09E+06	0.558
<b>4,4'-DDD, 13C12-</b>	12.08	1.54	250.00	4.32E+06	0.474
<b>4,4'-DDT, 13C12-</b>	12.58	1.55	250.00	3.09E+06	0.339
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.77	100.00	3.65E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS4-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A10    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 12:41

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.87	1.55	50.00	1.44E+06	1.419
<b>4,4'-DDE</b>	11.41	1.54	50.00	1.13E+06	1.114
<b>2,4'-DDD</b>	11.58	1.61	50.00	1.06E+06	1.210
<b>4,4'-DDD</b>	12.09	1.61	50.00	9.90E+05	1.133
<b>2,4'-DDT</b>	12.14	1.61	50.00	7.48E+05	1.237
<b>4,4'-DDT</b>	12.58	1.63	50.00	6.45E+05	1.066
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.53	250.00	5.09E+06	0.528
<b>4,4'-DDD, 13C12-</b>	12.08	1.56	250.00	4.37E+06	0.454
<b>4,4'-DDT, 13C12-</b>	12.58	1.57	250.00	3.02E+06	0.314
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.77	100.00	3.85E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS5-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A09    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 12:21

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.88	1.54	150.00	4.87E+06	1.498
<b>4,4'-DDE</b>	11.41	1.57	150.00	3.66E+06	1.124
<b>2,4'-DDD</b>	11.58	1.61	150.00	3.65E+06	1.259
<b>4,4'-DDD</b>	12.09	1.61	150.00	3.55E+06	1.226
<b>2,4'-DDT</b>	12.14	1.58	150.00	2.44E+06	1.172
<b>4,4'-DDT</b>	12.58	1.58	150.00	2.19E+06	1.051
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.52	250.00	5.42E+06	0.539
<b>4,4'-DDD, 13C12-</b>	12.08	1.57	250.00	4.83E+06	0.480
<b>4,4'-DDT, 13C12-</b>	12.58	1.56	250.00	3.47E+06	0.345
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.78	100.00	4.02E+06	

# ALS Life sciences

## Calibration Report

ALS Sample ID **H6-18-CS6-067**  
 Analysis Method EPA 1699 (mod)  
 Analysis Type Calibration

Filename 6-180830A08    Inst # HRMS-6    Column HP5MSUSR163634H    Run Date 30-Aug-2018 12:04

Approved: *R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

Target Analytes	Ret. Time	Ion Ratio	Concentration ng/mL	Response	RRF
<b>2,4'-DDE</b>	10.87	1.54	400.00	1.42E+07	1.464
<b>4,4'-DDE</b>	11.41	1.55	400.00	1.05E+07	1.090
<b>2,4'-DDD</b>	11.58	1.60	400.00	1.13E+07	1.249
<b>4,4'-DDD</b>	12.09	1.59	400.00	1.03E+07	1.141
<b>2,4'-DDT</b>	12.14	1.60	400.00	7.66E+06	1.185
<b>4,4'-DDT</b>	12.58	1.60	400.00	6.71E+06	1.038
<b>Extraction Standards</b>					
<b>4,4'-DDE, 13C12-</b>	11.4	1.51	250.00	6.05E+06	0.554
<b>4,4'-DDD, 13C12-</b>	12.08	1.57	250.00	5.65E+06	0.518
<b>4,4'-DDT, 13C12-</b>	12.58	1.57	250.00	4.04E+06	0.370
<b>Labeled Injection Standards</b>					
<b>13C12-PCB-52 (IS)</b>	9.54	0.77	100.00	4.37E+06	



# ALS Life sciences

## Second Source Calibration Verification Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-RS1-065	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
--

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180828A07
Run Date	28-Aug-18 19:54
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret. Time	% Rec	Limits	Flags
2,4'-DDE	0				
4,4'-DDE	150	11.42	92	75-125	
2,4'-DDD	0				
4,4'-DDD	150	12.10	95	75-125	
2,4'-DDT	0				
4,4'-DDT	150	12.59	92	75-125	
<b>Extraction Standards</b>	<b>ng/mL</b>				
4,4'-DDE, 13C12-	250	11.41	104	70-130	
4,4'-DDD, 13C12-	250	12.09	104	70-130	
4,4'-DDT, 13C12-	250	12.58	110	70-130	

# ALS Life sciences

## Second Source Calibration Verification Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-RS1-067	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
--e-signature--  
31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A12
Run Date	30-Aug-18 13:21
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	
2,4'-DDE	0				
4,4'-DDE	150	11.41	94	75-125	
2,4'-DDD	0				
4,4'-DDD	150	12.09	94	75-125	
2,4'-DDT	0				
4,4'-DDT	150	12.58	95	75-125	
<b>Extraction Standards</b>	<b>ng/mL</b>				
4,4'-DDE, 13C12-	250	11.40	100	70-130	
4,4'-DDD, 13C12-	250	12.08	104	70-130	
4,4'-DDT, 13C12-	250	12.58	104	70-130	

# ALS Life sciences

## Second Source Calibration Verification Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-RS1-064	Extraction Date	n/a	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	1 n/a	
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180827B10
Run Date	27-Aug-18 21:30
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret. Time	% Rec	Limits	Flags
2,4'-DDE	0				
4,4'-DDE	150	11.42	93	75-125	
2,4'-DDD	0				
4,4'-DDD	150	12.09	95	75-125	M
2,4'-DDT	0				M
4,4'-DDT	150	12.59	95	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.41	102	70-130	
4,4'-DDD, 13C12-	250	12.09	105	70-130	
4,4'-DDT, 13C12-	250	12.58	111	70-130	

M Indicates that a peak has been manually integrated.

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0837	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180827B55
Run Date	28-Aug-18 12:36
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.88	105	75-125	
4,4'-DDE	50	11.41	108	75-125	
2,4'-DDD	50	11.58	104	75-125	
4,4'-DDD	50	12.09	110	75-125	
2,4'-DDT	50	12.15	106	75-125	
4,4'-DDT	50	12.59	110	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.41	122	70-130	
4,4'-DDD, 13C12-	250	12.08	135	70-130	
4,4'-DDT, 13C12-	250	12.58	126	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0839	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180827B77
Run Date	28-Aug-18 16:59
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.89	107	75-125	
4,4'-DDE	50	11.42	110	75-125	
2,4'-DDD	50	11.59	113	75-125	
4,4'-DDD	50	12.10	110	75-125	
2,4'-DDT	50	12.16	115	75-125	
4,4'-DDT	50	12.60	108	75-125	
<b>Extraction Standards</b>					
4,4'-DDE, 13C12-	250	11.42	116	70-130	
4,4'-DDD, 13C12-	250	12.09	104	70-130	
4,4'-DDT, 13C12-	250	12.59	90	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0841	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180828A08
Run Date	28-Aug-18 20:16
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.88	100	75-125	
4,4'-DDE	50	11.41	99	75-125	
2,4'-DDD	50	11.58	100	75-125	
4,4'-DDD	50	12.09	97	75-125	
2,4'-DDT	50	12.14	108	75-125	
4,4'-DDT	50	12.58	97	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.40	95	70-130	
4,4'-DDD, 13C12-	250	12.08	95	70-130	
4,4'-DDT, 13C12-	250	12.58	96	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0843	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180828A33
Run Date	29-Aug-18 04:39
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec		Flags
2,4'-DDE	50	10.89	100	75-125	
4,4'-DDE	50	11.42	100	75-125	
2,4'-DDD	50	11.59	96	75-125	
4,4'-DDD	50	12.10	102	75-125	
2,4'-DDT	50	12.15	99	75-125	
4,4'-DDT	50	12.59	99	75-125	
<b>Extraction Standards</b>					
4,4'-DDE, 13C12-	250	11.41	102	70-130	
4,4'-DDD, 13C12-	250	12.09	113	70-130	
4,4'-DDT, 13C12-	250	12.59	119	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0845	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180828A56
Run Date	29-Aug-18 12:22
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.87	103	75-125	
4,4'-DDE	50	11.41	101	75-125	
2,4'-DDD	50	11.58	94	75-125	
4,4'-DDD	50	12.08	100	75-125	
2,4'-DDT	50	12.14	102	75-125	
4,4'-DDT	50	12.58	101	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.40	98	70-130	
4,4'-DDD, 13C12-	250	12.08	122	70-130	
4,4'-DDT, 13C12-	250	12.57	135	70-130	



# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0853	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A13
Run Date	30-Aug-18 13:46
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.88	100	75-125	
4,4'-DDE	50	11.41	100	75-125	
2,4'-DDD	50	11.58	99	75-125	
4,4'-DDD	50	12.09	101	75-125	
2,4'-DDT	50	12.14	99	75-125	
4,4'-DDT	50	12.58	100	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.40	97	70-130	
4,4'-DDD, 13C12-	250	12.08	99	70-130	
4,4'-DDT, 13C12-	250	12.58	100	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0855	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A30
Run Date	30-Aug-18 19:24
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.87	98	75-125	
4,4'-DDE	50	11.40	99	75-125	
2,4'-DDD	50	11.57	99	75-125	
4,4'-DDD	50	12.08	100	75-125	
2,4'-DDT	50	12.14	101	75-125	
4,4'-DDT	50	12.58	101	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.40	97	70-130	
4,4'-DDD, 13C12-	250	12.08	93	70-130	
4,4'-DDT, 13C12-	250	12.57	90	70-130	

# ALS Life sciences

## Continuing Calibration Report

**Sample Name**  
 ALS Sample ID  
 Analysis Method  
 Analysis Type  
 Sample Matrix

**CCV**  
 H6-18-CCV-0847  
 EPA 1699 (mod)  
 CCV  
 QC

Sampling Date n/a  
 Extraction Date n/a  
 Sample Size 1 n/a  
 Percent Solid n/a  
 Split Ratio 1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

**Run Information**

**Run 1**

Filename 6-180828A68  
 Run Date 29-Aug-18 16:24  
 Final Volume 1020 uL  
 Dilution Factor 1  
 Analysis Units %  
 Instrument - Column HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec		Flags
2,4'-DDE	50	10.88	101	75-125	
4,4'-DDE	50	11.41	100	75-125	
2,4'-DDD	50	11.58	103	75-125	
4,4'-DDD	50	12.09	102	75-125	
2,4'-DDT	50	12.14	104	75-125	
4,4'-DDT	50	12.58	101	75-125	
<b>Extraction Standards</b>					
4,4'-DDE, 13C12-	250	11.40	92	70-130	
4,4'-DDD, 13C12-	250	12.08	85	70-130	
4,4'-DDT, 13C12-	250	12.58	80	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0857	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A59
Run Date	31-Aug-18 05:07
Final Volume	1000 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.87	98	75-125	
4,4'-DDE	50	11.41	99	75-125	
2,4'-DDD	50	11.58	106	75-125	
4,4'-DDD	50	12.09	97	75-125	
2,4'-DDT	50	12.14	105	75-125	
4,4'-DDT	50	12.58	99	75-125	
<b>Extraction Standards</b>					
4,4'-DDE, 13C12-	250	11.40	93	70-130	
4,4'-DDD, 13C12-	250	12.08	64	70-130	
4,4'-DDT, 13C12-	250	12.58	56	70-130	

# ALS Life sciences

## Continuing Calibration Report

<b>Sample Name</b>	CCV	Sampling Date	n/a	
ALS Sample ID	H6-18-CCV-0859	Extraction Date	n/a	
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a
Analysis Type	CCV	Percent Solid	n/a	
Sample Matrix	QC	Split Ratio	1	

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A89
Run Date	31-Aug-18 15:10
Final Volume	1000 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng/mL	Ret.		Limits	
		Time	% Rec	Flags	Flags
2,4'-DDE	50	10.87	101	75-125	
4,4'-DDE	50	11.40	100	75-125	
2,4'-DDD	50	11.57	106	75-125	
4,4'-DDD	50	12.08	99	75-125	
2,4'-DDT	50	12.14	108	75-125	
4,4'-DDT	50	12.58	98	75-125	
<b>Extraction Standards</b>					
	ng/mL				
4,4'-DDE, 13C12-	250	11.40	91	70-130	
4,4'-DDD, 13C12-	250	12.08	74	70-130	
4,4'-DDT, 13C12-	250	12.57	63	70-130	

# **SVOC DATA PACKAGE**

## **SECTION 5: QC SAMPLE DATA**

Including:

- Laboratory Method Blank Analysis Reports
- Laboratory Control Sample Analysis Reports
- Matrix Spike Analysis Reports
- Other QC Sample Analysis Reports (where applicable)

# ALS Life sciences

## Laboratory Method Blank Analysis Report

<b>Sample Name</b>	<b>Method Blank</b>	Sampling Date	n/a	
ALS Sample ID	WG2845105-1	Extraction Date	20-Aug-18	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	7.21 g	
Analysis Type	Blank	Percent Solid	100.0%	
Sample Matrix	QC	Split Ratio	1	

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180827B61
Run Date	28-Aug-18 14:37
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	<0.0020	0.00071	M,J,R	0.0020	0.28
4,4'-DDE	11.41	0.00572	0.00085	J		0.28
2,4'-DDD	11.58	0.00505	0.0014	M,J		0.28
4,4'-DDD	12.09	0.00696	0.0014	M,J		0.28
2,4'-DDT	12.14	<0.0076	0.0014	M,J,R	0.0076	0.28
4,4'-DDT	12.58	0.0213	0.0025	M,J		0.28
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	79	21-125		
4,4'-DDD, 13C12-	125	12.08	82	5-150		
4,4'-DDT, 13C12-	125	12.58	75	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M Indicates that a peak has been manually integrated.

J indicates that a target analyte was detected below the calibrated range.

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Laboratory Control Sample Analysis Report

<b>Sample Name</b>	<b>Laboratory Control Sample</b>	Sampling Date	n/a
ALS Sample ID	WG2845105-2	Extraction Date	20-Aug-18
Analysis Method	EPA 1699 (mod)	Sample Size	1 n/a
Analysis Type	LCS	Percent Solid	49.5%
Sample Matrix	QC	Split Ratio	1

Approved:  
*R. Bakhtiari*  
 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180827B58
Run Date	28-Aug-18 13:36
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng	Ret. Limits		
		Time	% Rec	Flags
2,4'-DDE	25	10.89	115	50-120
4,4'-DDE	25	11.42	108	50-120
2,4'-DDD	25	11.59	123	42-120
4,4'-DDD	25	12.09	105	42-120
2,4'-DDT	25	12.15	119	50-120
4,4'-DDT	25	12.59	108	50-120
<b>Extraction Standards</b>				
4,4'-DDE, 13C12-	125	11.41	81	21-125
4,4'-DDD, 13C12-	125	12.09	74	13-200
4,4'-DDT, 13C12-	125	12.58	70	13-200



# ALS Life sciences

## Laboratory Method Blank Analysis Report

<b>Sample Name</b>	<b>Method Blank</b>	Sampling Date	n/a		Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
ALS Sample ID	WG2847435-1	Extraction Date	13-Aug-18		
Analysis Method	EPA 1699 (mod)	Sample Size	1	L	
Analysis Type	Blank	Percent Solid	n/a		
Sample Matrix	QC	Split Ratio	1		

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A21
Run Date	30-Aug-18 16:23
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	ng/L
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/L	EDL ng/L	Flags	EMPC ng/L	LQL
2,4'-DDE	10.86	0.0969	0.022	M,J	2.0	
4,4'-DDE	11.40	0.185	0.028	M,J	2.0	
2,4'-DDD	11.57	<0.13	0.038	M,J,R	0.13	2.0
4,4'-DDD	12.08	0.132	0.039	M,J	2.0	
2,4'-DDT	12.13	<0.16	0.039	M,J,R	0.16	2.0
4,4'-DDT	12.57	0.391	0.072	M,J	2.0	
<b>Extraction Standards    ng</b>						
4,4'-DDE, 13C12-	125	11.39	59	21-125		
4,4'-DDD, 13C12-	125	12.07	61	5-150		
4,4'-DDT, 13C12-	125	12.57	53	5-120		

EDL                    Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL                   Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M                      Indicates that a peak has been manually integrated.

J                        indicates that a target analyte was detected below the calibrated range.

R                        Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC                 Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Laboratory Control Sample Analysis Report

<b>Sample Name</b>	<b>Laboratory Control Sample</b>	Sampling Date	n/a		
ALS Sample ID	WG2847435-2	Extraction Date	13-Aug-18		
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a	
Analysis Type	LCS	Percent Solid	n/a		
Sample Matrix	QC	Split Ratio	1		

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 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A18
Run Date	30-Aug-18 15:23
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng	Ret.		Limits		Flags
		Time	% Rec	50-120	100-120	
2,4'-DDE	25	10.87	111	50-120		
4,4'-DDE	25	11.41	101	50-120		
2,4'-DDD	25	11.58	108	42-120		M
4,4'-DDD	25	12.08	97	42-120		
2,4'-DDT	25	12.14	107	50-120		
4,4'-DDT	25	12.58	99	50-120		
<b>Extraction Standards</b>						
4,4'-DDE, 13C12-	125	11.40	65	21-125		
4,4'-DDD, 13C12-	125	12.08	68	13-200		
4,4'-DDT, 13C12-	125	12.57	65	13-200		

M Indicates that a peak has been manually integrated.

# ALS Life sciences

## Laboratory Method Blank Analysis Report

<b>Sample Name</b>	<b>Method Blank</b>	Sampling Date	n/a	
ALS Sample ID	WG2848035-1	Extraction Date	21-Aug-18	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	6.25 g	
Analysis Type	Blank	Percent Solid	100.0%	
Sample Matrix	QC	Split Ratio	1	

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180828A38
Run Date	29-Aug-18 06:20
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.89	0.0246	0.0060	M,J	0.33	
4,4'-DDE	11.42	0.0481	0.0070	M,J	0.33	
2,4'-DDD	11.59	<0.0099	0.0096	M,J,R	0.0099	0.33
4,4'-DDD	12.09	0.0137	0.0069	M,J	0.33	
2,4'-DDT	NotFnd	<0.0071	0.0071	U	0.33	
4,4'-DDT	12.59	0.0347	0.015	M,J	0.33	
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.41	16	21-125		
4,4'-DDD, 13C12-	125	12.09	31	5-150		
4,4'-DDT, 13C12-	125	12.58	23	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M Indicates that a peak has been manually integrated.

U Indicates that this compound was not detected above the EDL.

J indicates that a target analyte was detected below the calibrated range.

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Laboratory Control Sample Analysis Report

<b>Sample Name</b>	<b>Laboratory Control Sample</b>	Sampling Date	n/a
ALS Sample ID	WG2848035-2	Extraction Date	21-Aug-18
Analysis Method	EPA 1699 (mod)	Sample Size	1 n/a
Analysis Type	LCS	Percent Solid	50.3%
Sample Matrix	QC	Split Ratio	1

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 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A16
Run Date	30-Aug-18 14:43
Final Volume	1020 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng	Ret.		Limits	
		Time	% Rec		Flags
2,4'-DDE	25	10.87	129	50-120	
4,4'-DDE	25	11.40	96	50-120	
2,4'-DDD	25	11.57	102	42-120	
4,4'-DDD	25	12.08	97	42-120	
2,4'-DDT	25	12.14	89	50-120	
4,4'-DDT	25	12.58	100	50-120	
<b>Extraction Standards</b>					
4,4'-DDE, 13C12-	125	11.40	24	21-125	
4,4'-DDD, 13C12-	125	12.08	47	13-200	
4,4'-DDT, 13C12-	125	12.57	33	13-200	

# ALS Life sciences

## Laboratory Method Blank Analysis Report

<b>Sample Name</b>	Method Blank	Sampling Date	n/a		
ALS Sample ID	WG2848060-1	Extraction Date	22-Aug-18		Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	5.68	g	
Analysis Type	Blank	Percent Solid	100.0%		
Sample Matrix	QC	Split Ratio	1		

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A36
Run Date	30-Aug-18 21:24
Final Volume	1020 uL
Dilution Factor	5
Analysis Units	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.87	<0.046	0.024	M,J,R	0.046	1.8
4,4'-DDE	11.40	0.0789	0.031	M,J		1.8
2,4'-DDD	NotFnd	<0.039	0.039	U		1.8
4,4'-DDD	12.08	<0.068	0.049	M,J,R	0.068	1.8
2,4'-DDT	NotFnd	<0.049	0.049	U		1.8
4,4'-DDT	12.57	0.291	0.073	M,J		1.8
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.39	67	21-125		
4,4'-DDD, 13C12-	125	12.07	61	5-150		
4,4'-DDT, 13C12-	125	12.57	57	5-120		

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M Indicates that a peak has been manually integrated.

U Indicates that this compound was not detected above the EDL.

J indicates that a target analyte was detected below the calibrated range.

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Laboratory Control Sample Analysis Report

<b>Sample Name</b>	<b>Laboratory Control Sample</b>	Sampling Date	n/a		
ALS Sample ID	WG2848060-2	Extraction Date	22-Aug-18		
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a	
Analysis Type	LCS	Percent Solid	50.0%		
Sample Matrix	QC	Split Ratio	1		

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 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A33
Run Date	30-Aug-18 20:24
Final Volume	1020 uL
Dilution Factor	5
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng	Ret.		Limits		Flags
		Time	% Rec			
2,4'-DDE	25	10.87	98	50-120		
4,4'-DDE	25	11.40	90	50-120		
2,4'-DDD	25	11.58	104	42-120		M
4,4'-DDD	25	12.08	88	42-120		M
2,4'-DDT	25	12.14	105	50-120		M
4,4'-DDT	25	12.58	101	50-120		M
<b>Extraction Standards</b>	<b>ng</b>					
4,4'-DDE, 13C12-	125	11.40	72	21-125		
4,4'-DDD, 13C12-	125	12.08	63	13-200		
4,4'-DDT, 13C12-	125	12.57	60	13-200		

M Indicates that a peak has been manually integrated.

# ALS Life sciences

## Laboratory Method Blank Analysis Report

<b>Sample Name</b>	<b>Method Blank</b>	Sampling Date	n/a	
ALS Sample ID	WG2848066-1	Extraction Date	23-Aug-18	Approved: <i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
Analysis Method	EPA 1699 (mod)	Sample Size	6.07 g	
Analysis Type	Blank	Percent Solid	100.0%	
Sample Matrix	QC	Split Ratio	1	

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A65
Run Date	31-Aug-18 07:07
Final Volume	1000 uL
Dilution Factor	5
Analysis Units	ng/g
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	Ret. Time	Conc. ng/g	EDL ng/g	Flags	EMPC ng/g	LQL
2,4'-DDE	10.88	0.0337	0.010	M,J		1.6
4,4'-DDE	11.41	0.0742	0.013	M,J		1.6
2,4'-DDD	11.58	<0.078	0.019	M,J,R	0.078	1.6
4,4'-DDD	12.09	0.115	0.028	M,J		1.6
2,4'-DDT	NotFnd	<0.028	0.028	U		1.6
4,4'-DDT	12.58	0.299	0.048	M,J		1.6
<b>Extraction Standards    ng</b>						
4,4'-DDE, 13C12-	125	11.40	68	21-125		
4,4'-DDD, 13C12-	125	12.08	50	5-150		
4,4'-DDT, 13C12-	125	12.58	43	5-120		

EDL                    Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.

LQL                    Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.

M                        Indicates that a peak has been manually integrated.

J                        indicates that a target analyte was detected below the calibrated range.

R                        Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

EMPC                    Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

# ALS Life sciences

## Laboratory Control Sample Analysis Report

<b>Sample Name</b>	<b>Laboratory Control Sample</b>	Sampling Date	n/a		
ALS Sample ID	WG2848066-2	Extraction Date	23-Aug-18		
Analysis Method	EPA 1699 (mod)	Sample Size	1	n/a	
Analysis Type	LCS	Percent Solid	50.2%		
Sample Matrix	QC	Split Ratio	1		

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 --e-signature--  
 31-Aug-2018

<b>Run Information</b>	<b>Run 1</b>
Filename	6-180830A62
Run Date	31-Aug-18 06:07
Final Volume	1000 uL
Dilution Factor	5
Analysis Units	%
Instrument - Column	HRMS-6 HP5MSUSR163634H

Target Analytes	ng	Ret. Limits		
		Time	% Rec	Flags
2,4'-DDE	25	10.88	107	50-120
4,4'-DDE	25	11.41	99	50-120
2,4'-DDD	25	11.58	112	42-120
4,4'-DDD	25	12.09	96	42-120
2,4'-DDT	25	12.14	100	50-120
4,4'-DDT	25	12.59	95	50-120
<b>Extraction Standards</b>				
4,4'-DDE, 13C12-	125	11.40	68	21-125
4,4'-DDD, 13C12-	125	12.08	47	13-200
4,4'-DDT, 13C12-	125	12.58	42	13-200



# SVOC DATA PACKAGE

## SECTION 6: INTERNAL RECORDS

Including:

- Prep Logs
- Independent calculation checks
- Others as listed below:

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# ALS Life sciences

## Sample Calculation Report

**CS3 RRF Check**

Approved:	<i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
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$$\text{RRF} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{Concentration of 13C2-4,4'DDE}}{\text{Concentration of DDE}}$$

$$\text{RRF} = \frac{1049291.90}{11661127.00} \times \frac{250.00}{20}$$

Calculated Value	Value from TargetLynx
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=	1.12	1.13
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**Calculation of 4,4'-DDE amount in L2144849-1**

$$\text{ng} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{ng of 13C12-4,4'-DDE spiked}}{\text{Mean RRF} * \text{Sample Size}}$$

$$\text{ng/g} = \frac{1024101.6}{558356.8} \times \frac{125}{1.20 * 8.03} = 23.8 \quad \mathbf{23.8}$$

**Calculation of 13C12-4,4'-DDE Recovery in L2144849-1**

$$\% \text{ Recovery} = \frac{\text{Response of 13C12-4,4'-DDE}}{\text{Response of 13C12-PCB-52}} \times \frac{\text{ng of 13C12-PCB-52} * 100}{\text{Mean RRF} * \text{Amount Spiked}}$$

$$\% \text{ Recovery} = \frac{558356.8}{319957.1} \times \frac{50 * 100}{0.99 * 125} = 70 \quad \mathbf{70 \%}$$

# ALS Life sciences

## Sample Calculation Report

**CS3 RRF Check**

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$$\text{RRF} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{Concentration of 13C2-4,4'DDE}}{\text{Concentration of DDE}}$$

$$\text{RRF} = \frac{419954.60}{5086542.30} \times \frac{250.00}{20}$$

Calculated Value	Value from TargetLyn x
------------------	------------------------

= 1.03	1.03
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**Calculation of 4,4'-DDE amount in L2144849-32**

$$\text{ng} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{ng of 13C12-4,4'-DDE spiked}}{\text{Mean RRF} * \text{Sample Size}}$$

$$\text{ng/g} = \frac{1695.3}{198838.1} \times \frac{125}{1.10 * 0.93} = 1.04 \quad 1.04$$

**Calculation of 13C12-4,4'-DDE Recovery in L2144849-32**

$$\% \text{ Recovery} = \frac{\text{Response of 13C12-4,4'-DDE}}{\text{Response of 13C12-PCB-52}} \times \frac{\text{ng of 13C12-PCB-52} * 100}{\text{Mean RRF} * \text{Amount Spiked}}$$

$$\% \text{ Recovery} = \frac{198838.1}{1968402.4} \times \frac{50 * 100}{0.54 * 125} = 7 \quad 7 \%$$

# ALS Life sciences

## Sample Calculation Report

### CS3 RRF Check

Approved:	<i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
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$$\text{RRF} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{Concentration of 13C2-4,4'DDE}}{\text{Concentration of DDE}}$$

Calculated Value	Value from TargetLynx
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$$\text{RRF} = \frac{1049291.90}{11661127.00} \times \frac{250.00}{20} = 1.125 \quad \text{Value from TargetLynx: } 1.125$$

### Calculation of 4,4'-DDE amount in L2144849-9

$$\text{ng} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{ng of 13C12-4,4'-DDE spiked}}{\text{Mean RRF} * \text{Sample Size}}$$

$$\text{ng/g} = \frac{250098.3}{347440.5} \times \frac{125}{1.20 * 4.41} = 17.0 \quad \text{Value from TargetLynx: } 17.0$$

### Calculation of 13C12-4,4'-DDE Recovery in L2144849-9

$$\% \text{ Recovery} = \frac{\text{Response of 13C12-4,4'-DDE}}{\text{Response of 13C12-PCB-52}} \times \frac{\text{ng of 13C12-PCB-52} * 100}{\text{Mean RRF} * \text{Amount Spiked}}$$

$$\% \text{ Recovery} = \frac{347440.5}{428996.9} \times \frac{50 * 100}{0.99 * 125} = 33 \quad \text{Value from TargetLynx: } 33 \%$$

# ALS Life sciences

## Sample Calculation Report

**CS3 RRF Check**

Approved:	<i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
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$$\text{RRF} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{Concentration of 13C2-4,4'DDE}}{\text{Concentration of DDE}}$$

$$\text{RRF} = \frac{419954.60}{5086542.30} \times \frac{250.00}{20}$$

Calculated Value	Value from TargetLynx
------------------	-----------------------

=	1.03	1.03
---	------	------

**Calculation of 4,4'-DDE amount in L2144849-19**

$$\text{ng} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{ng of 13C12-4,4'-DDE spiked}}{\text{Mean RRF} * \text{Sample Size}}$$

$$\text{ng/g} = \frac{36472.6}{310192.9} \times \frac{125}{1.10 * 3.51} = 3.81 \quad \mathbf{3.81}$$

**Calculation of 13C12-4,4'-DDE Recovery in L2144849-19**

$$\% \text{ Recovery} = \frac{\text{Response of 13C12-4,4'-DDE}}{\text{Response of 13C12-PCB-52}} \times \frac{\text{ng of 13C12-PCB-52} * 100}{\text{Mean RRF} * \text{Amount Spiked}}$$

$$\% \text{ Recovery} = \frac{310192.9}{285296.2} \times \frac{50 * 100}{0.54 * 125} = 80 \quad \mathbf{80 \%}$$

# ALS Life sciences

## Sample Calculation Report

### CS3 RRF Check

Approved:	<i>R. Bakhtiari</i> --e-signature-- 31-Aug-2018
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$$\text{RRF} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{Concentration of 13C2-4,4'DDE}}{\text{Concentration of DDE}}$$

$$\text{RRF} = \frac{419954.60}{5086542.30} \times \frac{250.00}{20} = 1.03$$

Calculated Value	Value from TargetLynx
------------------	-----------------------

1.03	1.03
------	------

### Calculation of 4,4'-DDE amount in L2144849-21

$$\text{ng} = \frac{\text{Response of 4,4'-DDE}}{\text{Response of 13C12-4,4'DDE}} \times \frac{\text{ng of 13C12-4,4'-DDE spiked}}{\text{Mean RRF} * \text{Sample Size}}$$

$$\text{ng/g} = \frac{75117.5}{320441.8} \times \frac{125}{1.10 * 4.33} = 6.15$$

6.15

### Calculation of 13C12-4,4'-DDE Recovery in L2144849-21

$$\% \text{ Recovery} = \frac{\text{Response of 13C12-4,4'-DDE}}{\text{Response of 13C12-PCB-52}} \times \frac{\text{ng of 13C12-PCB-52} * 100}{\text{Mean RRF} * \text{Amount Spiked}}$$

$$\% \text{ Recovery} = \frac{320441.8}{293130.7} \times \frac{50 * 100}{0.54 * 125} = 80$$

80 %



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# SVOC DATA PACKAGE

## SECTION 7: SHIPPING/RECEIVING DOCUMENTS

Including:

- Airbills
- Chain-of-Custody Records
- Sample Log-in Sheet(s) - where applicable
- Others as listed below:

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