eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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Laboratory Job ID: 580-85913-1
Client Project/Site: Portland Harbor Pre-Remedial Design
Revision: 1

For:
AECOM
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Attn: Amy Dahl

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Authorized for release by:
5/21/2019 9:45:16 AM

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Table of Contents

Job ID: 580-85913-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Portland Harbor Pre-Remedial Design
Report Number: 580-85913-1

Level II Revision: May 21, 2019
This revision is for the Level II report only. The Total Organic Carbon Subcontract data from Analytical Resources, Inc. was not included in the initial submission.

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
Five samples were received on 5/3/2019 11:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 4.8º C.

A sample container was provided to be archived frozen at the TestAmerica Sacramento laboratory pending potential additional analyses.

This report contains results for all analyses performed at TestAmerica Seattle.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DIESEL AND EXTENDED RANGE ORGANICS
Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for diesel and extended range organics in accordance with Method NWTPH-Dx. The samples were prepared on 05/06/2019 and analyzed on 05/08/2019.

Motor Oil (>C24-C36) failed the recovery criteria high for the MSD of sample PDI-ST-T06B-1905MSD (580-85913-4) in batch 580-300180. The MS and associated LCS/LCSD recoveries met acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DIESEL AND MOTOR OIL RANGE ORGANICS - RINSE BLANK
Sample PDI-RB-ST-190501 (580-85913-5) was analyzed for diesel and motor oil range organics in accordance with Method NWTPH-Dx. The sample was prepared on 05/12/2019 and analyzed on 05/16/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 580-85913-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

METALS (ICPMS)

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for Metals (ICPMS) in accordance with 6020A_LL. The samples were prepared on 05/14/2019 and analyzed on 05/15/2019.

Lead exceeded the RPD limit for the duplicate of sample PDI-ST-T06B-1905DU (580-85913-4). The MS/MSD and associated LCS/LCSD recoveries and precision met acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for total mercury in accordance with EPA SW-846 Method 7471A. The samples were prepared and analyzed on 05/15/2019.

Mercury failed the recovery criteria high for the MS of sample PDI-ST-T06B-1905MS (580-85913-4) in batch 580-300765. Mercury failed the recovery criteria high for the MSD of sample PDI-ST-T06B-1905MSD (580-85913-4) in batch 580-300765. The associated LCS/LCSD recoveries met acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICPMS) - RINSE BLANK

Sample PDI-RB-ST-190501 (580-85913-5) was analyzed for Metals (ICPMS) in accordance with 6020A_LL. The sample was prepared on 05/15/2019 and analyzed on 05/16/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY - RINSE BLANK

Sample PDI-RB-ST-190501 (580-85913-5) was analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The sample was prepared and analyzed on 05/07/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 05/13/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GRAIN SIZE

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for grain size in accordance with ASTM D7928/D6913. The samples were analyzed on 05/06/2019.

Gravel exceeded the RPD limit for the duplicate of sample PDI-ST-T07A-1905DU (580-85913-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 05/07/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SOLIDS @ 70C

Job ID: 580-85913-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Samples PDI-ST-T07A-1905 (580-85913-1), PDI-ST-T07B-1905 (580-85913-2), PDI-ST-T06A-1905 (580-85913-3) and PDI-ST-T06B-1905 (580-85913-4) were analyzed for Total Solids @ 70C in accordance with Moisture @ 70C. The samples were analyzed on 05/15/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T07A-1905
Lab Sample ID: 580-85913-1

Date Collected: 05/01/19 16:45
Matrix: Solid
Date Received: 05/03/19 11:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	59000		2000	44	mg/Kg			05/13/19 10:10	1
Total Solids	49.7		0.1	0.1	%			05/07/19 10:40	1
Total Solids @ 70°C	50	H	0.10	0.10	%			05/15/19 15:38	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.2				%			05/06/19 19:06	1
Coarse Sand	0.8				%			05/06/19 19:06	1
Fine Sand	57.0				%			05/06/19 19:06	1
Gravel	1.0				%			05/06/19 19:06	1
Medium Sand	2.3				%			05/06/19 19:06	1
Silt	32.7				%			05/06/19 19:06	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T07A-1905
Lab Sample ID: 580-85913-1
Date Collected: 05/01/19 16:45
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 49.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	140		82	20	mg/Kg	☼	05/06/19 09:30	05/08/19 20:14	1
Motor Oil (>C24-C36)	750		82	29	mg/Kg	☼	05/06/19 09:30	05/08/19 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*05/06/19 09:30*	*05/08/19 20:14*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5		0.45	0.090	mg/Kg	☼	05/14/19 17:41	05/15/19 09:48	5
Cadmium	0.20	J	0.36	0.069	mg/Kg	☼	05/14/19 17:41	05/15/19 09:48	5
Copper	29		0.90	0.20	mg/Kg	☼	05/14/19 17:41	05/15/19 09:48	5
Lead	11		0.45	0.043	mg/Kg	☼	05/14/19 17:41	05/15/19 09:48	5
Zinc	80		4.5	1.4	mg/Kg	☼	05/14/19 17:41	05/15/19 09:48	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.070		0.056	0.017	mg/Kg	☼	05/15/19 09:29	05/15/19 14:10	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T07B-1905
Lab Sample ID: 580-85913-2
Date Collected: 05/01/19 17:00
Matrix: Solid
Date Received: 05/03/19 11:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	59000		2000	44	mg/Kg			05/13/19 10:15	1
Total Solids	41.9		0.1	0.1	%			05/07/19 10:40	1
Total Solids @ 70°C	45	H	0.10	0.10	%			05/15/19 15:38	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.5				%			05/06/19 19:06	1
Coarse Sand	0.7				%			05/06/19 19:06	1
Fine Sand	54.2				%			05/06/19 19:06	1
Gravel	0.0				%			05/06/19 19:06	1
Medium Sand	1.9				%			05/06/19 19:06	1
Silt	34.6				%			05/06/19 19:06	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T07B-1905
Lab Sample ID: 580-85913-2
Date Collected: 05/01/19 17:00
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 41.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	200	J	310	76	mg/Kg	☼	05/06/19 09:30	05/08/19 20:36	3
Motor Oil (>C24-C36)	760		310	110	mg/Kg	☼	05/06/19 09:30	05/08/19 20:36	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*05/06/19 09:30*	*05/08/19 20:36*	*3*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5		0.55	0.11	mg/Kg	☼	05/14/19 17:41	05/15/19 08:31	5
Cadmium	0.14	J	0.44	0.084	mg/Kg	☼	05/14/19 17:41	05/15/19 08:31	5
Copper	29		1.1	0.24	mg/Kg	☼	05/14/19 17:41	05/15/19 08:31	5
Lead	7.8		0.55	0.053	mg/Kg	☼	05/14/19 17:41	05/15/19 08:31	5
Zinc	82		5.5	1.8	mg/Kg	☼	05/14/19 17:41	05/15/19 08:31	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.13		0.066	0.020	mg/Kg	☼	05/15/19 09:29	05/15/19 14:08	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T06A-1905
Lab Sample ID: 580-85913-3
Date Collected: 05/01/19 17:15
Matrix: Solid
Date Received: 05/03/19 11:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	43000		2000	44	mg/Kg			05/13/19 10:20	1
Total Solids	45.8		0.1	0.1	%			05/07/19 10:40	1
Total Solids @ 70°C	48	H	0.10	0.10	%			05/15/19 15:38	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.4				%			05/06/19 19:06	1
Coarse Sand	0.1				%			05/06/19 19:06	1
Fine Sand	55.1				%			05/06/19 19:06	1
Gravel	0.1				%			05/06/19 19:06	1
Medium Sand	1.1				%			05/06/19 19:06	1
Silt	36.2				%			05/06/19 19:06	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T06A-1905
Lab Sample ID: 580-85913-3
Date Collected: 05/01/19 17:15
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 45.8

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	71	J	280	69	mg/Kg	☼	05/06/19 09:30	05/08/19 21:22	3
Motor Oil (>C24-C36)	440		280	98	mg/Kg	☼	05/06/19 09:30	05/08/19 21:22	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*05/06/19 09:30*	*05/08/19 21:22*	*3*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		0.39	0.079	mg/Kg	☼	05/14/19 17:41	05/15/19 10:15	5
Cadmium	0.15	J	0.31	0.060	mg/Kg	☼	05/14/19 17:41	05/15/19 10:15	5
Copper	29		0.79	0.17	mg/Kg	☼	05/14/19 17:41	05/15/19 10:15	5
Lead	7.6		0.39	0.038	mg/Kg	☼	05/14/19 17:41	05/15/19 10:15	5
Zinc	75		3.9	1.3	mg/Kg	☼	05/14/19 17:41	05/15/19 10:15	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.076		0.058	0.017	mg/Kg	☼	05/15/19 09:29	05/15/19 14:01	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T06B-1905
Lab Sample ID: 580-85913-4

Date Collected: 05/01/19 17:10
Matrix: Solid
Date Received: 05/03/19 11:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	23000		2000	44	mg/Kg			05/13/19 09:53	1
Total Solids	40.1		0.1	0.1	%			05/07/19 10:40	1
Total Solids @ 70°C	50	H	0.10	0.10	%			05/15/19 15:38	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.7				%			05/06/19 19:06	1
Coarse Sand	0.3				%			05/06/19 19:06	1
Fine Sand	68.3				%			05/06/19 19:06	1
Gravel	0.1				%			05/06/19 19:06	1
Medium Sand	2.6				%			05/06/19 19:06	1
Silt	21.1				%			05/06/19 19:06	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T06B-1905
Lab Sample ID: 580-85913-4
Date Collected: 05/01/19 17:10
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 40.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	87	J	300	73	mg/Kg	☼	05/06/19 09:30	05/08/19 21:44	3
Motor Oil (>C24-C36)	620	F1	300	100	mg/Kg	☼	05/06/19 09:30	05/08/19 21:44	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*05/06/19 09:30*	*05/08/19 21:44*	*3*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0		0.36	0.072	mg/Kg	☼	05/14/19 17:41	05/15/19 08:35	5
Cadmium	0.13	J	0.29	0.055	mg/Kg	☼	05/14/19 17:41	05/15/19 08:35	5
Copper	32		0.72	0.16	mg/Kg	☼	05/14/19 17:41	05/15/19 08:35	5
Lead	9.4		0.36	0.035	mg/Kg	☼	05/14/19 17:41	05/15/19 08:35	5
Zinc	96		3.6	1.2	mg/Kg	☼	05/14/19 17:41	05/15/19 08:35	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	F1	0.072	0.022	mg/Kg	☼	05/15/19 09:29	05/15/19 13:52	1

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-RB-ST-190501
Lab Sample ID: 580-85913-5
Date Collected: 05/01/19 17:45
Matrix: Water
Date Received: 05/03/19 11:05

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.12	0.069	mg/L		05/12/19 13:23	05/16/19 14:19	1
Motor Oil (>C24-C36)	ND		0.37	0.10	mg/L		05/12/19 13:23	05/16/19 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*05/12/19 13:23*	*05/16/19 14:19*	*1*

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/15/19 11:55	05/16/19 11:29	1
Cadmium	ND		0.00040	0.00010	mg/L		05/15/19 11:55	05/16/19 11:29	1
Copper	**0.0015**	**J**	0.0020	0.00060	mg/L		05/15/19 11:55	05/16/19 11:29	1
Lead	ND		0.00080	0.00020	mg/L		05/15/19 11:55	05/16/19 11:29	1
Zinc	ND		0.0070	0.0019	mg/L		05/15/19 11:55	05/16/19 11:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		05/07/19 10:26	05/07/19 14:21	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-300006/1-A
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		05/06/19 09:30	05/08/19 13:08	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		05/06/19 09:30	05/08/19 13:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*05/06/19 09:30*	*05/08/19 13:08*	*1*

Lab Sample ID: LCS 580-300006/2-A
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300006

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			500	488		mg/Kg		98	70 - 125		
Motor Oil (>C24-C36)			500	525		mg/Kg		105	70 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*84*		*50 - 150*

Lab Sample ID: LCSD 580-300006/3-A
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300006

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			500	503		mg/Kg		101	70 - 125	3	16
Motor Oil (>C24-C36)			500	542		mg/Kg		108	70 - 129	3	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*86*		*50 - 150*

Lab Sample ID: 580-85913-4 MS
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300006

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)	87	J	1180	1070		mg/Kg	☼	84	70 - 125		
Motor Oil (>C24-C36)	620	F1	1180	1780		mg/Kg	☼	99	70 - 129		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*78*		*50 - 150*

Lab Sample ID: 580-85913-4 MSD
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300006

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	87	J	1010	1030		mg/Kg	☼	94	70 - 125	4	16
Motor Oil (>C24-C36)	620	F1	1010	2010	F1	mg/Kg	☼	137	70 - 129	12	16

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-85913-4 MSD
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300006

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	*85*		*50 - 150*

Lab Sample ID: 580-85913-4 DU
Matrix: Solid
Analysis Batch: 300180

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300006

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	87	J		111	J	mg/Kg	☼			24	35
Motor Oil (>C24-C36)	620	F1		747		mg/Kg	☼			19	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	*80*		*50 - 150*

Lab Sample ID: MB 580-300506/1-A
Matrix: Water
Analysis Batch: 300852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		05/12/19 13:23	05/16/19 11:58	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		05/12/19 13:23	05/16/19 11:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*99*		*50 - 150*	*05/12/19 13:23*	*05/16/19 11:58*	*1*

Lab Sample ID: LCS 580-300506/2-A
Matrix: Water
Analysis Batch: 300852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300506

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			2.00	1.77		mg/L		88	50 - 120		
Motor Oil (>C24-C36)			2.00	1.84		mg/L		92	64 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*84*		*50 - 150*

Lab Sample ID: LCSD 580-300506/3-A
Matrix: Water
Analysis Batch: 300852

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300506

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.79		mg/L		89	50 - 120	1	26
Motor Oil (>C24-C36)			2.00	1.90		mg/L		95	64 - 120	3	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	*82*		*50 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-300688/24-A
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		05/14/19 17:41	05/15/19 08:18	5
Cadmium	ND		0.20	0.039	mg/Kg		05/14/19 17:41	05/15/19 08:18	5
Copper	ND		0.50	0.11	mg/Kg		05/14/19 17:41	05/15/19 08:18	5
Lead	ND		0.25	0.024	mg/Kg		05/14/19 17:41	05/15/19 08:18	5
Zinc	ND		2.5	0.81	mg/Kg		05/14/19 17:41	05/15/19 08:18	5

Lab Sample ID: LCS 580-300688/25-A
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	42.8		mg/Kg		86	80 - 120
Cadmium	50.0	42.8		mg/Kg		86	80 - 120
Copper	50.0	43.3		mg/Kg		87	80 - 120
Lead	50.0	42.9		mg/Kg		86	80 - 120
Zinc	50.0	49.9		mg/Kg		100	80 - 120

Lab Sample ID: LCSD 580-300688/26-A
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300688

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	50.0	42.7		mg/Kg		85	80 - 120	0	20
Cadmium	50.0	43.4		mg/Kg		87	80 - 120	1	20
Copper	50.0	44.1		mg/Kg		88	80 - 120	2	20
Lead	50.0	43.4		mg/Kg		87	80 - 120	1	20
Zinc	50.0	50.7		mg/Kg		101	80 - 120	1	20

Lab Sample ID: 580-85913-4 MS
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300688

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.0		71.9	78.5		mg/Kg	☼	102	80 - 120
Cadmium	0.13	J	71.9	73.1		mg/Kg	☼	102	80 - 120
Copper	32		71.9	119		mg/Kg	☼	120	80 - 120
Lead	9.4		71.9	83.0		mg/Kg	☼	102	80 - 120
Zinc	96		71.9	179		mg/Kg	☼	115	80 - 120

Lab Sample ID: 580-85913-4 MSD
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	5.0		71.7	75.4		mg/Kg	☼	98	80 - 120	4	20
Cadmium	0.13	J	71.7	70.8		mg/Kg	☼	99	80 - 120	3	20
Copper	32		71.7	106		mg/Kg	☼	103	80 - 120	11	20
Lead	9.4		71.7	79.5		mg/Kg	☼	98	80 - 120	4	20
Zinc	96		71.7	180		mg/Kg	☼	116	80 - 120	0	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-85913-4 DU
Matrix: Solid
Analysis Batch: 300808

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300688

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	5.0		4.85		mg/Kg	☼	3	20
Cadmium	0.13	J	0.144	J	mg/Kg	☼	7	20
Copper	32		32.7		mg/Kg	☼	0.7	20
Lead	9.4		14.6	F3	mg/Kg	☼	44	20
Zinc	96		93.1		mg/Kg	☼	4	20

Lab Sample ID: MB 580-300742/24-A
Matrix: Water
Analysis Batch: 300896

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 300742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/15/19 11:55	05/16/19 10:19	1
Cadmium	ND		0.00040	0.00010	mg/L		05/15/19 11:55	05/16/19 10:19	1
Copper	ND		0.0020	0.00060	mg/L		05/15/19 11:55	05/16/19 10:19	1
Lead	ND		0.00080	0.00020	mg/L		05/15/19 11:55	05/16/19 10:19	1
Zinc	ND		0.0070	0.0019	mg/L		05/15/19 11:55	05/16/19 10:19	1

Lab Sample ID: LCS 580-300742/25-A
Matrix: Water
Analysis Batch: 300896

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 300742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Cadmium	1.00	1.02		mg/L		102	80 - 120
Copper	1.00	1.02		mg/L		102	80 - 120
Lead	1.00	1.01		mg/L		101	80 - 120
Zinc	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: LCSD 580-300742/26-A
Matrix: Water
Analysis Batch: 300896

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 300742

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.01		mg/L		101	80 - 120	0	20
Cadmium	1.00	1.02		mg/L		102	80 - 120	0	20
Copper	1.00	1.02		mg/L		102	80 - 120	0	20
Lead	1.00	0.986		mg/L		99	80 - 120	2	20
Zinc	1.00	1.04		mg/L		104	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-300093/19-A
Matrix: Water
Analysis Batch: 300129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300093

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		05/07/19 10:26	05/07/19 13:49	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-300093/20-A
Matrix: Water
Analysis Batch: 300129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00209		mg/L		104	80 - 120

Lab Sample ID: LCSD 580-300093/21-A
Matrix: Water
Analysis Batch: 300129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00208		mg/L		104	80 - 120	0	20

Lab Sample ID: 580-85913-5 MS
Matrix: Water
Analysis Batch: 300129

Client Sample ID: PDI-RB-ST-190501
Prep Type: Total/NA
Prep Batch: 300093

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00200	0.00216		mg/L		108	80 - 120

Lab Sample ID: 580-85913-5 MSD
Matrix: Water
Analysis Batch: 300129

Client Sample ID: PDI-RB-ST-190501
Prep Type: Total/NA
Prep Batch: 300093

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00200	0.00204		mg/L		102	80 - 120	6	20

Lab Sample ID: 580-85913-5 DU
Matrix: Water
Analysis Batch: 300129

Client Sample ID: PDI-RB-ST-190501
Prep Type: Total/NA
Prep Batch: 300093

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	ND		ND		mg/L		NC	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-300716/22-A
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		05/15/19 09:29	05/15/19 13:40	1

Lab Sample ID: LCS 580-300716/23-A
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.174		mg/Kg		105	80 - 120

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-300716/24-A
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.167	0.178		mg/Kg		107	80 - 120	2	20

Lab Sample ID: 580-85913-4 MS
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.10	F1	0.397	0.583	F1	mg/Kg	☼	121	80 - 120		

Lab Sample ID: 580-85913-4 MSD
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.10	F1	0.396	0.640	F1	mg/Kg	☼	135	80 - 120	9	20

Lab Sample ID: 580-85913-4 DU
Matrix: Solid
Analysis Batch: 300765

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA
Prep Batch: 300716

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.10	F1	0.0921		mg/Kg	☼	12	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-300561/54
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			05/13/19 09:45	1

Lab Sample ID: LCS 580-300561/55
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			4270	4690		mg/Kg		110	40 - 180		

Lab Sample ID: LCSD 580-300561/56
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates			4270	5410		mg/Kg		127	40 - 180	14	32

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-85913-4 MS
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	23000		120000	119000		mg/Kg		80	68 - 149		

Lab Sample ID: 580-85913-4 MSD
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	23000		120000	120000		mg/Kg		81	68 - 149	2	32

Lab Sample ID: 580-85913-4 DU
Matrix: Solid
Analysis Batch: 300561

Client Sample ID: PDI-ST-T06B-1905
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	23000			27000		mg/Kg				17	50

Method: D7928/D6913 - ASTM D7928/D6913

Lab Sample ID: 580-85913-1 DU
Matrix: Solid
Analysis Batch: 300073

Client Sample ID: PDI-ST-T07A-1905
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	6.2			7.0		%				12	20
Coarse Sand	0.8			0.7		%				13	20
Fine Sand	57.0			55.6		%				2	20
Gravel	1.0			0.7	F3	%				35	20
Medium Sand	2.3			2.5		%				8	20
Silt	32.7			33.6		%				3	20

Lab Chronicle

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T07A-1905
Lab Sample ID: 580-85913-1
Date Collected: 05/01/19 16:45
Matrix: Solid
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	300561	05/13/19 10:10	JKM	TAL SEA
Total/NA	Analysis	D 2216		1	300094	05/07/19 10:40	FCG	TAL SEA
Total/NA	Analysis	Moisture 70C		1	300786	05/15/19 15:38	RM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	300073	05/06/19 19:06	JKM	TAL SEA

Client Sample ID: PDI-ST-T07A-1905
Lab Sample ID: 580-85913-1
Date Collected: 05/01/19 16:45
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 49.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300006	05/06/19 09:30	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	300180	05/08/19 20:14	TL1	TAL SEA
Total/NA	Prep	3050B			300688	05/14/19 17:41	T1H	TAL SEA
Total/NA	Analysis	6020B		5	300808	05/15/19 09:48	FCW	TAL SEA
Total/NA	Prep	7471A			300716	05/15/19 09:29	T1H	TAL SEA
Total/NA	Analysis	7471A		1	300765	05/15/19 14:10	T1H	TAL SEA

Client Sample ID: PDI-ST-T07B-1905
Lab Sample ID: 580-85913-2
Date Collected: 05/01/19 17:00
Matrix: Solid
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	300561	05/13/19 10:15	JKM	TAL SEA
Total/NA	Analysis	D 2216		1	300094	05/07/19 10:40	FCG	TAL SEA
Total/NA	Analysis	Moisture 70C		1	300786	05/15/19 15:38	RM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	300073	05/06/19 19:06	JKM	TAL SEA

Client Sample ID: PDI-ST-T07B-1905
Lab Sample ID: 580-85913-2
Date Collected: 05/01/19 17:00
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 41.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300006	05/06/19 09:30	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		3	300180	05/08/19 20:36	TL1	TAL SEA
Total/NA	Prep	3050B			300688	05/14/19 17:41	T1H	TAL SEA
Total/NA	Analysis	6020B		5	300808	05/15/19 08:31	FCW	TAL SEA
Total/NA	Prep	7471A			300716	05/15/19 09:29	T1H	TAL SEA
Total/NA	Analysis	7471A		1	300765	05/15/19 14:08	T1H	TAL SEA

Client Sample ID: PDI-ST-T06A-1905
Lab Sample ID: 580-85913-3
Date Collected: 05/01/19 17:15
Matrix: Solid
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	300561	05/13/19 10:20	JKM	TAL SEA

Lab Chronicle

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-ST-T06A-1905
Lab Sample ID: 580-85913-3
Date Collected: 05/01/19 17:15
Matrix: Solid
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	300094	05/07/19 10:40	FCG	TAL SEA
Total/NA	Analysis	Moisture 70C		1	300786	05/15/19 15:38	RM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	300073	05/06/19 19:06	JKM	TAL SEA

Client Sample ID: PDI-ST-T06A-1905
Lab Sample ID: 580-85913-3
Date Collected: 05/01/19 17:15
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 45.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300006	05/06/19 09:30	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		3	300180	05/08/19 21:22	TL1	TAL SEA
Total/NA	Prep	3050B			300688	05/14/19 17:41	T1H	TAL SEA
Total/NA	Analysis	6020B		5	300808	05/15/19 10:15	FCW	TAL SEA
Total/NA	Prep	7471A			300716	05/15/19 09:29	T1H	TAL SEA
Total/NA	Analysis	7471A		1	300765	05/15/19 14:01	T1H	TAL SEA

Client Sample ID: PDI-ST-T06B-1905
Lab Sample ID: 580-85913-4
Date Collected: 05/01/19 17:10
Matrix: Solid
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	300561	05/13/19 09:53	JKM	TAL SEA
Total/NA	Analysis	D 2216		1	300094	05/07/19 10:40	FCG	TAL SEA
Total/NA	Analysis	Moisture 70C		1	300786	05/15/19 15:38	RM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	300073	05/06/19 19:06	JKM	TAL SEA

Client Sample ID: PDI-ST-T06B-1905
Lab Sample ID: 580-85913-4
Date Collected: 05/01/19 17:10
Matrix: Solid
Date Received: 05/03/19 11:05
Percent Solids: 40.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300006	05/06/19 09:30	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		3	300180	05/08/19 21:44	TL1	TAL SEA
Total/NA	Prep	3050B			300688	05/14/19 17:41	T1H	TAL SEA
Total/NA	Analysis	6020B		5	300808	05/15/19 08:35	FCW	TAL SEA
Total/NA	Prep	7471A			300716	05/15/19 09:29	T1H	TAL SEA
Total/NA	Analysis	7471A		1	300765	05/15/19 13:52	T1H	TAL SEA

Client Sample ID: PDI-RB-ST-190501
Lab Sample ID: 580-85913-5
Date Collected: 05/01/19 17:45
Matrix: Water
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			300506	05/12/19 13:23	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	300852	05/16/19 14:19	ERZ	TAL SEA

Lab Chronicle

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-RB-ST-190501
Lab Sample ID: 580-85913-5

Date Collected: 05/01/19 17:45
Matrix: Water
Date Received: 05/03/19 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			300742	05/15/19 11:55	T1H	TAL SEA
Total Recoverable	Analysis	6020B		1	300896	05/16/19 11:29	FCW	TAL SEA
Total/NA	Prep	7470A			300093	05/07/19 10:26	T1H	TAL SEA
Total/NA	Analysis	7470A		1	300129	05/07/19 14:21	T1H	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

Sample Summary

Client: AECOM
Job ID: 580-85913-1
Project/Site: Portland Harbor Pre-Remedial Design

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-85913-1	PDI-ST-T07A-1905	Solid	05/01/19 16:45	05/03/19 11:05
580-85913-2	PDI-ST-T07B-1905	Solid	05/01/19 17:00	05/03/19 11:05
580-85913-3	PDI-ST-T06A-1905	Solid	05/01/19 17:15	05/03/19 11:05
580-85913-4	PDI-ST-T06B-1905	Solid	05/01/19 17:10	05/03/19 11:05
580-85913-5	PDI-RB-ST-190501	Water	05/01/19 17:45	05/03/19 11:05

Analytical Resources, Incorporated
Analytical Chemists and Consultants

16 May 2019

Elaine Walker
Test America
5755 8th Street East
Tacoma, WA 98424

RE: Portland Harbor Pre-Remedial Design

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19E0085	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Amanda Volgardsen, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

PJLA Testing
Accreditation # 66169

Eurofins TestAmerica, Seattle 19E0085
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-65779.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: Analytical Resources, Inc		Accreditations Required (See note):		Job #: 580-85913-1
Address: 4611 South 134th Place, Suite 100, ,	Due Date Requested: 5/15/2019	**Analysis Requested**		**Preservation Codes:**
City: Tukwila	**TAT Requested (days):**			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA; M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WA, 98168				
Phone: 206-695-6200(Tel)	PO #:			
Email:	WO #:			Other:
Project Name: Portland Harbor Pre-Remedial Design	Project #: 58012120			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (5310C Organic Carbon, Total (TOC))	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PDI-RB-ST-190501 (580-85913-5)	5/1/19	17:45 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) / Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5/6/19 1700	Company: TAPOR	Received by: [signature] Jacob halter	Date/Time: 5/7/19 0930	Company: ARI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

2 of 63

WORK ORDER

19E0085

Client: Test America | **Project Manager:** Amanda Volgardsen

Project: Portland Harbor Pre-Remedial Design | **Project Number:** 58012120

Report To:
Test America
Elaine Walker
5755 8th Street East
Tacoma, WA 98424
Phone: (253) 248-4970
Fax:

Invoice To:
Test America
Accounts Payable
5755 8th Street East
Tacoma, WA 98424
Phone :(253) 248-4970
Fax:

Date Due: 21-May-2019 18:00 (10 day TAT)

Received By: Jacob Walter | Date Received: 07-May-2019 09:30

Logged In By: Erin I. Salle | Date Logged In: 07-May-2019 13:26

Samples Received at: 17°C

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	No
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	Yes	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

19E0085-01 PDI-RB-ST-190501 (580-85913-5) [Water] Sampled 01-May-2019 17:45

Carbon, Organic Total, SM 5310 B-00	05/21/2019	10	5/29/2019

Preservation Confirmation

Container ID	Container Type	pH	
19E0085-01 A	Glass NM, Amber, 250 mL, 9N H2SO4	<2	pass

Preservation Confirmed By

5/7/19
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Eurofins TestAmerica Project Name: Portland Harbor

COC No(s): _____ NA Delivered by: ~~Fed-Ex~~ UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 190085 Tracking No: 1078 3891 2640 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 17.0°

Time 0930

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW Date: 05/7/19 Time: 0930

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [signature] Date: 5/7/19 Time: 1326 Labels checked by: [signature]

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
PDI-RB-ST-190501	PDI-RB-ST-190501	(580-85913-5)	

Additional Notes, Discrepancies, & Resolutions:

By: [signature] Date: 5/7/19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 19E0085

Cooler#: _____ **Temperature(°C):** 17.0°C

Sample ID	Bottle Count	Bottle Type
Samples received at 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: _____ Date: 05/07/19 Time: 0930

eurofins | Environment Testing TestAmerica

19E0085

Shipping Order Form

S580-33661

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Shipping Order ID: 33661 | **Ship Via: FedEx Ground** | **Due On: 5/6/2019 11:59:00PM**

Ship To Information

Project Manager:

Company Name:	*Analytical Resources, Inc*
Attention:	*Attn: Shipping/Receiving*
Address 1:	*4611 South 134th Place, Suite 100*
Address 2:	
Address 3:	
City:	*City: Tukwila*
State:	*WA*
Zip:	*98168*
Phone #:	*206-695-6200*
Project Ref:	

Notes to Bottle/Shipping Department

Shipping Method: **Standard packing**

- ☐ Ready to Fill
- ☐ Preprinted COC
  - ☐ Number of COC Copies
- ☐ Seals on Bottle
- ☐ Seals on Coolers
- ☐ Return Shipment Labels
  - ☐ Prepaid Return
  - Eurofins TestAmerica, Seattle
- ☐ Short Hold Times
- ☑ Temperature Control
- ☐ Rush

Please notify your PM immediately if an error is found in shipment.
Go to http://www.testamericainc.com/customer-support/specialized-instructions-for-field-samplers/ for field sampler instructions.

Bottle Order Information

Bottle Order:
Bottle Order #:
Request From Client: 5/6/2019
Date Order Posted:
Order Status: Ready To Process
Prepared By:
Deliver By Date: ***5/6/2019 11:59:00PM***
Lab Project Number:

Order Completion Information

Creator: Jason O'Connell
Filled by:
Sent Date:
Sent Via:
Tracking #:

19E0085

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative | Comment

Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:

Please notify your PM immediately if an error is found in shipment.
Go to http://www.testamericainc.com/customer-support/specialized-instructions-for-field-samplers/ for field sampler instructions.

Test America	Project: Portland Harbor Pre-Remedial Design	
5755 8th Street East	Project Number: 58012120	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	16-May-2019 11:06

Case Narrative

Sample receipt

One sample as listed on the preceding page was received May 7, 2019 under ARI work order 19E0085. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Organic Carbon - Method SM5310

The sample was prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

Test America	Project: Portland Harbor Pre-Remedial Design	
5755 8th Street East	Project Number: 58012120	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	16-May-2019 11:06

Case Narrative

Test America	Project: Portland Harbor Pre-Remedial Design	
5755 8th Street East	Project Number: 58012120	**Reported:**
Tacoma, WA 98424	Project Manager: Elaine Walker	05/16/2019 11:06

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
19E0085-01	PDI-RB-ST-190501	Water	05/01/19 17:45	05/07/19 09:30

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Form I
INORGANIC ANALYSIS DATA SHEET
SM 5310 B-00

PDI-RB-ST-190501

Laboratory:	Analytical Resources, Inc.				
Client:	Test America				
Project:	Portland Harbor Pre-Remedial Design				
Matrix:	Water	Laboratory ID:	19E0085-01 A	SDG:	19E0085
Sampled:	05/01/19 17:45	Prepared:	05/14/19 09:39	File ID:	ShimadzuData_05162019@0923-040
% Solids:	0.00	Preparation:	No Prep Wet Chem	Analyzed:	05/15/19 01:56
Batch:	BHE0347	Sequence:	SHE0251	Initial/Final:	20 mL / 20 mL
Instrument:	TOC-LCSH			Calibration:	CE00038

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.50	1	0.50	0.50	U

PREPARATION BATCH SUMMARY

SM 5310 B-00

Laboratory: Analytical Resources, Inc. SDG: 19E0085

Client: Test America Project: Portland Harbor Pre-Remedial Design

Batch: BHE0347 Batch Matrix: Water Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PDI-RB-ST-190501	19E0085-01	dzuData_05162019@092	05/14/19 09:39	
Blank	BHE0347-BLK1	dzuData_05162019@092	05/14/19 09:39	
LCS	BHE0347-BS1	dzuData_05162019@092	05/14/19 09:39	
MRL Check	BHE0347-MRL1	dzuData_05162019@092	05/14/19 09:39	

Form I

METHOD BLANK DATA SHEET

SM 5310 B-00

TotalAnalytes

Blank

Batch: BHE0347 Laboratory ID: BHE0347-BLK1 Prepared: 05/14/19 09:39

Matrix: Water Preparation: No Prep Wet Chem Analyzed: 05/14/19 16:27

Sequence: SHE0251 Calibration: CE00038 Instrument: TOC-LCSH

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.50	0.50	U

LCS / LCS DUPLICATE RECOVERY

SM 5310 B-00

Laboratory:	Analytical Resources, Inc.	SDG:	19E0085
Client:	Test America	Project:	Portland Harbor Pre-Remedial Design
Matrix:	Water	Analyzed:	05/14/19 16:49
Batch:	BHE0347	Laboratory ID:	BHE0347-BS1
Preparation:	No Prep Wet Chem	Sequence Name:	LCS
Initial/Final:	20 mL / 20 mL		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	20.00	20.10		101	90 - 110

* Indicates values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM 5310 B-00

Laboratory:	Analytical Resources, Inc.	SDG:	19E0085
Client:	Test America	Project:	Portland Harbor Pre-Remedial Design
Sequence:	SHE0251	Instrument:	TOC-LCSH
		Calibration:	CE00038

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
1	SHE0251-CAL1	dzuData_05162019@092.	NA	05/14/19 12:19
10	SHE0251-CAL2	dzuData_05162019@092.	NA	05/14/19 12:42
5	SHE0251-CAL3	dzuData_05162019@092.	NA	05/14/19 13:01
2	SHE0251-CAL4	dzuData_05162019@092.	NA	05/14/19 13:18
1	SHE0251-CAL5	dzuData_05162019@092.	NA	05/14/19 13:36
5	SHE0251-CAL6	dzuData_05162019@092.	NA	05/14/19 13:58
2	SHE0251-CAL7	dzuData_05162019@092.	NA	05/14/19 14:17
1	SHE0251-CAL8	dzuData_05162019@092.	NA	05/14/19 14:37
1	SHE0251-ICV1	dzuData_05162019@092.	NA	05/14/19 14:59
1	SHE0251-ICB1	dzuData_05162019@092.	NA	05/14/19 15:21
1	SHE0251-IFA1	dzuData_05162019@092.	NA	05/14/19 15:42
MRL Check	BHE0347-MRL1	dzuData_05162019@092.	Water	05/14/19 16:01
Blank	BHE0347-BLK1	dzuData_05162019@092.	Water	05/14/19 16:27
LCS	BHE0347-BS1	dzuData_05162019@092.	Water	05/14/19 16:49
1	SHE0251-CCV1	dzuData_05162019@092.	NA	05/14/19 19:06
1	SHE0251-CCB1	dzuData_05162019@092.	NA	05/14/19 19:25
1	SHE0251-CCV2	dzuData_05162019@092.	NA	05/14/19 23:23
1	SHE0251-CCB2	dzuData_05162019@092.	NA	05/14/19 23:48
PDI-RB-ST-190501	19E0085-01	dzuData_05162019@092.	Water	05/15/19 01:56
1	SHE0251-CCV3	dzuData_05162019@092.	NA	05/15/19 04:13
1	SHE0251-CCB3	dzuData_05162019@092.	NA	05/15/19 04:32
1	SHE0251-CCV4	dzuData_05162019@092.	NA	05/15/19 08:29
1	SHE0251-CCB4	dzuData_05162019@092.	NA	05/15/19 08:54
1	SHE0251-CCV5	dzuData_05162019@092.	NA	05/15/19 13:07
1	SHE0251-CCB5	dzuData_05162019@092.	NA	05/15/19 13:32

TOC-Control L Report

BF
2019_05_14_001.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: Rinse
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status: Completed
Chk. Result

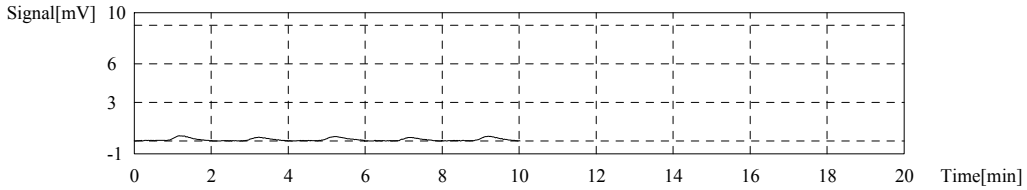
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1288mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.147	0.1359mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_08_15_11_45.cal	5/14/2019 11:54:05 AM
2	0.8995	0.1065mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_08_15_11_45.cal	5/14/2019 11:57:32 AM
3	0.9963	0.1180mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_08_15_11_45.cal	5/14/2019 12:01:04 PM
4	0.7439	0.08812mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_08_15_11_45.cal	5/14/2019 12:04:34 PM
5	1.120	0.1327mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_08_15_11_45.cal	5/14/2019 12:08:06 PM

Mean Area 1.088
Mean Conc. 0.1288mg/L



Cal. Curve

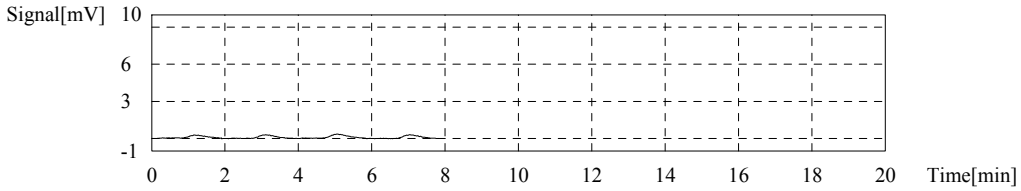
Sample Name: SEQ-CAL
Sample ID: Curve
Cal. Curve: NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal
Status: Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.6684	100uL	1.000	*******	E	5/14/2019 12:15:36 PM
2	0.8445	100uL	1.000	*******		5/14/2019 12:19:09 PM
3	0.9832	100uL	1.000	*******		5/14/2019 12:22:41 PM
4	0.8733	100uL	1.000	*******		5/14/2019 12:26:11 PM

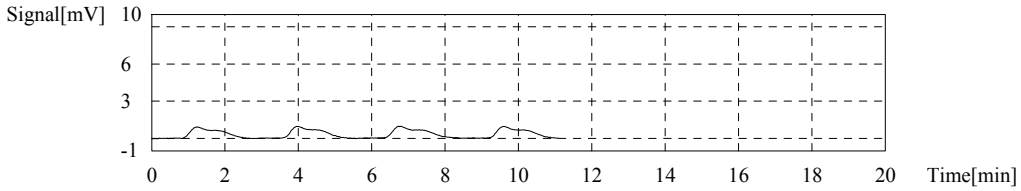
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	0.9003



Conc: 0.5000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.991	100uL	10.00	*******	E	5/14/2019 12:37:08 PM
2	5.225	100uL	10.00	*******		5/14/2019 12:42:02 PM
3	5.179	100uL	10.00	*******		5/14/2019 12:46:57 PM
4	5.175	100uL	10.00	*******		5/14/2019 12:51:42 PM

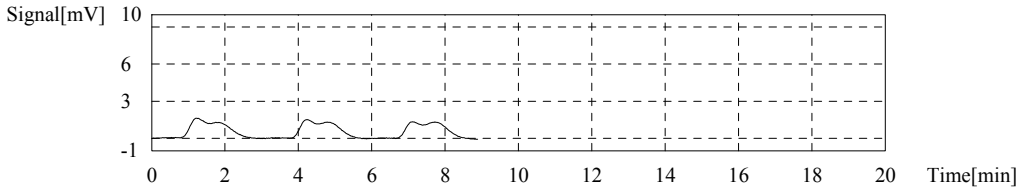
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	5.193



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.913	100uL	5.000	*******		5/14/2019 1:01:04 PM
2	9.995	100uL	5.000	*******		5/14/2019 1:04:56 PM
3	9.653	100uL	5.000	*******		5/14/2019 1:08:56 PM

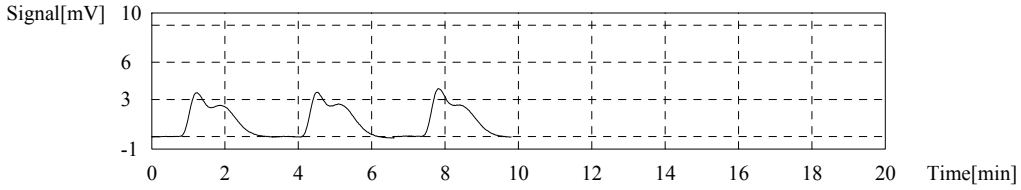
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	9.854



Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	23.11	100uL	2.000	*******		5/14/2019 1:18:44 PM
2	23.42	100uL	2.000	*******		5/14/2019 1:23:03 PM
3	23.26	100uL	2.000	*******		5/14/2019 1:27:15 PM

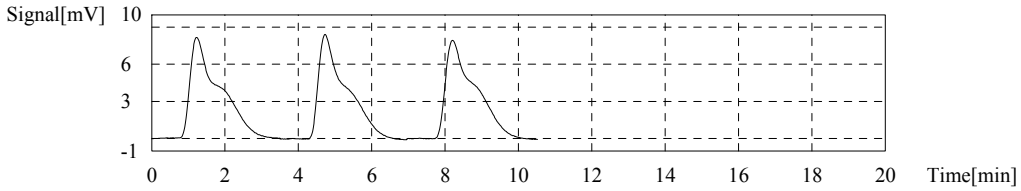
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	23.26



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	45.32	100uL	1.000	*******		5/14/2019 1:36:40 PM
2	45.21	100uL	1.000	*******		5/14/2019 1:41:07 PM
3	45.41	100uL	1.000	*******		5/14/2019 1:45:41 PM

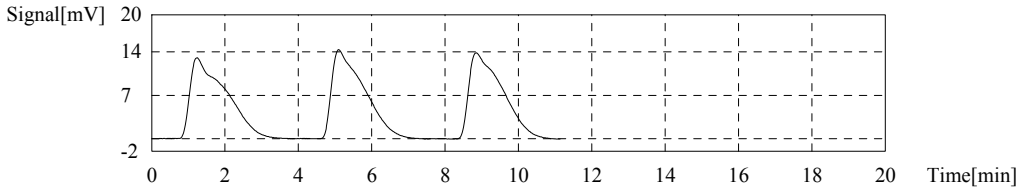
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	45.31



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	89.22	100uL	5.000	*******		5/14/2019 1:58:02 PM
2	89.74	100uL	5.000	*******		5/14/2019 2:02:46 PM
3	89.42	100uL	5.000	*******		5/14/2019 2:07:19 PM

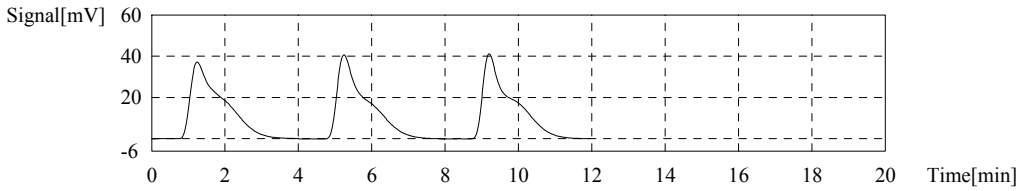
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	89.46



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	226.7	100uL	2.000	*******		5/14/2019 2:17:50 PM
2	225.0	100uL	2.000	*******		5/14/2019 2:22:49 PM
3	226.7	100uL	2.000	*******		5/14/2019 2:27:47 PM

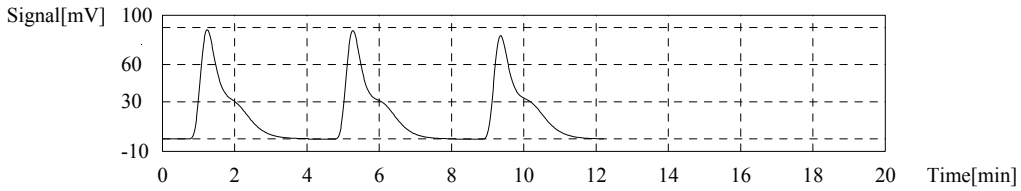
Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	226.1



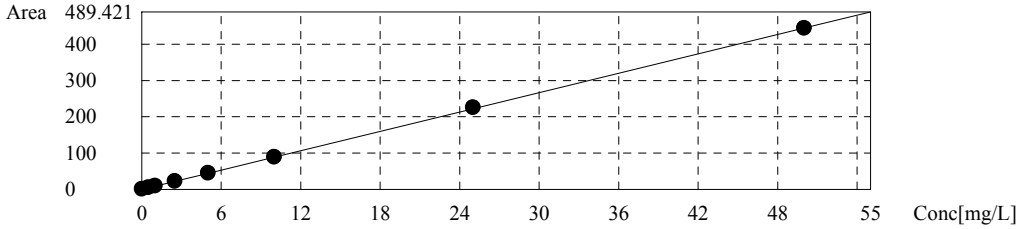
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	445.4	100uL	1.000	*******		5/14/2019 2:37:44 PM
2	446.3	100uL	1.000	*******		5/14/2019 2:42:49 PM
3	442.8	100uL	1.000	*******		5/14/2019 2:47:53 PM

Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	444.8



Slope:	8.899
Intercept	0.000
r^2	0.9999
r	1.0000
Zero Shift	Yes



Control Sample

Sample Name: SEQ-ICV1
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.39 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

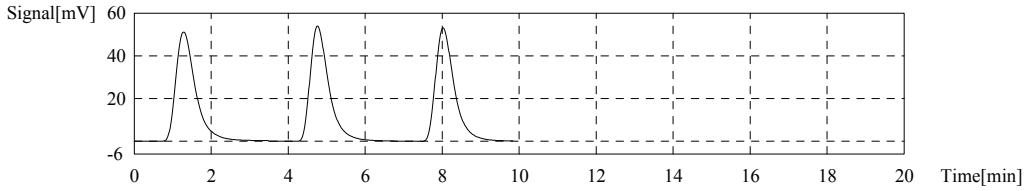
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.39ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	183.3	20.48ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 2:59:15 PM
2	183.8	20.54ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:03:29 PM
3	180.5	20.16ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:07:34 PM

Mean Area 182.5
Mean Conc. 20.39ppm



Control Sample

Sample Name: SEQ-ICB1
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.09211 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

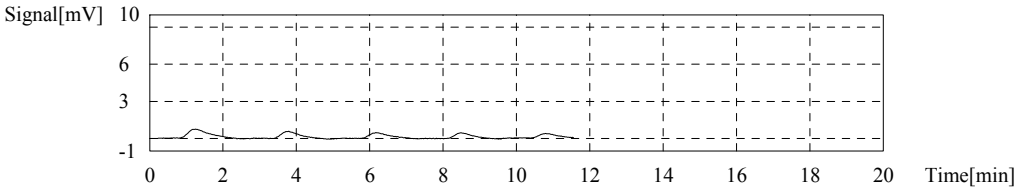
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.09211mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.110	0.2303mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:18:01 PM
2	2.237	0.1322mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:21:25 PM
3	1.792	0.08219mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:24:50 PM
4	1.612	0.06196mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:28:18 PM
5	1.062	0.00015mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:31:28 PM

Mean Area 1.880
Mean Conc. 0.09211mg/L



Sample

Sample Name: SEQ-IFA1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

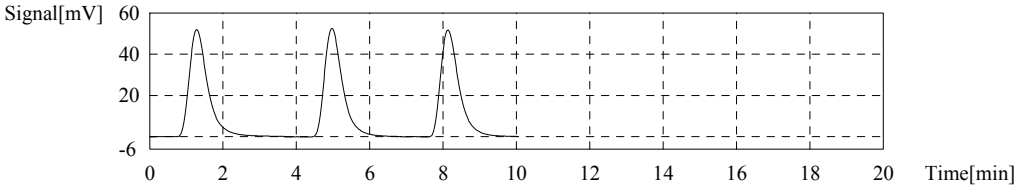
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.54mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	184.1	20.69mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:42:54 PM
2	182.5	20.51mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:47:04 PM
3	181.7	20.42mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 3:51:15 PM

Mean Area 182.8
Mean Conc. 20.54mg/L



Sample

Sample Name: BHE0347-MRL1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

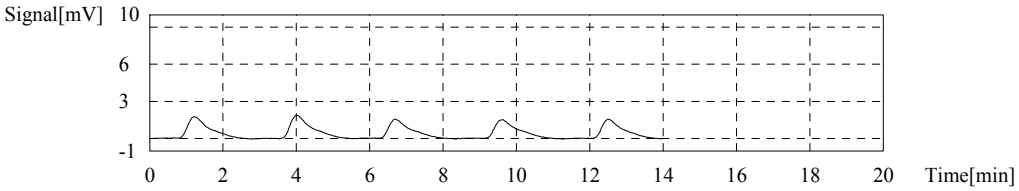
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7834mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.255	0.8153mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:01:57 PM
2	7.838	0.8808mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:05:38 PM
3	6.706	0.7536mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:09:36 PM
4	6.952	0.7812mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:13:31 PM
5	6.371	0.7160mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:17:11 PM

Mean Area 6.971
Mean Conc. 0.7834mg/L



Sample

Sample Name: BHE0347-BLK1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

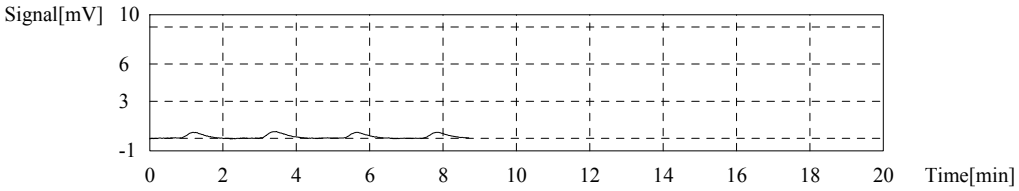
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1734mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.497	0.1682mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:27:14 PM
2	1.948	0.2189mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:31:04 PM
3	1.573	0.1768mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:34:46 PM
4	1.560	0.1753mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:38:28 PM

Mean Area 1.543
Mean Conc. 0.1734mg/L



Sample

Sample Name: BHE0347-BS1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

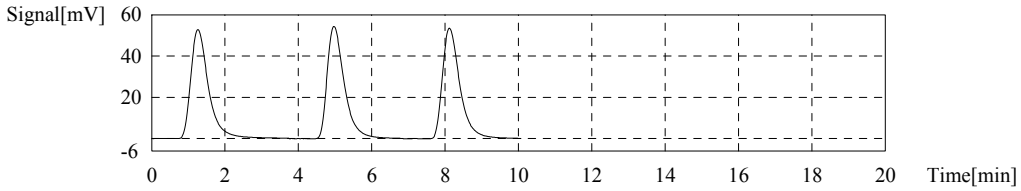
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.10mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.8	20.09mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:49:55 PM
2	178.5	20.06mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:54:01 PM
3	179.2	20.14mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 4:58:13 PM

Mean Area 178.8
Mean Conc. 20.10mg/L



Sample

Sample Name: 19D0417-01RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

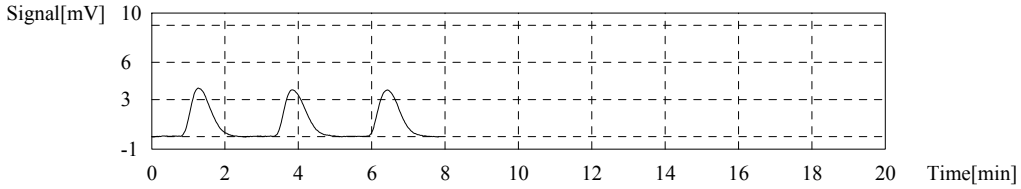
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.706mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.97	1.682mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:08:41 PM
2	15.20	1.708mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:12:26 PM
3	15.36	1.726mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:16:24 PM

Mean Area 15.18
Mean Conc. 1.706mg/L



Sample

Sample Name: 19D0417-02RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

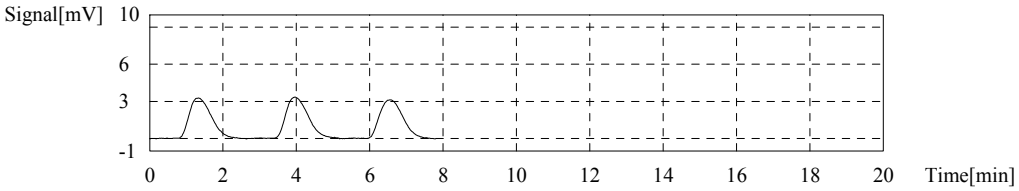
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.561mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.76	1.546mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:26:51 PM
2	13.97	1.570mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:30:32 PM
3	13.94	1.567mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:34:25 PM

Mean Area 13.89
Mean Conc. 1.561mg/L



Sample

Sample Name: 19D0417-03RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

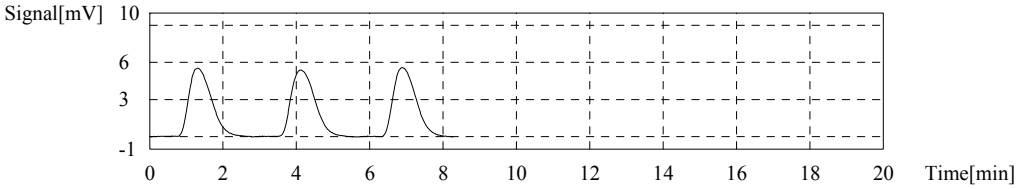
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.701mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.57	2.649mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:45:05 PM
2	24.26	2.726mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:48:53 PM
3	24.28	2.729mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 5:52:36 PM

Mean Area 24.04
Mean Conc. 2.701mg/L



Sample

Sample Name: BHE0347-DUP1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

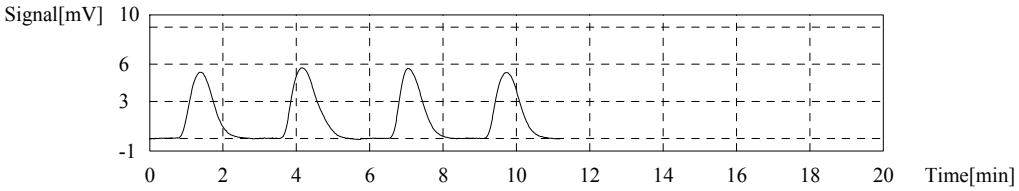
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.671mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.36	2.625mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:03:12 PM
2	27.62	3.104mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:07:10 PM
3	23.75	2.669mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:10:45 PM
4	24.20	2.720mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:14:46 PM

Mean Area 23.77
Mean Conc. 2.671mg/L



Sample

Sample Name: BHE0347-MS1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

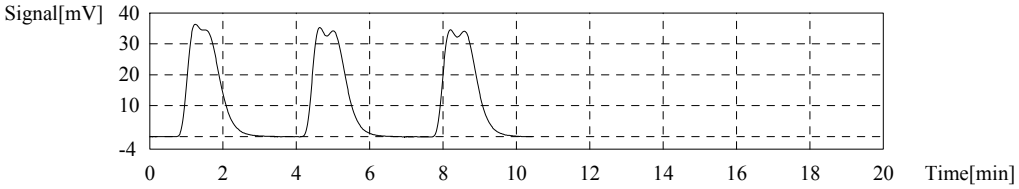
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	207.8	23.35mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:26:04 PM
2	208.6	23.44mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:30:36 PM
3	210.5	23.66mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:35:04 PM

Mean Area 209.0
Mean Conc. 23.48mg/L



Sample

Sample Name: BHE0347-MSD1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

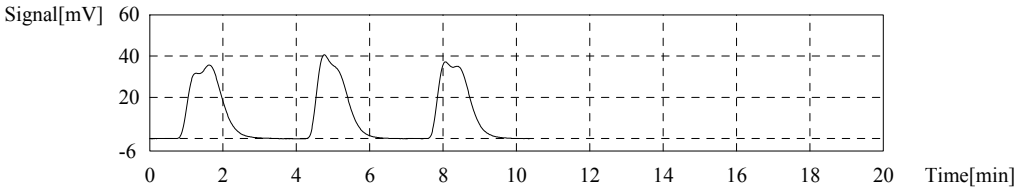
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.98mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	213.6	24.00mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:46:29 PM
2	213.2	23.96mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:50:46 PM
3	213.4	23.98mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 6:55:17 PM

Mean Area 213.4
Mean Conc. 23.98mg/L



Control Sample

Sample Name: SEQ-CCV1
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.29 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

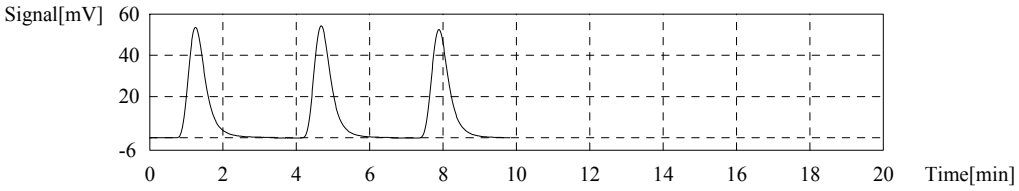
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.29ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	182.5	20.39ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:06:42 PM
2	182.9	20.43ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:10:54 PM
3	179.4	20.04ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:15:07 PM

Mean Area 181.6
Mean Conc. 20.29ppm



Control Sample

Sample Name: SEQ-CCB1
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.06806 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

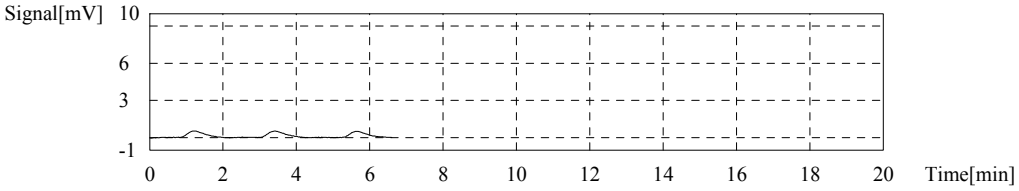
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.06806mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.669	0.06836mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:25:12 PM
2	1.743	0.07668mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:28:45 PM
3	1.587	0.05915mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:32:12 PM

Mean Area 1.666
Mean Conc. 0.06806mg/L



Sample

Sample Name: 19D0417-04RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

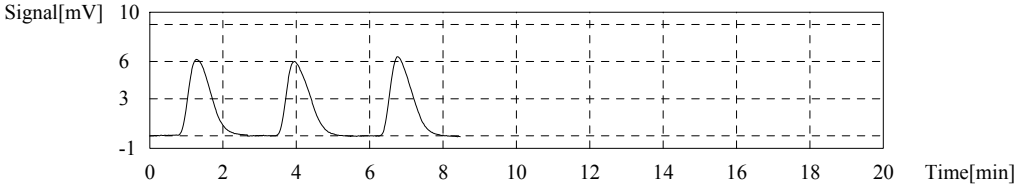
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.953mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	25.81	2.900mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:43:13 PM
2	26.30	2.956mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:47:09 PM
3	26.72	3.003mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 7:51:08 PM

Mean Area 26.28
Mean Conc. 2.953mg/L



Sample

Sample Name: 19D0419-01RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

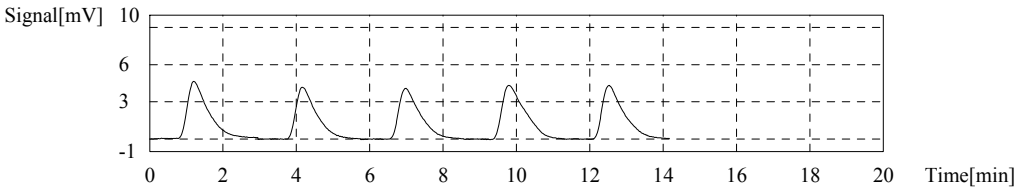
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.891mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.04	2.027mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:01:59 PM
2	16.36	1.838mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:05:47 PM
3	16.44	1.847mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:09:35 PM
4	19.11	2.148mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:13:20 PM
5	17.67	1.986mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:17:13 PM

Mean Area 16.82
Mean Conc. 1.891mg/L



Sample

Sample Name: 19D0419-02RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

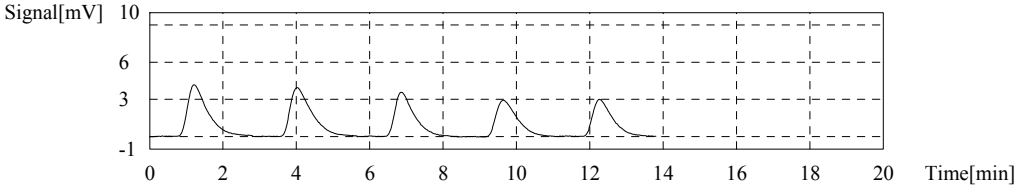
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.358mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.71	1.765mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:27:55 PM
2	15.94	1.791mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:31:46 PM
3	13.16	1.479mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:35:30 PM
4	11.82	1.328mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:39:11 PM
5	11.26	1.265mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:43:05 PM

Mean Area 12.08
Mean Conc. 1.358mg/L



Sample

Sample Name: 19D0419-03RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

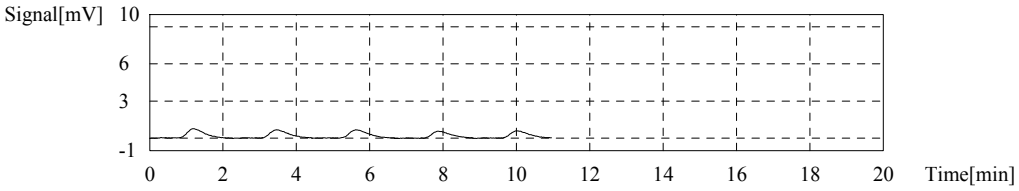
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2620mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.433	0.2734mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:53:06 PM
2	2.229	0.2505mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 8:56:48 PM
3	2.332	0.2621mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:00:40 PM
4	1.797	0.2019mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:04:20 PM
5	2.012	0.2261mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:08:08 PM

Mean Area 2.331
Mean Conc. 0.2620mg/L



Sample

Sample Name: 19D0419-04RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

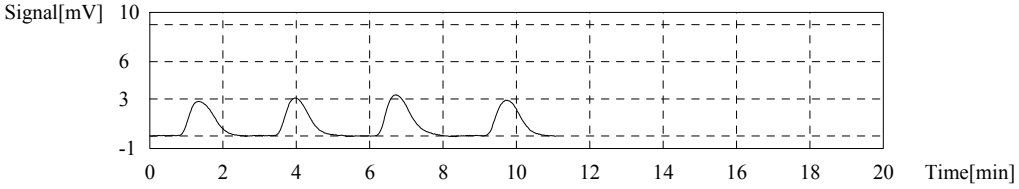
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.459mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.83	1.442mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:18:28 PM
2	13.15	1.478mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:22:22 PM
3	15.69	1.763mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:26:25 PM
4	12.98	1.459mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:30:08 PM

Mean Area 12.99
Mean Conc. 1.459mg/L



Sample

Sample Name: 19D0419-05RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

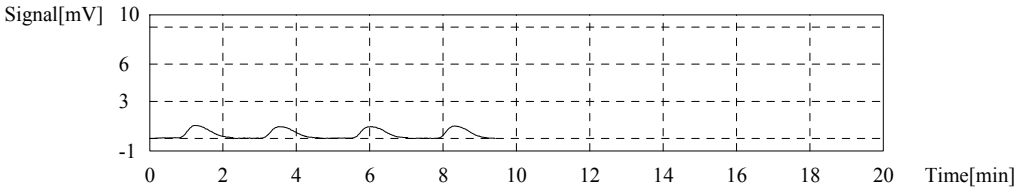
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4667mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.082	0.4587mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:40:12 PM
2	4.255	0.4782mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:44:10 PM
3	3.903	0.4386mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:47:49 PM
4	4.122	0.4632mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 9:51:40 PM

Mean Area 4.153
Mean Conc. 0.4667mg/L



Sample

Sample Name: 19E0018-07RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

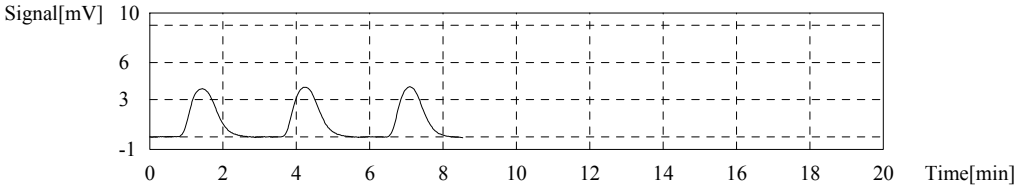
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.145mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.00	2.135mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:02:12 PM
2	19.39	2.179mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:06:04 PM
3	18.88	2.122mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:09:55 PM

Mean Area 19.09
Mean Conc. 2.145mg/L



Sample

Sample Name: 19E0018-08RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

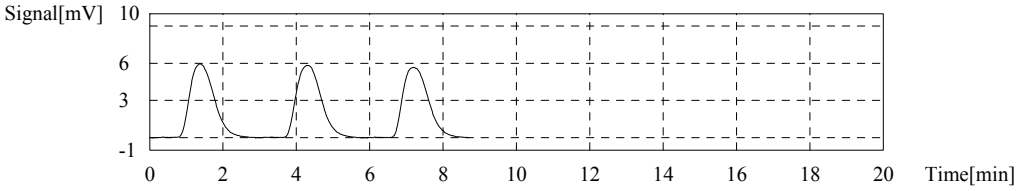
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.077mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	27.19	3.056mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:20:42 PM
2	27.58	3.099mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:24:38 PM
3	27.38	3.077mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:28:31 PM

Mean Area 27.38
Mean Conc. 3.077mg/L



Sample

Sample Name: 19E0018-16RE1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

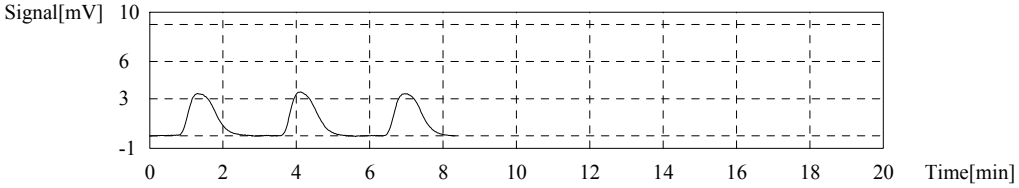
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.890mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.65	1.871mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:39:12 PM
2	17.10	1.922mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:43:02 PM
3	16.71	1.878mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:46:44 PM

Mean Area 16.82
Mean Conc. 1.890mg/L



Sample

Sample Name: 19E0045-01
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

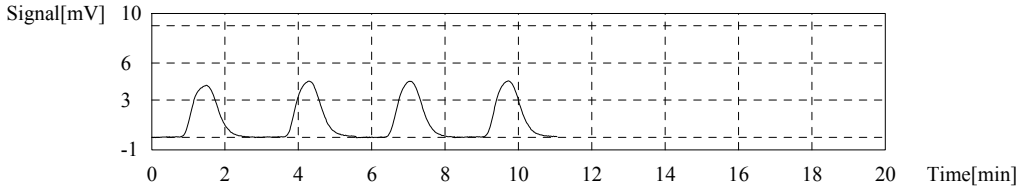
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.15mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.63	22.06mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 10:57:53 PM
2	20.52	23.06mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:02:41 PM
3	20.60	23.15mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:07:29 PM
4	20.67	23.23mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:12:28 PM

Mean Area 20.60
Mean Conc. 23.15mg/L



Control Sample

Sample Name: SEQ-CCV2
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.48 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

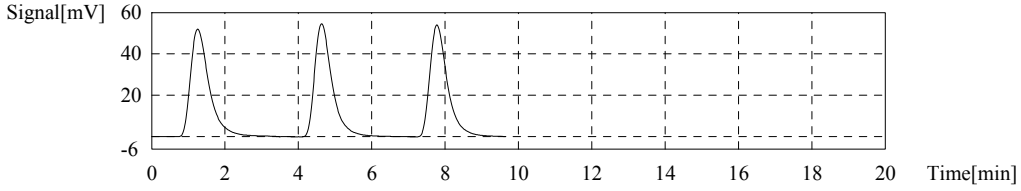
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.48ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	184.7	20.64ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:23:35 PM
2	182.9	20.43ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:27:43 PM
3	182.3	20.37ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:31:51 PM

Mean Area 183.3
Mean Conc. 20.48ppm



Control Sample

Sample Name: SEQ-CCB2
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.04997 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

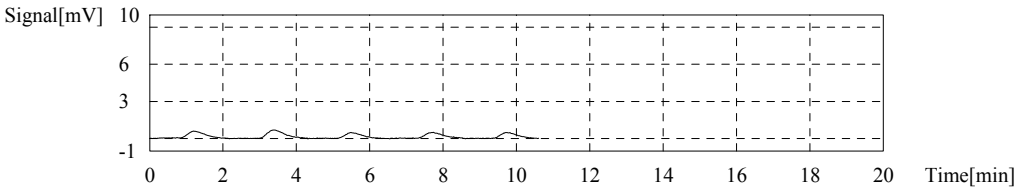
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.04997mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.852	0.08893mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:41:55 PM
2	2.161	0.1237mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:45:23 PM
3	1.538	0.05364mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:48:56 PM
4	1.463	0.04521mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:52:18 PM
5	1.515	0.05106mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/14/2019 11:55:49 PM

Mean Area 1.505
Mean Conc. 0.04997mg/L



Sample

Sample Name: 19E0045-03
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

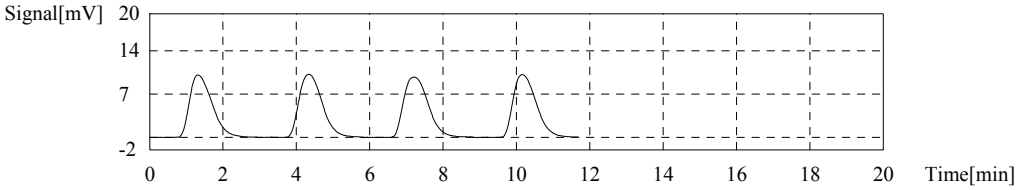
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:101.0mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.28	97.27mg/L	100uL	20.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:07:11 AM
2	44.78	100.6mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:11:57 AM
3	45.44	102.1mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:16:56 AM
4	44.64	100.3mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:21:39 AM

Mean Area 44.95
Mean Conc. 101.0mg/L



Sample

Sample Name: 19E0045-05
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

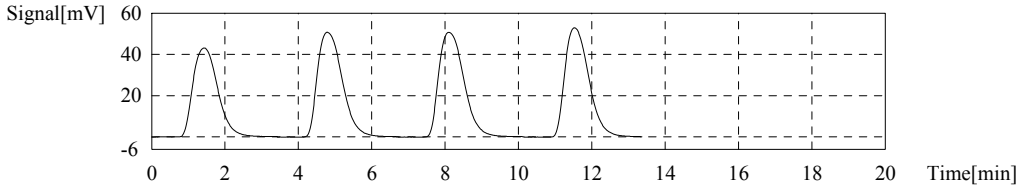
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1360mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	203.8	1145mg/L	100uL	50.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:33:15 AM
2	241.1	1355mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:37:59 AM
3	243.0	1365mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:42:58 AM
4	241.9	1359mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:47:36 AM

Mean Area 242.0
Mean Conc. 1360mg/L



Sample

Sample Name: 19E0045-07
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

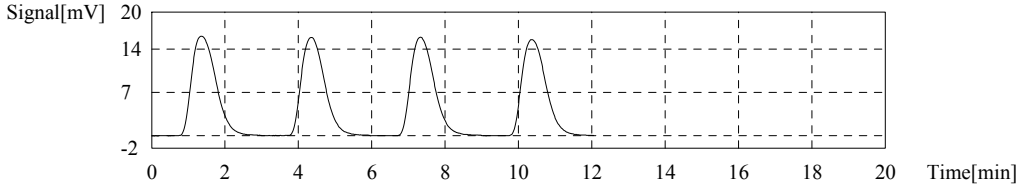
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:158.6mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	74.11	166.6mg/L	100uL	20.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:58:46 AM
2	70.11	157.6mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:03:36 AM
3	70.98	159.5mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:08:31 AM
4	70.65	158.8mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:13:24 AM

Mean Area 70.58
Mean Conc. 158.6mg/L



Sample

Sample Name: 19E0045-09
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

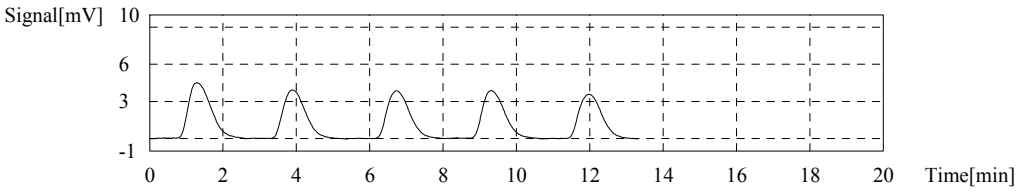
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.851mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.90	2.124mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:23:42 AM
2	16.85	1.894mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:27:45 AM
3	16.42	1.845mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:31:21 AM
4	16.14	1.814mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:35:09 AM
5	15.62	1.755mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:39:00 AM

Mean Area 16.47
Mean Conc. 1.851mg/L



Sample

Sample Name: 19E0085-01
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

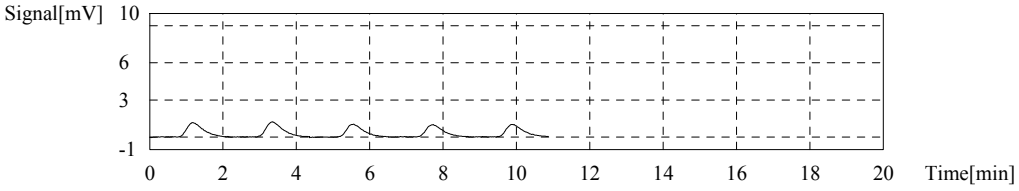
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3567mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.600	0.4046mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:49:00 AM
2	3.782	0.4250mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:52:50 AM
3	3.271	0.3676mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:56:35 AM
4	3.128	0.3515mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:00:23 AM
5	3.124	0.3511mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:04:09 AM

Mean Area 3.174
Mean Conc. 0.3567mg/L



Sample

Sample Name: 19E0133-01
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

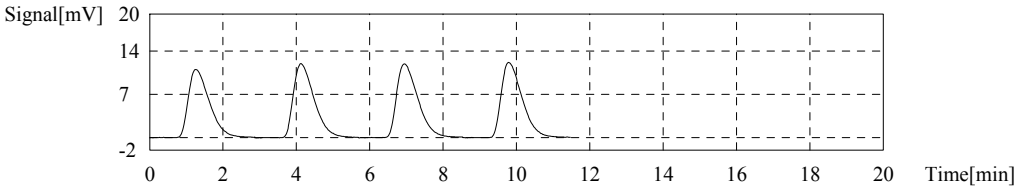
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:107.7mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	44.17	99.27mg/L	100uL	20.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:15:12 AM
2	47.26	106.2mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:20:00 AM
3	48.08	108.1mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:24:53 AM
4	48.43	108.8mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:29:49 AM

Mean Area 47.92
Mean Conc. 107.7mg/L



Sample

Sample Name: 19E0133-02
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

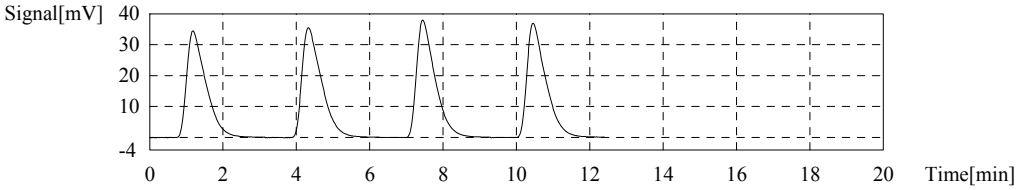
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:299.4mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	126.2	283.6mg/L	100uL	20.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:41:09 AM
2	132.2	297.1mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:45:58 AM
3	134.5	302.3mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:50:43 AM
4	133.0	298.9mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 2:55:40 AM

Mean Area 133.2
Mean Conc. 299.4mg/L



Sample

Sample Name: BHE0353-MRL1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

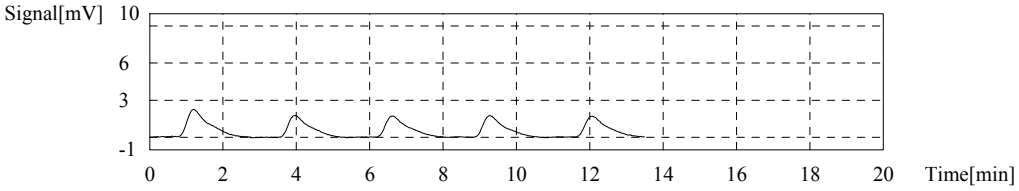
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.8135mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.063	1.018mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:06:09 AM
2	7.717	0.8672mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:09:50 AM
3	7.273	0.8173mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:13:38 AM
4	7.351	0.8261mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:17:31 AM
5	7.092	0.7970mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:21:11 AM

Mean Area 7.239
Mean Conc. 0.8135mg/L



Sample

Sample Name: BHE0353-BLK1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

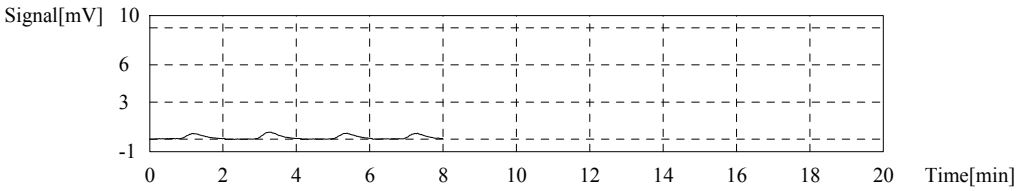
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1452mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.317	0.1480mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:31:08 AM
2	1.759	0.1977mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:34:58 AM
3	1.307	0.1469mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:38:34 AM
4	1.253	0.1408mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:42:21 AM

Mean Area 1.292
Mean Conc. 0.1452mg/L



Sample

Sample Name: BHE0353-BS1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

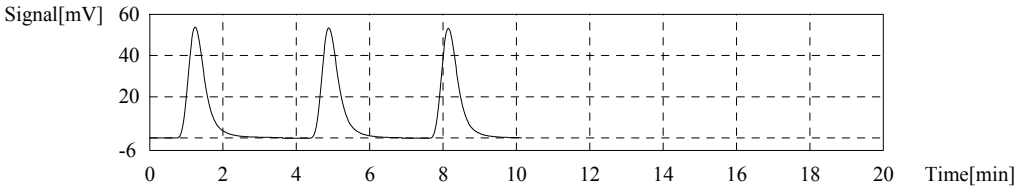
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.98mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.5	20.06mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:53:42 AM
2	178.8	20.09mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 3:57:57 AM
3	176.1	19.79mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:02:11 AM

Mean Area 177.8
Mean Conc. 19.98mg/L



Control Sample

Sample Name: SEQ-CCV3
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.12 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

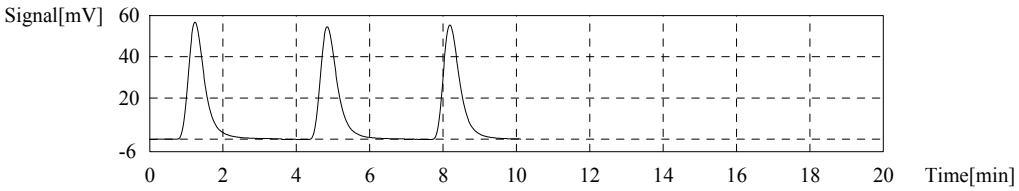
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.12ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	181.1	20.23ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:13:51 AM
2	179.8	20.09ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:18:11 AM
3	179.5	20.05ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:22:20 AM

Mean Area 180.1
Mean Conc. 20.12ppm



Control Sample

Sample Name: SEQ-CCB3
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.06023 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

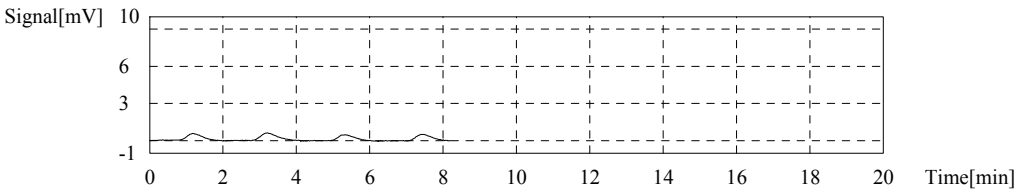
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.06023mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.655	0.06679mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:32:14 AM
2	1.908	0.09522mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:35:51 AM
3	1.577	0.05802mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:39:21 AM
4	1.558	0.05589mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:42:42 AM

Mean Area 1.597
Mean Conc. 0.06023mg/L



Sample

Sample Name: 19E0051-01
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

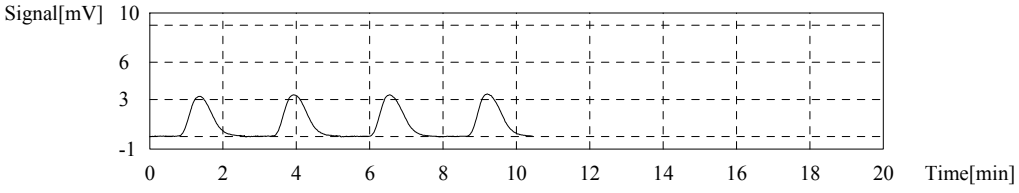
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.15mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.42	15.08mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:53:36 AM
2	14.25	16.01mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 4:58:30 AM
3	14.33	16.10mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:03:25 AM
4	14.54	16.34mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:08:11 AM

Mean Area 14.37
Mean Conc. 16.15mg/L



Sample

Sample Name: 19E0051-03
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

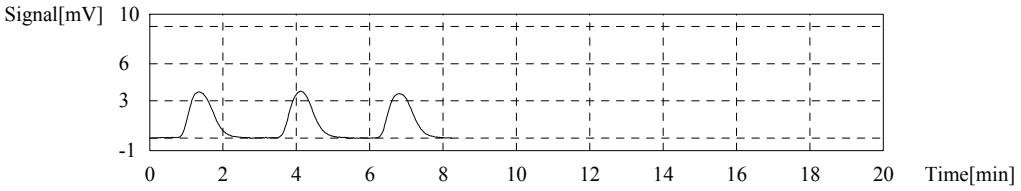
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:18.43mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.40	18.43mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:19:08 AM
2	16.30	18.32mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:23:58 AM
3	16.50	18.54mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:28:59 AM

Mean Area 16.40
Mean Conc. 18.43mg/L



Sample

Sample Name: 19E0051-05
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

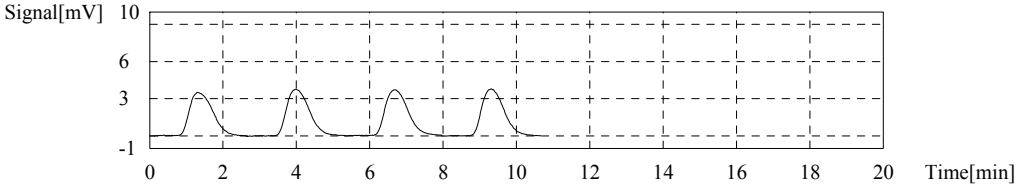
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:17.81mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.36	17.26mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:39:51 AM
2	16.08	18.07mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:44:46 AM
3	15.71	17.65mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:49:35 AM
4	15.75	17.70mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 5:54:31 AM

Mean Area 15.85
Mean Conc. 17.81mg/L



Sample

Sample Name: 19E0051-07
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

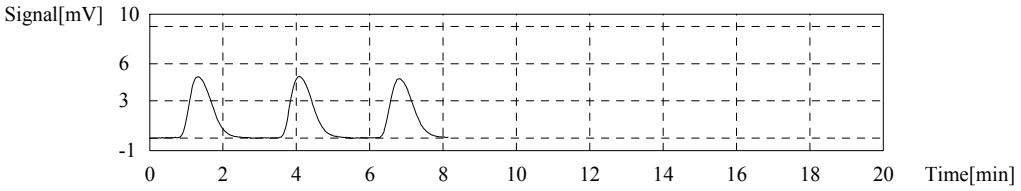
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.23mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.73	23.30mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:05:30 AM
2	20.78	23.35mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:10:19 AM
3	20.50	23.04mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:15:10 AM

Mean Area 20.67
Mean Conc. 23.23mg/L



Sample

Sample Name: 19E0051-09
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

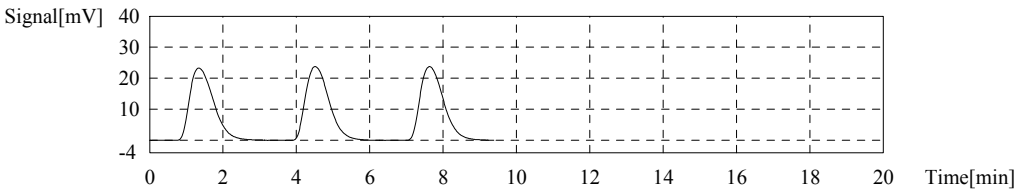
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	105.8	11.89mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:26:02 AM
2	107.2	12.05mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:30:10 AM
3	106.4	11.96mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:34:17 AM

Mean Area 106.5
Mean Conc. 11.96mg/L



Sample

Sample Name: BHE0353-DUP1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

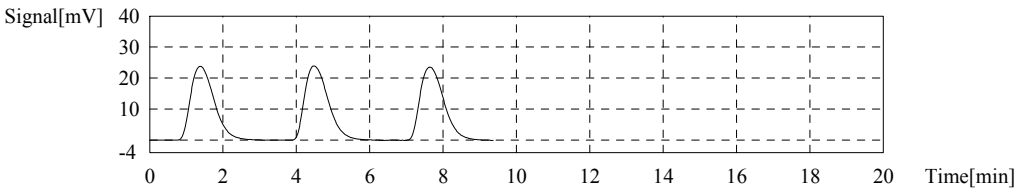
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:12.08mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	106.8	12.00mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:45:19 AM
2	107.9	12.13mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:49:28 AM
3	107.9	12.13mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 6:53:34 AM

Mean Area 107.5
Mean Conc. 12.08mg/L



Sample

Sample Name: BHE0353-MS1
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

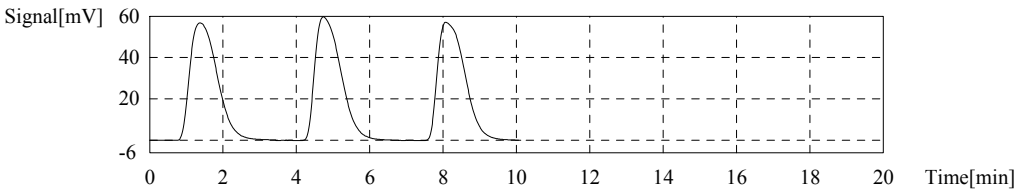
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:33.29mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	295.7	33.23mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:04:55 AM
2	296.6	33.33mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:09:16 AM
3	296.4	33.31mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:13:36 AM

Mean Area 296.2
Mean Conc. 33.29mg/L



Sample

Sample Name: 19E0051-11
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

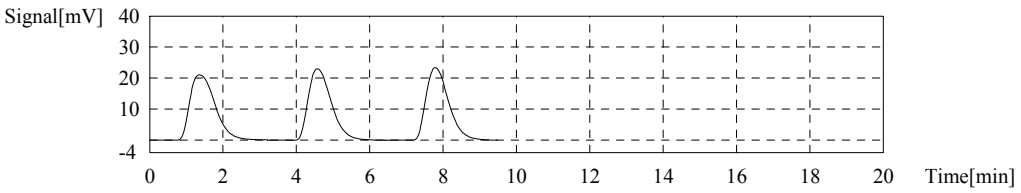
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.40mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	101.0	11.35mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:24:44 AM
2	101.7	11.43mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:28:56 AM
3	101.7	11.43mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:33:00 AM

Mean Area 101.5
Mean Conc. 11.40mg/L



Sample

Sample Name: 19E0051-13
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

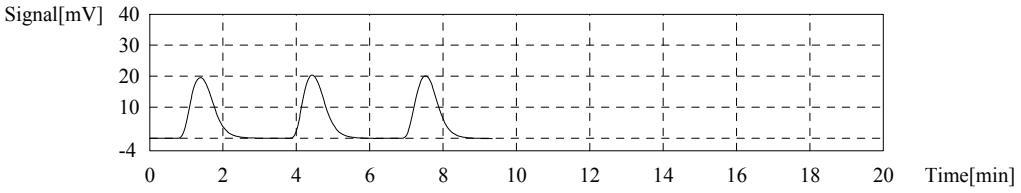
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.826mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.89	9.764mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:43:59 AM
2	87.27	9.807mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:48:02 AM
3	88.15	9.906mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 7:52:15 AM

Mean Area 87.44
Mean Conc. 9.826mg/L



Sample

TOC-Control L Report

BF
2019_05_14_001.tlx

Sample Name: 19E0051-15
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

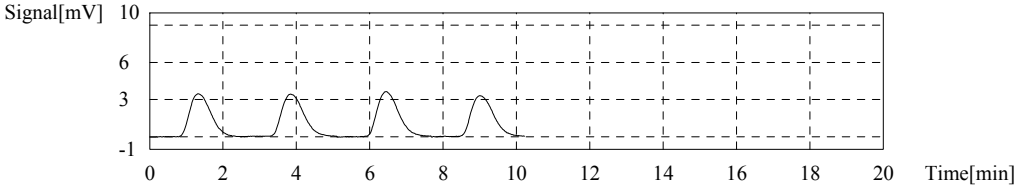
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:15.61mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.95	15.68mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:03:10 AM
2	14.01	15.74mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:08:08 AM
3	14.61	16.42mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:12:58 AM
4	13.70	15.40mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:17:49 AM

Mean Area 13.89
Mean Conc. 15.61mg/L



Control Sample

Sample Name: SEQ-CCV4
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.34 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

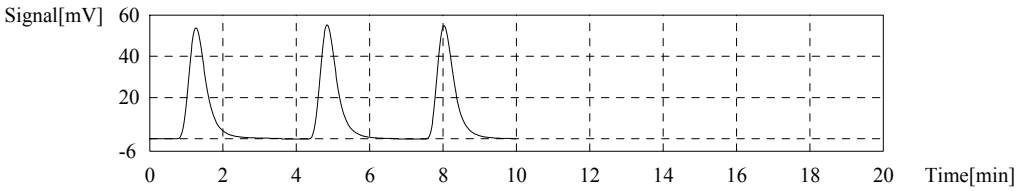
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.34ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	182.2	20.36ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:29:09 AM
2	181.8	20.31ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:33:21 AM
3	182.2	20.36ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:37:33 AM

Mean Area 182.1
Mean Conc. 20.34ppm



Control Sample

Sample Name: SEQ-CCB4
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.05147 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

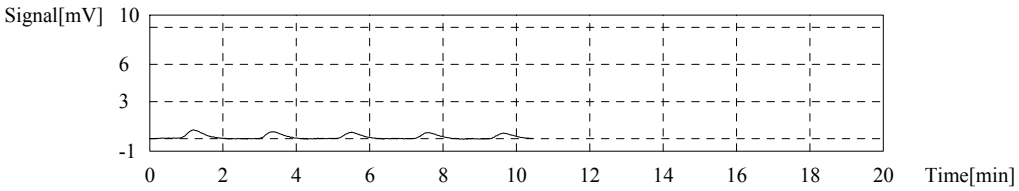
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.05147mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.103	0.1171mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:47:36 AM
2	1.861	0.08994mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:51:05 AM
3	1.639	0.06499mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:54:33 AM
4	1.542	0.05409mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 8:58:00 AM
5	1.375	0.03532mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:01:27 AM

Mean Area 1.519
Mean Conc. 0.05147mg/L



Sample

Sample Name: 19E0051-17
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

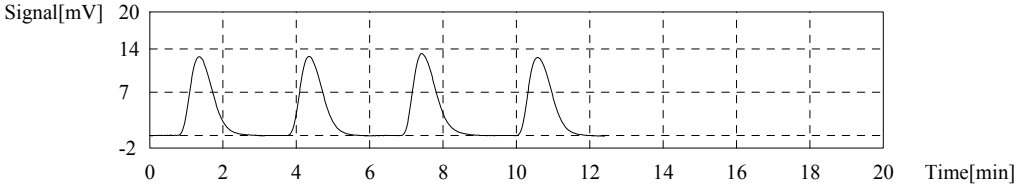
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.273mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.98	6.179mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:12:25 AM
2	55.79	6.270mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:16:31 AM
3	58.79	6.607mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:20:40 AM
4	56.70	6.372mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:24:50 AM

Mean Area 55.82
Mean Conc. 6.273mg/L



Sample

Sample Name: 19E0051-19
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

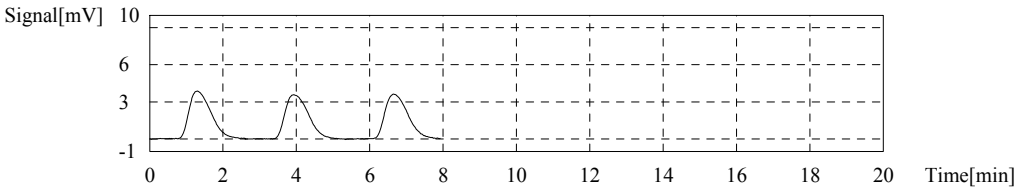
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:17.66mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.83	17.79mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:35:51 AM
2	15.71	17.65mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:40:50 AM
3	15.60	17.53mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:45:35 AM

Mean Area 15.71
Mean Conc. 17.66mg/L



Sample

Sample Name: 19E0051-21
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

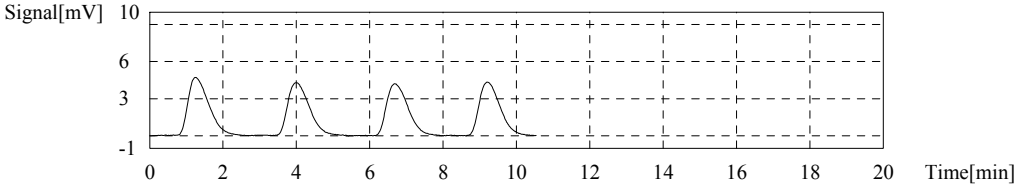
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.942mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.56	2.086mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:56:01 AM
2	17.49	1.965mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 9:59:48 AM
3	17.03	1.914mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:03:26 AM
4	17.32	1.946mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:07:19 AM

Mean Area 17.28
Mean Conc. 1.942mg/L



Sample

Sample Name: 19E0051-23
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

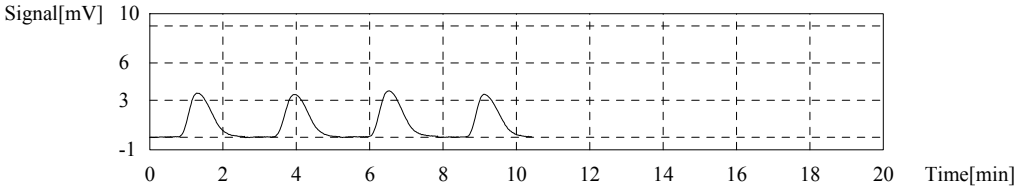
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.52mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.88	16.72mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:18:20 AM
2	14.76	16.59mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:23:13 AM
3	15.75	17.70mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:28:09 AM
4	14.46	16.25mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:32:55 AM

Mean Area 14.70
Mean Conc. 16.52mg/L



Sample

Sample Name: 19E0051-25
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

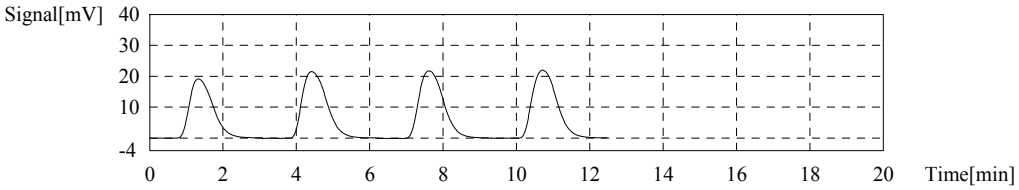
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:573.5mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	84.80	476.5mg/L	100uL	50.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:44:11 AM
2	100.6	565.3mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:49:08 AM
3	102.1	573.7mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:53:54 AM
4	103.5	581.6mg/L	100uL	50.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 10:58:49 AM

Mean Area 102.1
Mean Conc. 573.5mg/L



Sample

Sample Name: 19E0051-27
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

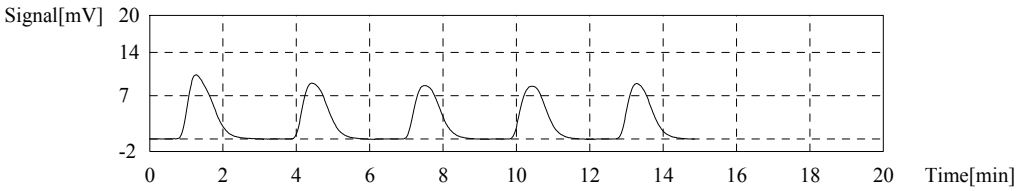
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.619mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.47	5.335mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:09:39 AM
2	42.75	4.804mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:13:41 AM
3	41.45	4.658mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:17:33 AM
4	41.07	4.615mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:21:27 AM
5	40.80	4.585mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:25:21 AM

Mean Area 41.11
Mean Conc. 4.619mg/L



Sample

Sample Name: 19E0051-29
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

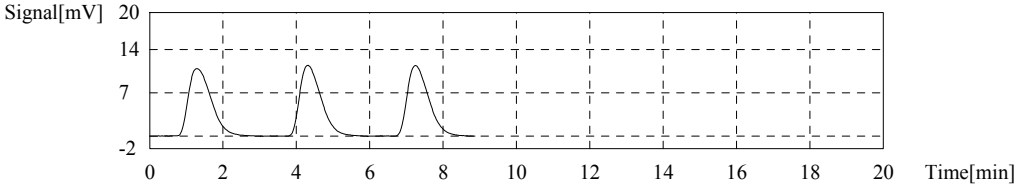
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:5.285mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.29	5.314mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:36:18 AM
2	46.94	5.275mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:40:12 AM
3	46.87	5.267mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:44:07 AM

Mean Area 47.03
Mean Conc. 5.285mg/L



Sample

Sample Name: 19E0051-31
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

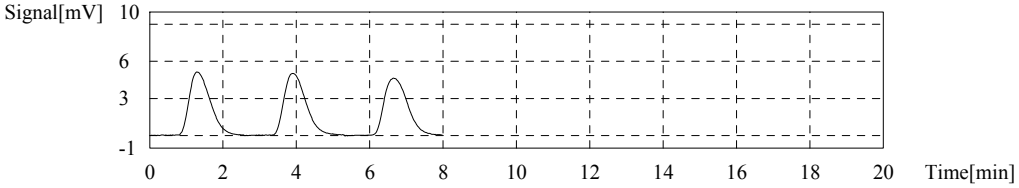
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:22.88mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.20	22.70mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 11:55:07 AM
2	20.65	23.21mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:00:09 PM
3	20.22	22.72mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:04:57 PM

Mean Area 20.36
Mean Conc. 22.88mg/L



Sample

Sample Name: 19E0051-33
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

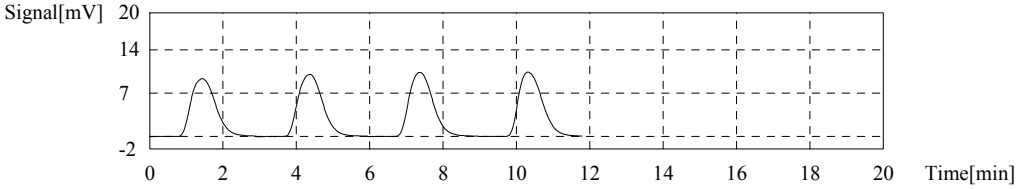
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:105.1mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.48	97.72mg/L	100uL	20.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:16:02 PM
2	46.67	104.9mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:21:01 PM
3	46.79	105.2mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:25:51 PM
4	46.80	105.2mg/L	100uL	20.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:30:30 PM

Mean Area 46.75
Mean Conc. 105.1mg/L



Sample

Sample Name: 19E0051-35
Sample ID:
Origin: NPOC 0.5 - 50 ppm.cal
Status Completed
Chk. Result

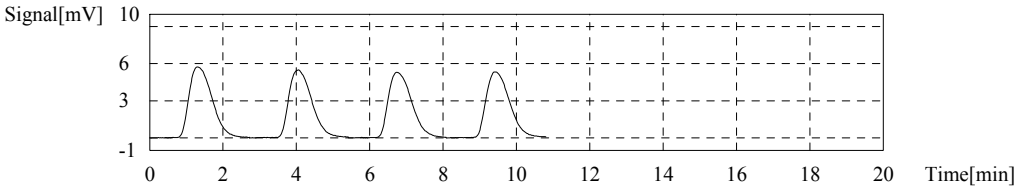
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.23mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	24.92	28.00mg/L	100uL	10.00	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:41:29 PM
2	23.58	26.50mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:46:20 PM
3	23.21	26.08mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:51:09 PM
4	23.24	26.12mg/L	100uL	10.00		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 12:56:05 PM

Mean Area 23.34
Mean Conc. 26.23mg/L



Control Sample

Sample Name: SEQ-CCV5
Sample ID: CVS 20
Method: CVS 20 ppm.tpl
Status Completed
Chk. Result Control value: 20.36 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

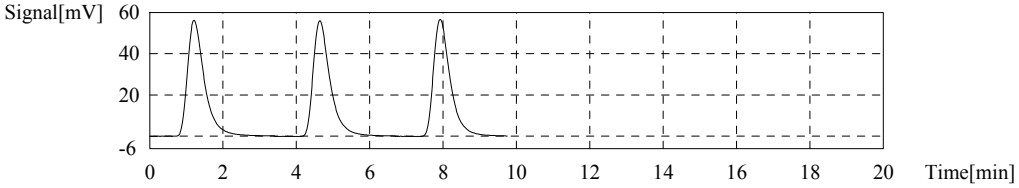
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.36ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	182.8	20.42ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:07:19 PM
2	182.0	20.33ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:11:35 PM
3	182.0	20.33ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:15:38 PM

Mean Area 182.3
Mean Conc. 20.36ppm



Control Sample

Sample Name: SEQ-CCB5
Sample ID:
Method: ICB CCB.tpl
Status Completed
Chk. Result Control value: 0.04087 / Control within range!

(Zero shift setting of cal. curve has been ignored in conc. calculation)

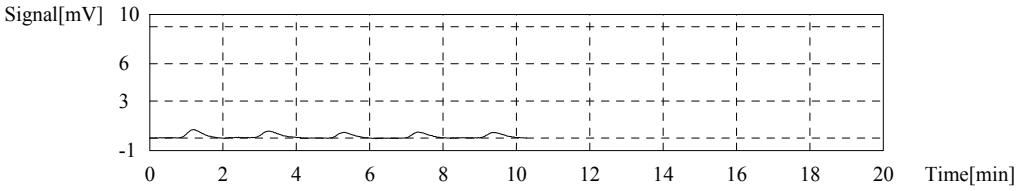
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.04087mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.005	0.1061mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:25:35 PM
2	1.641	0.06522mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:29:06 PM
3	1.412	0.03948mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:32:33 PM
4	1.500	0.04937mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:36:05 PM
5	1.361	0.03375mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal	5/15/2019 1:39:35 PM

Mean Area 1.424
Mean Conc. 0.04087mg/L



	Type	Analysis	Sample Name	Sample	Origin	Manual Dilution	Result	Notes	Status	Date / Time	Vial
1	Unknown	NPOC	Rinse		NPOC 0.5 - 50 pp	1.000	NPOC:0.1288mg/L		Completed	5/14/2019 12:08:06 P	0
2	Standard	NPOC	SEQ-CAL	Curve	NPOC 0.5 - 50 pp	1.000			Completed	5/14/2019 2:47:53 P	0, 1, 1, 1
3	Control	NPOC	SEQ-ICV1	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.39ppm	Control val	Completed	5/14/2019 3:07:34 P	3
4	Control	NPOC	SEQ-ICB1		ICB CCB.tpl	1.000	NPOC:0.09211mg/	Control val	Completed	5/14/2019 3:31:28 P	4
5	Unknown	NPOC	SEQ-IFA1		NPOC 0.5 - 50 pp	1.000	NPOC:20.54mg/L		Completed	5/14/2019 3:51:15 P	9
6	Unknown	NPOC	BHE0347-MRL1		NPOC 0.5 - 50 pp	1.000	NPOC:0.7834mg/L		Completed	5/14/2019 4:17:11 P	10
7	Unknown	NPOC	BHE0347-BLK1		NPOC 0.5 - 50 pp	1.000	NPOC:0.1734mg/L		Completed	5/14/2019 4:38:28 P	11
8	Unknown	NPOC	BHE0347-BS1		NPOC 0.5 - 50 pp	1.000	NPOC:20.10mg/L		Completed	5/14/2019 4:58:13 P	12
9	Unknown	NPOC	19D0417-01RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.706mg/L		Completed	5/14/2019 5:16:24 P	13
10	Unknown	NPOC	19D0417-02RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.561mg/L		Completed	5/14/2019 5:34:25 P	14
11	Unknown	NPOC	19D0417-03RE1		NPOC 0.5 - 50 pp	1.000	NPOC:2.701mg/L		Completed	5/14/2019 5:52:36 P	15
12	Unknown	NPOC	BHE0347-DUP1		NPOC 0.5 - 50 pp	1.000	NPOC:2.671mg/L		Completed	5/14/2019 6:14:46 P	16
13	Unknown	NPOC	BHE0347-MS1		NPOC 0.5 - 50 pp	1.000	NPOC:23.48mg/L		Completed	5/14/2019 6:35:04 P	17
14	Unknown	NPOC	BHE0347-MSD1		NPOC 0.5 - 50 pp	1.000	NPOC:23.98mg/L		Completed	5/14/2019 6:55:17 P	18
15	Control	NPOC	SEQ-CCV1	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.29ppm	Control val	Completed	5/14/2019 7:15:07 P	3
16	Control	NPOC	SEQ-CCB1		ICB CCB.tpl	1.000	NPOC:0.06806mg/	Control val	Completed	5/14/2019 7:32:12 P	4
17	Unknown	NPOC	19D0417-04RE1		NPOC 0.5 - 50 pp	1.000	NPOC:2.953mg/L		Completed	5/14/2019 7:51:08 P	19
18	Unknown	NPOC	19D0419-01RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.891mg/L		Completed	5/14/2019 8:17:13 P	20
19	Unknown	NPOC	19D0419-02RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.358mg/L		Completed	5/14/2019 8:43:05 P	21
20	Unknown	NPOC	19D0419-03RE1		NPOC 0.5 - 50 pp	1.000	NPOC:0.2620mg/L		Completed	5/14/2019 9:08:08 P	22
21	Unknown	NPOC	19D0419-04RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.459mg/L		Completed	5/14/2019 9:30:08 P	23
22	Unknown	NPOC	19D0419-05RE1		NPOC 0.5 - 50 pp	1.000	NPOC:0.4667mg/L		Completed	5/14/2019 9:51:40 P	24
23	Unknown	NPOC	19E0018-07RE1		NPOC 0.5 - 50 pp	1.000	NPOC:2.145mg/L		Completed	5/14/2019 10:09:55 P	25
24	Unknown	NPOC	19E0018-08RE1		NPOC 0.5 - 50 pp	1.000	NPOC:3.077mg/L		Completed	5/14/2019 10:28:31 P	26
25	Unknown	NPOC	19E0018-16RE1		NPOC 0.5 - 50 pp	1.000	NPOC:1.890mg/L		Completed	5/14/2019 10:46:44 P	27
26	Unknown	NPOC	19E0045-01		NPOC 0.5 - 50 pp	1.000	NPOC:23.15mg/L		Completed	5/14/2019 11:12:28 P	28
27	Control	NPOC	SEQ-CCV2	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.48ppm	Control val	Completed	5/14/2019 11:31:51 P	3
28	Control	NPOC	SEQ-CCB2		ICB CCB.tpl	1.000	NPOC:0.04997mg/	Control val	Completed	5/14/2019 11:55:49 P	4
29	Unknown	NPOC	19E0045-03		NPOC 0.5 - 50 pp	1.000	NPOC:101.0mg/L		Completed	5/15/2019 12:21:39 A	29
30	Unknown	NPOC	19E0045-05		NPOC 0.5 - 50 pp	1.000	NPOC:1360mg/L		Completed	5/15/2019 12:47:36 A	30
31	Unknown	NPOC	19E0045-07		NPOC 0.5 - 50 pp	1.000	NPOC:158.6mg/L		Completed	5/15/2019 1:13:24 A	31
32	Unknown	NPOC	19E0045-09		NPOC 0.5 - 50 pp	1.000	NPOC:1.851mg/L		Completed	5/15/2019 1:39:00 A	32
33	Unknown	NPOC	19E0085-01		NPOC 0.5 - 50 pp	1.000	NPOC:0.3567mg/L		Completed	5/15/2019 2:04:09 A	33
34	Unknown	NPOC	19E0133-01		NPOC 0.5 - 50 pp	1.000	NPOC:107.7mg/L		Completed	5/15/2019 2:29:49 A	34
35	Unknown	NPOC	19E0133-02		NPOC 0.5 - 50 pp	1.000	NPOC:299.4mg/L		Completed	5/15/2019 2:55:40 A	35
36	Unknown	NPOC	BHE0353-MRL1		NPOC 0.5 - 50 pp	1.000	NPOC:0.8135mg/L		Completed	5/15/2019 3:21:11 A	36
37	Unknown	NPOC	BHE0353-BLK1		NPOC 0.5 - 50 pp	1.000	NPOC:0.1452mg/L		Completed	5/15/2019 3:42:21 A	37
38	Unknown	NPOC	BHE0353-BS1		NPOC 0.5 - 50 pp	1.000	NPOC:19.98mg/L		Completed	5/15/2019 4:02:11 A	38
39	Control	NPOC	SEQ-CCV3	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.12ppm	Control val	Completed	5/15/2019 4:22:20 A	5

	Type	Analysis	Sample Name	Sample	Origin	Manual Dilution	Result	Notes	Status	Date / Time	Vial
40	Control	NPOC	SEQ-CCB3		ICB CCB.tpl	1.000	NPOC:0.06023mg/	Control val	Completed	5/15/2019 4:42:42 A	6
41	Unknown	NPOC	19E0051-01		NPOC 0.5 - 50 pp	1.000	NPOC:16.15mg/L		Completed	5/15/2019 5:08:11 A	39
42	Unknown	NPOC	19E0051-03		NPOC 0.5 - 50 pp	1.000	NPOC:18.43mg/L		Completed	5/15/2019 5:28:59 A	40
43	Unknown	NPOC	19E0051-05		NPOC 0.5 - 50 pp	1.000	NPOC:17.81mg/L		Completed	5/15/2019 5:54:31 A	41
44	Unknown	NPOC	19E0051-07		NPOC 0.5 - 50 pp	1.000	NPOC:23.23mg/L		Completed	5/15/2019 6:15:10 A	42
45	Unknown	NPOC	19E0051-09		NPOC 0.5 - 50 pp	1.000	NPOC:11.96mg/L		Completed	5/15/2019 6:34:17 A	43
46	Unknown	NPOC	BHE0353-DUP1		NPOC 0.5 - 50 pp	1.000	NPOC:12.08mg/L		Completed	5/15/2019 6:53:34 A	44
47	Unknown	NPOC	BHE0353-MS1		NPOC 0.5 - 50 pp	1.000	NPOC:33.29mg/L		Completed	5/15/2019 7:13:36 A	45
48	Unknown	NPOC	19E0051-11		NPOC 0.5 - 50 pp	1.000	NPOC:11.40mg/L		Completed	5/15/2019 7:33:00 A	46
49	Unknown	NPOC	19E0051-13		NPOC 0.5 - 50 pp	1.000	NPOC:9.826mg/L		Completed	5/15/2019 7:52:15 A	47
50	Unknown	NPOC	19E0051-15		NPOC 0.5 - 50 pp	1.000	NPOC:15.61mg/L		Completed	5/15/2019 8:17:49 A	48
51	Control	NPOC	SEQ-CCV4	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.34ppm	Control val	Completed	5/15/2019 8:37:33 A	5
52	Control	NPOC	SEQ-CCB4		ICB CCB.tpl	1.000	NPOC:0.05147mg/	Control val	Completed	5/15/2019 9:01:27 A	6
53	Unknown	NPOC	19E0051-17		NPOC 0.5 - 50 pp	1.000	NPOC:6.273mg/L		Completed	5/15/2019 9:24:50 A	49
54	Unknown	NPOC	19E0051-19		NPOC 0.5 - 50 pp	1.000	NPOC:17.66mg/L		Completed	5/15/2019 9:45:35 A	50
55	Unknown	NPOC	19E0051-21		NPOC 0.5 - 50 pp	1.000	NPOC:1.942mg/L		Completed	5/15/2019 10:07:19 A	51
56	Unknown	NPOC	19E0051-23		NPOC 0.5 - 50 pp	1.000	NPOC:16.52mg/L		Completed	5/15/2019 10:32:55 A	52
57	Unknown	NPOC	19E0051-25		NPOC 0.5 - 50 pp	1.000	NPOC:573.5mg/L		Completed	5/15/2019 10:58:49 A	53
58	Unknown	NPOC	19E0051-27		NPOC 0.5 - 50 pp	1.000	NPOC:4.619mg/L		Completed	5/15/2019 11:25:21 A	54
59	Unknown	NPOC	19E0051-29		NPOC 0.5 - 50 pp	1.000	NPOC:5.285mg/L		Completed	5/15/2019 11:44:07 A	55
60	Unknown	NPOC	19E0051-31		NPOC 0.5 - 50 pp	1.000	NPOC:22.88mg/L		Completed	5/15/2019 12:04:57 P	56
61	Unknown	NPOC	19E0051-33		NPOC 0.5 - 50 pp	1.000	NPOC:105.1mg/L		Completed	5/15/2019 12:30:30 P	57
62	Unknown	NPOC	19E0051-35		NPOC 0.5 - 50 pp	1.000	NPOC:26.23mg/L		Completed	5/15/2019 12:56:05 P	58
63	Control	NPOC	SEQ-CCV5	CVS 2	CVS 20 ppm.tpl	1.000	NPOC:20.36ppm	Control val	Completed	5/15/2019 1:15:38 P	5
64	Control	NPOC	SEQ-CCB5		ICB CCB.tpl	1.000	NPOC:0.04087mg/	Control val	Completed	5/15/2019 1:39:35 P	6

INITIAL CALIBRATION DATA

SM 5310 B-00

Laboratory: Analytical Resources, Inc.
SDG: 19E0085
Client: Test America
Project: Portland Harbor Pre-Remedial Design
Calibration: CE00038
Instrument: TOC-LCSH
Calibration Date: 05/14/2019 12:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0	0	0.50015	10.44687	1.0003	9.910028	2.5008	9.241043	5.0015	9.061281	10.003	8.919324

INITIAL CALIBRATION DATA

SM 5310 B-00

Laboratory:	Analytical Resources, Inc.	SDG:	19E0085
Client:	Test America	Project:	Portland Harbor Pre-Remedial Design
Calibration:	CE00038	Instrument:	TOC-LCSH
Calibration Date:	05/14/2019 12:08		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	25.008	9.065099	50.015	8.905329								

INITIAL CALIBRATION DATA

SM 5310 B-00

Laboratory:	Analytical Resources, Inc.	SDG:	19E0085
Client:	Test America	Project:	Portland Harbor Pre-Remedial Design
Calibration:	CE00038	Instrument:	TOC-LCSH
Calibration Date:	05/14/2019 12:08		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	8.193621	40.9	0.9999			

TOC-L Cal Curve Information
C:\TOC-L\CalCurves\NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal

Date of Creation	5/14/2019 2:47:53 PM
User	BF
System	TOC-L SUSPENDED SOLIDS

Cal. Curve

Sample Name:	SEQ-CAL
Sample ID:	Curve
Object ID	0L-10000101463-10101000-13415321915B-0001
Cal. Curve:	NPOC 0.5 - 50 ppm.2019_05_14_12_08_06.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.6684	100uL	1.000	*******	E	5/14/2019 12:15:36 PM
2	0.8445	100uL	1.000	*******		5/14/2019 12:19:09 PM
3	0.9832	100uL	1.000	*******		5/14/2019 12:22:41 PM
4	0.8733	100uL	1.000	*******		5/14/2019 12:26:11 PM

Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	0.9003
SD Area	0.07320
CV Area	8.13%
Vial	0

Conc: 0.5000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.991	100uL	10.00	*******	E	5/14/2019 12:37:08 PM
2	5.225	100uL	10.00	*******		5/14/2019 12:42:02 PM
3	5.179	100uL	10.00	*******		5/14/2019 12:46:57 PM
4	5.175	100uL	10.00	*******		5/14/2019 12:51:42 PM

Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	5.193
SD Area	0.02778
CV Area	0.54%
Vial	1

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.913	100uL	5.000	*******		5/14/2019 1:01:04 PM
2	9.995	100uL	5.000	*******		5/14/2019 1:04:56 PM
3	9.653	100uL	5.000	*******		5/14/2019 1:08:56 PM

Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	9.854
SD Area	0.1786
CV Area	1.81%
Vial	1

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	23.11	100uL	2.000	*******		5/14/2019 1:18:44 PM
2	23.42	100uL	2.000	*******		5/14/2019 1:23:03 PM
3	23.26	100uL	2.000	*******		5/14/2019 1:27:15 PM

Acid Add. 1.500%
Sparge Gas Flow 80ml
Sp. Time 90.00sec
Mean Area 23.26
SD Area 0.1550
CV Area 0.67%
Vial 1

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	45.32	100uL	1.000	*******		5/14/2019 1:36:40 PM
2	45.21	100uL	1.000	*******		5/14/2019 1:41:07 PM
3	45.41	100uL	1.000	*******		5/14/2019 1:45:41 PM

Acid Add. 1.500%
Sparge Gas Flow 80ml
Sp. Time 90.00sec
Mean Area 45.31
SD Area 0.1002
CV Area 0.22%
Vial 1

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	89.22	100uL	5.000	*******		5/14/2019 1:58:02 PM
2	89.74	100uL	5.000	*******		5/14/2019 2:02:46 PM
3	89.42	100uL	5.000	*******		5/14/2019 2:07:19 PM

Acid Add. 1.500%
Sparge Gas Flow 80ml
Sp. Time 90.00sec
Mean Area 89.46
SD Area 0.2623
CV Area 0.29%
Vial 2

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	226.7	100uL	2.000	*******		5/14/2019 2:17:50 PM
2	225.0	100uL	2.000	*******		5/14/2019 2:22:49 PM
3	226.7	100uL	2.000	*******		5/14/2019 2:27:47 PM

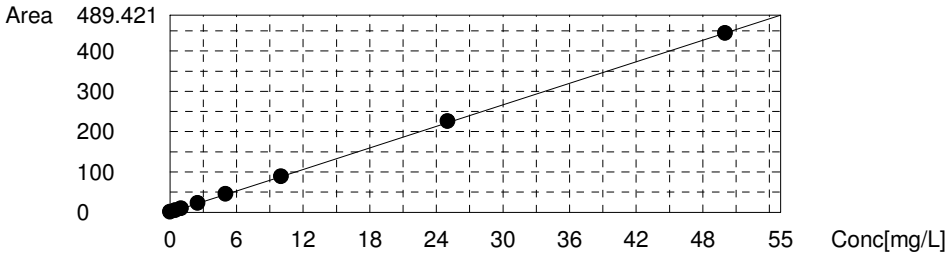
Acid Add. 1.500%
Sparge Gas Flow 80ml
Sp. Time 90.00sec
Mean Area 226.1
SD Area 0.9815
CV Area 0.43%
Vial 2

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	445.4	100uL	1.000	*******		5/14/2019 2:37:44 PM
2	446.3	100uL	1.000	*******		5/14/2019 2:42:49 PM
3	442.8	100uL	1.000	*******		5/14/2019 2:47:53 PM

Acid Add.	1.500%
Sparge Gas Flow	80ml
Sp. Time	90.00sec
Mean Area	444.8
SD Area	1.818
CV Area	0.41%
Vial	2

Slope:	8.899
Intercept	0.000
r^2	0.9999
r	1.0000
Zero Shift	Yes



INSTRUMENT BLANKS
SM 5310 B-00

Laboratory: Analytical Resources, Inc.
SDG: 19E0085
Client: Test America
Project: Portland Harbor Pre-Remedial Design
Instrument ID: TOC-LCSH
Calibration: CE00038
Sequence: SHE0251
Date Analyzed: 05/14/19 15:21

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SHE0251-ICB1	Total Organic Carbon	0.09	0.5	0.50	mg/L	
SHE0251-CCB1	Total Organic Carbon	0.07	0.5	0.50	mg/L	
SHE0251-CCB2	Total Organic Carbon	0.05	0.5	0.50	mg/L	
SHE0251-CCB3	Total Organic Carbon	0.06	0.5	0.50	mg/L	
SHE0251-CCB4	Total Organic Carbon	0.05	0.5	0.50	mg/L	
SHE0251-CCB5	Total Organic Carbon	0.04	0.5	0.50	mg/L	

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B-00

Laboratory: Analytical Resources, Inc.
SDG: 19E0085
Client: Test America
Project: Portland Harbor Pre-Remedial Design
Instrument ID: TOC-LCSH
Calibration: CE00038
Control Limt: +/- 10.00%
Sequence: SHE0251

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SHE0251-ICV1	Total Organic Carbon	20.000	20.39	102	mg/L	SM 5310 B-00
SHE0251-CCV1	Total Organic Carbon	20.000	20.29	101	mg/L	SM 5310 B-00
SHE0251-CCV2	Total Organic Carbon	20.000	20.48	102	mg/L	SM 5310 B-00
SHE0251-CCV3	Total Organic Carbon	20.000	20.12	101	mg/L	SM 5310 B-00
SHE0251-CCV4	Total Organic Carbon	20.000	20.34	102	mg/L	SM 5310 B-00
SHE0251-CCV5	Total Organic Carbon	20.000	20.36	102	mg/L	SM 5310 B-00

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: SM 5310 B-00

Laboratory: Analytical Resources, Inc. SDG: 19E0085

Client: Test America Project: Portland Harbor Pre-Remedial Design

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-RB-ST-190501 19E0085-01	05/01/19 17:45	05/07/19 09:30	05/14/19 09:39	12	28	05/15/19 01:56	13	28	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 5310 B-00

Laboratory: Analytical Resources, Inc.
SDG: 19E0085
Client: Test America
Project: Portland Harbor Pre-Remedial Design
Matrix: Water
Instrument: TOC-LCSH

Analyte	MDL	RL	Units
Total Organic Carbon	0.50	0.50	mg/L

SURFACE SEDIMENT CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310 Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010** **Analysis Turnaround Time** Calendar (C) or Work Days (W) ___W_____ 21 days [x] Other _5 days for all analyses except PCBs at 10 days _____	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker**	**5/3/2019** **Carrier: Courier**	COC No: 1 __1____ of __1____ pages
Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Sediment Trap				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	WQ - TPH Diesel NWTPH-Dx	WQ - Metals, Mercury 6020B, 7470	WQ - Total Organic Carbon SM5310B	Sample Specific Notes:
PDI-ST-T07A-1905	5/1/2019	16:45	S		JJK	6		x	x	x	x	x	x						
PDI-ST-T07B-1905	5/1/2019	17:00	S		JJK	6		x	x	x	x	x	x						
PDI-ST-T06B-1905	5/1/2019	17:10	S	MS/MSD	KK	8		x	x	x	x	x	x						
PDI-ST-T06A-1905	5/1/2019	17:15	S		JJK	6		x	x	x	x	x	x						
PDI-RB-ST-~~190129~~ 190501	5/1/2019	17:45	W		JJK	8								x	x	x	x	x	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
[ ] *Return To Client* [X] *Disposal By Lab* [X] *Archive For 12 Months*

Special Instructions/QC Requirements & Comments:

4.8, 1.3

Relinquished by:	Company: AECOM	Date/Time: 5/3/19 1250	Received by:	Company: M.E	Date/Time: 5-3-19 / 1250
Relinquished by:	Company: M.E	Date/Time: 5-3-19 / 1345	Received by:	Company: TAP	Date/Time: 5/3/19 1345
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

580-85913 Chain of Custody

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310 Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010** **Analysis Turnaround Time** Calendar (C) or Work Days (W) ___W_____ 21 days [x] Other _5 days for all analyses except PCBs at 10 days _____	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker**	**5/3/2019** **Carrier: Courier**	COC No: 1 __1__ of __1__ pages

Client Contact
AECOM
1111 3rd Ave Suite 1600
Seattle, WA 98101
Phone: (206) 438-2700 Fax: 1+(866) 495-5288
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
Portland, OR
Project #: 60566335 Study: Sediment Trap

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	WQ - TPH Diesel NWTPH-Dx	WQ - Metals, Mercury 6020B, 7470	WQ - Total Organic Carbon SM5310B						Sample Specific Notes:
PDI-ST-T07A-1905	5/1/2019	16:45	S		JJK	6		x	x	x	x	x	x											
PDI-ST-T07B-1905	5/1/2019	17:00	S		JJR	6		x	x	x	x	x	x											
PDI-ST-T06B-1905	5/1/2019	17:10	S	MS/MSD	KK	8		x	x	x	x	x	x											
PDI-ST-T06A-1905	5/1/2019	17:15	S		JJR	6		x	x	x	x	x	x											
PDI-RB-ST-190501	5/1/2019	17:45	W		JJR	8								x	x	x	x	x						

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal

[ ] Return To Client [X] Disposal By Lab [X] Archive For 12 Months

Special Instructions/QC Requirements & Comments:

4.8, 1.3

Relinquished by:	Company: AECOM	Date/Time: 5/3/19 1250	Received by:	Company: M.E	Date/Time: 5-3-19 / 1250
Relinquished by:	Company: M.E	Date/Time: 5-3-19 / 1345	Received by:	Company: TAR	Date/Time: 5/3/19 1345
Relinquished by:	Company: TAR	Date/Time: 5/3/19 1700	Received by:	Company: TASeq	Date/Time: 5-4-19 1100

5=3.4

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-85913 Chain of Custody

urofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	No: 580-65716.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Oregon
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):	Page: Page 1 of 1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/10/2019		Job #: 580-85913-1
City: Knoxville	TAT Requested (days):		
State, Zip: TN, 37921			
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:		
Email:	WO #:		
Project Name: Portland Harbor Pre-Remedial Design	Project #: 58012120		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1668A/1668_P_Sox (MOD) 209 PCBs plus Totals	1668A/1668_Split (MOD) 209 PCBs plus Totals	1668A/1668_P_Sep (MOD) 209 PCBs plus Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
PDI-ST-T07A-1905 (580-85913-1)	5/1/19	16:45 Pacific		Solid			X	X		1	
PDI-ST-T07B-1905 (580-85913-2)	5/1/19	17:00 Pacific		Solid			X	X		1	
PDI-ST-T06A-1905 (580-85913-3)	5/1/19	17:10 Pacific		Solid			X	X		1	
PDI-RB-ST-190501 (580-85913-5)	5/1/19	17:45 Pacific		Water					X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: KG 5/3/19 1510	Date/Time: 5/3/19 1510	Company TAPOR	Received by:	Date/Time: 5/4/19 0930	Company TA-Knx
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Loc: 580
85913

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**	Custody seal intact
2. Were ambient air containers received intact?			✓	☐ Checked in lab	RT: 1.4°C CT: 1.4°C
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA	TrK# 4772 7014 2746 RC-ND, 1 cooler KW 5/4/19
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC68 Correction factor: +0.0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**	
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**	
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**	
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**	
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**	
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**	**Labeling Verified by: Date:**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**	
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**	**pH test strip lot number:**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**	
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**	
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**	
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**	
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 7194 2020/04	✓			☐ **Residual Chlorine**	
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info	

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: ______________ PM Instructions: ______________

Sample Receiving Associate: [signature] Date: 5/4/19

QA026R31.doc, 112618

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-85913-1

Login Number: 85913
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	