CHEMTECH

DATA PACKAGE

GENERAL CHEMISTRY
METALS
GC SEMI-VOLATILES
SEMI-VOLATILE ORGANICS
VOLATILE ORGANICS

PROJECT NAME : NYCDDC PHASE II SCI ARTHUR KILL ROAD CEQR

LOUIS BERGER U.S., INC., A WSP COMPANY

96 Morton Street

8th Floor

New York, NY - 10014

Phone No: 212-462-8500

ORDER ID : O1232

ATTENTION : Jonathan Ganz

NELAP ACCREDITED TNI LABORATORY

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP

Laboratory Certification ID # 20012

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Cover Page

Order ID : O1232

Project ID : NYCDDC Phase II SCI Arthur Kill Road CEQR

Client : Louis Berger U.S., Inc., A WSP Company

Lab Sample Number	Client Sample Number
O1232-01	B-P-17A
O1232-02	B-P-17B
O1232-03	WC-17
O1232-04	B-P-18A
O1232-05	B-P-18B
O1232-06	B-P-19A
O1232-07	B-P-19B
O1232-08	B-P-35A
O1232-09	B-P-35B
O1232-10	DUP01

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:44 am, Feb 02, 2023
Date: 2/2/2023

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: VOC-TCLVOA-10

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for VOC-TCLVOA-10.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_Y were done using GC column Rxi-624Sil MS, which is 30 meters, 0.25 mm id, 1.4 um df, Restek Cat. #13868. The Trap was supplied by Supelco, VOCARB 3000, ATOMAX XYZ Concentrator.The analysis of VOC-TCLVOA-10 was based on method 8260D.

D. QA/ QC Samples:
The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for B-P-35B [1,2-Dichloroethane-d4 - 193%], B-P-35BRE [1 and2-Dichloroethane-d4 - 183%].
The Internal Standards Areas met the acceptable requirements except for B-P-35B and B-P-35BRE the failure sample in surrogate and Internal standard was reanalyzed to confirm the failure as per method and reported while,

For B-P-19B VIAL A analyzed but internal standard fail as a corrective action VIAL B analyzed but did not purge therefore VIAL A reported as final analysis.

The Retention Times were acceptable for all samples.
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.

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The %RSD is greater than 15% in the Initial Calibration method (82Y011623S.M) for Methylene Chloride,1,2-Dichloroethane-d4,Toluene-d8 these compounds are passing on Linear Regression.
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

E. Additional Comments:
Samples for MS/MSD for VOC analysis were not provided with this set of samples. The Blank Spike Duplicate is reported with the data.
Trip Blank was not provided with this set of samples.
The soil samples results are based on a dry weight basis.
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:45 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: Gasoline Range Organics

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for Gasoline Range Organics.

C. Analytical Techniques:
The analysis performed on instrument FID_B were done using GC column RTX502.2 which is 60 meters, 0.53mm ID, 3.0 um df, cat#10909.The analysis of Gasoline Range Organics was based on method 8015D.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

Samples WC-17 was directly run in methanol as both low level soil vials did not purge.

E. Additional Comments:
The soil samples results are based on a dry weight basis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:45 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for SVOC-TCL BNA -20.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column DB-UI 8270D which is 20 meters, 0.18 mm ID, 0.36 um dfThe samples were analyzed on instrument BNA_G using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGAThe samples were analyzed on instrument BNA_P using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGAThe analysis of SVOC-TCL BNA -20 was based on method 8270E and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.

The % RSD is greater than 15% in the Initial Calibration (Method 8270-BF011923.M) for 2-Nitrophenol ,Benzoic acid, 2-Nitroaniline , 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Butylbenzylphthalate ,Bis(2-ethylhexyl)phthalate, Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene this compounds is passing on Linear Regression. Di-n-octyl phthalate is passing on Quadratic regression.

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The % RSD is greater than 15% in the Initial Calibration (8270-BP012323.M) for Hexachlorocyclopentadiene, 2-Nitroaniline , 2,6-Dinitrotoluene , 3-Nitroaniline, 4-Nitrophenol, 2,4-Dinitrotoluene, 4-Nitroaniline, Pentachlorophenol these compounds are passing on Linear Regression and 2-Nitrophenol, 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol passing on Quadratic regression.

The Continuous Calibration File ID BF132164.D met the requirements except for 2,4-Dinitrotoluene, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Continuous Calibration File ID BP013562.D met the requirements except for 2,4-Dinitrophenol,2,4-Dinitrotoluene and 4,6-Dinitro-2-methylphenol, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Continuous Calibration File ID BP013571.D met the requirements except for 2,4-Dinitrophenol,2,4-Dinitrotoluene,2-Nitrophenol and 4,6-Dinitro-2-methylphenol , The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Tuning criteria met requirements.

E. Additional Comments:
The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:46 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: SVOC-PAH

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for SVOC-PAH.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column DB-UI 8270D which is 20 meters, 0.18 mm ID, 0.36 um df The samples were analyzed on instrument BNA_P using GC Column ZB-Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGAThe analysis of SVOC-PAH was based on method 8270E and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

E. Additional Comments:
The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial

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Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: Pesticide-TCL

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for Pesticide-TCL.

C. Analytical Techniques:
The analysis was performed on instrument ECD_L. The front column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11 The rear column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0. 5 um df,: Catalog # 7HM-G016-17. .The analysis of Pesticide-TCLs was based on method 8081B and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements.
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:
The soil samples results are based on a dry weight basis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:46 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: PCB

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for PCB.

C. Analytical Techniques:
The analyses were performed on instrument GCECD_P. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11.The analysis of PCBs was based on method 8082A and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:
The soil samples results are based on a dry weight basis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:46 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: Diesel Range Organics

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for Diesel Range Organics.

C. Analytical Techniques:
The analysis were performed on instrument FID_F. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 13302.The analysis of Diesel Range Organics was based on method 8015D and extraction was done based on method 3541.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:
The soil samples results are based on a dry weight basis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

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Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:47 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: Mercury,Metals ICP-TAL

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for Mercury,Metals ICP-TAL.

C. Analytical Techniques:
The analysis of Metals ICP-TAL was based on method 6010D, digestion based on method 3050 (soils). The analysis and digestion of Mercury was based on method 7471B.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (B-P-17AMS) analysis met criteria for all samples except for Antimony, Beryllium, and Copper due to chemical interference during digestion process.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: TCLP ICP Metals,TCLP Mercury

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for TCLP ICP Metals,TCLP Mercury.

C. Analytical Techniques:
The analysis of TCLP ICP Metals was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of TCLP Mercury was based on method 7470A and TCLP extraction method was 1311.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

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By Nimisha Pandya QA/QC Supervisor at 10:47 am, Feb 02, 2023

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CASE NARRATIVE

Louis Berger U.S., Inc., A WSP Company
Project Name: NYCDDC Phase II SCI Arthur Kill Road CEQR
Project # N/A
Chemtech Project # O1232
Test Name: Corrosivity,Ignitability,Paint Filter,Reactive Cyanide,Reactive Sulfide

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-PAH, SVOC-TCL BNA -20, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS and VOC-TCLVOA-10. This data package contains results for Corrosivity,Ignitability,Paint Filter,Reactive Cyanide,Reactive Sulfide.

C. Analytical Techniques:
The analysis of Ignitability was based on method 1030, The analysis of Reactive Cyanide was based on method 9012B, The analysis of Reactive Sulfide was based on method 9034, The analysis of Corrosivity was based on method 9045D and The analysis of Paint Filter was based on method 9095B.

D. QA/ QC Samples:
The Holding Times were met for all samples except for WC-17 of Corrosivity as sample receive out of hold.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:48 am, Feb 02, 2023

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers **"P"** for ICP instrument **"PM"** for ICP when Microwave Digestion is used **"CV"** for Manual Cold Vapor AA **"AV"** for automated Cold Vapor AA **"CA"** for MIDI-Distillation Spectrophotometric **"AS"** for Semi –Automated Spectrophotometric **"C"** for Manual Spectrophotometric **"T"** for Titrimetric **"NR"** for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value**.** This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: O1232

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: SOHIL JODHANI **Date:** 02/02/2023

2nd Level QA Review Signature: N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 10:48 am, Feb 02, 2023

Date:

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1232-09RE	**B-P-35BRE**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1232-10	**DUP01**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
Client ID:	**B-P-17A**								
O1232-01	B-P-17A	SOIL	unknown10.947	*	5.60	J	0	0	ug/Kg
			Total Tics :		5.60				
			Total Concentration:		5.60				
Client ID:	**B-P-18A**								
O1232-04	B-P-18A	SOIL	unknown10.947	*	12.6	J	0	0	ug/Kg
			Total Tics :		12.6				
			Total Concentration:		12.6				
Client ID:	**B-P-18B**								
O1232-05	B-P-18B	SOIL	Benzene		1.80	J	0.72	5.40	ug/Kg
O1232-05	B-P-18B	SOIL	Toluene		1.10	J	0.69	5.40	ug/Kg
			Total Voc :		2.90				
			Total Concentration:		2.90				
Client ID:	**B-P-19A**								
O1232-06	B-P-19A	SOIL	Acetone		18.2	J	13.6	28.0	ug/Kg
			Total Voc :		18.2				
O1232-06	B-P-19A	SOIL	unknown10.947	*	8.50	J	0	0	ug/Kg
			Total Tics :		8.50				
			Total Concentration:		26.7				
Client ID:	**B-P-19B**								
O1232-07	B-P-19B	SOIL	Acetone		24.1	J	13.8	28.3	ug/Kg
			Total Voc :		24.1				
			Total Concentration:		24.1				
Client ID:	**DUP01**								
O1232-10	DUP01	SOIL	Benzene		3.30	J	0.73	5.50	ug/Kg
O1232-10	DUP01	SOIL	Toluene		1.80	J	0.70	5.50	ug/Kg
			Total Voc :		5.10				
			Total Concentration:		5.10				

SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.4
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012292.D	1		01/20/23 15:49	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.96	U	0.96	5.60	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.60	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.60	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.60	ug/Kg
75-00-3	Chloroethane	1.00	U	1.00	5.60	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.60	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.81	U	0.81	5.60	ug/Kg
75-35-4	1,1-Dichloroethene	0.96	U	0.96	5.60	ug/Kg
67-64-1	Acetone	13.6	U	13.6	28.0	ug/Kg
75-15-0	Carbon Disulfide	0.84	U	0.84	5.60	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.00	U	1.00	5.60	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.60	ug/Kg
75-09-2	Methylene Chloride	6.70	U	6.70	11.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.76	U	0.76	5.60	ug/Kg
75-34-3	1,1-Dichloroethane	0.78	U	0.78	5.60	ug/Kg
110-82-7	Cyclohexane	0.94	U	0.94	5.60	ug/Kg
78-93-3	2-Butanone	8.10	U	8.10	28.0	ug/Kg
56-23-5	Carbon Tetrachloride	0.88	U	0.88	5.60	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.76	U	0.76	5.60	ug/Kg
74-97-5	Bromochloromethane	0.91	U	0.91	5.60	ug/Kg
67-66-3	Chloroform	0.75	U	0.75	5.60	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.84	U	0.84	5.60	ug/Kg
108-87-2	Methylcyclohexane	0.89	U	0.89	5.60	ug/Kg
71-43-2	Benzene	0.74	U	0.74	5.60	ug/Kg
107-06-2	1,2-Dichloroethane	0.94	U	0.94	5.60	ug/Kg
79-01-6	Trichloroethene	0.82	U	0.82	5.60	ug/Kg
78-87-5	1,2-Dichloropropane	0.73	U	0.73	5.60	ug/Kg
75-27-4	Bromodichloromethane	0.78	U	0.78	5.60	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.10	U	5.10	28.0	ug/Kg
108-88-3	Toluene	0.70	U	0.70	5.60	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.83	U	0.83	5.60	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.79	U	0.79	5.60	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.4
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012292.D	1		01/20/23 15:49	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.96	U	0.96	5.60	ug/Kg
591-78-6	2-Hexanone	5.20	U	5.20	28.0	ug/Kg
124-48-1	Dibromochloromethane	0.84	U	0.84	5.60	ug/Kg
106-93-4	1,2-Dibromoethane	0.84	U	0.84	5.60	ug/Kg
127-18-4	Tetrachloroethene	0.85	U	0.85	5.60	ug/Kg
108-90-7	Chlorobenzene	0.73	U	0.73	5.60	ug/Kg
100-41-4	Ethyl Benzene	0.78	U	0.78	5.60	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.2	ug/Kg
95-47-6	o-Xylene	0.88	U	0.88	5.60	ug/Kg
100-42-5	Styrene	0.88	U	0.88	5.60	ug/Kg
75-25-2	Bromoform	0.91	U	0.91	5.60	ug/Kg
98-82-8	Isopropylbenzene	0.81	U	0.81	5.60	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.60	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.75	U	0.75	5.60	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.70	U	0.70	5.60	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.72	U	0.72	5.60	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.60	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	5.60	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.60	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	71.1		50 - 163	142%	SPK: 50
1868-53-7	Dibromofluoromethane	57.9		54 - 147	116%	SPK: 50
2037-26-5	Toluene-d8	65.9		58 - 134	132%	SPK: 50
460-00-4	4-Bromofluorobenzene	54.9		30 - 143	110%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	188000	7.789			
540-36-3	1,4-Difluorobenzene	315000	8.691			
3114-55-4	Chlorobenzene-d5	310000	11.49			
3855-82-1	1,4-Dichlorobenzene-d4	145000	13.428			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown10.947	5.60	J		10.9	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.4
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012292.D	1		01/20/23 15:49	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	86.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012293.D	1		01/20/23 16:13	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.99	U	0.99	5.80	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.80	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.80	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.80	ug/Kg
75-00-3	Chloroethane	1.00	U	1.00	5.80	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.80	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.83	U	0.83	5.80	ug/Kg
75-35-4	1,1-Dichloroethene	0.99	U	0.99	5.80	ug/Kg
67-64-1	Acetone	14.0	U	14.0	28.8	ug/Kg
75-15-0	Carbon Disulfide	0.86	U	0.86	5.80	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.10	U	1.10	5.80	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.80	ug/Kg
75-09-2	Methylene Chloride	6.90	U	6.90	11.5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.78	U	0.78	5.80	ug/Kg
75-34-3	1,1-Dichloroethane	0.81	U	0.81	5.80	ug/Kg
110-82-7	Cyclohexane	0.97	U	0.97	5.80	ug/Kg
78-93-3	2-Butanone	8.40	U	8.40	28.8	ug/Kg
56-23-5	Carbon Tetrachloride	0.91	U	0.91	5.80	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.78	U	0.78	5.80	ug/Kg
74-97-5	Bromochloromethane	0.93	U	0.93	5.80	ug/Kg
67-66-3	Chloroform	0.77	U	0.77	5.80	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.86	U	0.86	5.80	ug/Kg
108-87-2	Methylcyclohexane	0.92	U	0.92	5.80	ug/Kg
71-43-2	Benzene	0.76	U	0.76	5.80	ug/Kg
107-06-2	1,2-Dichloroethane	0.97	U	0.97	5.80	ug/Kg
79-01-6	Trichloroethene	0.84	U	0.84	5.80	ug/Kg
78-87-5	1,2-Dichloropropane	0.75	U	0.75	5.80	ug/Kg
75-27-4	Bromodichloromethane	0.81	U	0.81	5.80	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.30	U	5.30	28.8	ug/Kg
108-88-3	Toluene	0.72	U	0.72	5.80	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.85	U	0.85	5.80	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.82	U	0.82	5.80	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	86.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012293.D	1		01/20/23 16:13	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.99	U	0.99	5.80	ug/Kg
591-78-6	2-Hexanone	5.40	U	5.40	28.8	ug/Kg
124-48-1	Dibromochloromethane	0.86	U	0.86	5.80	ug/Kg
106-93-4	1,2-Dibromoethane	0.86	U	0.86	5.80	ug/Kg
127-18-4	Tetrachloroethene	0.87	U	0.87	5.80	ug/Kg
108-90-7	Chlorobenzene	0.75	U	0.75	5.80	ug/Kg
100-41-4	Ethyl Benzene	0.81	U	0.81	5.80	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.5	ug/Kg
95-47-6	o-Xylene	0.91	U	0.91	5.80	ug/Kg
100-42-5	Styrene	0.91	U	0.91	5.80	ug/Kg
75-25-2	Bromoform	0.93	U	0.93	5.80	ug/Kg
98-82-8	Isopropylbenzene	0.83	U	0.83	5.80	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.80	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.77	U	0.77	5.80	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.72	U	0.72	5.80	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.74	U	0.74	5.80	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.80	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	5.80	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.20	U	1.20	5.80	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	64.9		50 - 163	130%	SPK: 50
1868-53-7	Dibromofluoromethane	55.9		54 - 147	112%	SPK: 50
2037-26-5	Toluene-d8	65.0		58 - 134	130%	SPK: 50
460-00-4	4-Bromofluorobenzene	49.7		30 - 143	99%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	129000	7.789			
540-36-3	1,4-Difluorobenzene	209000	8.691			
3114-55-4	Chlorobenzene-d5	195000	11.49			
3855-82-1	1,4-Dichlorobenzene-d4	86200	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	86.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012293.D	1		01/20/23 16:13	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.5
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012311.D	1		01/23/23 14:14	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.97	U	0.97	5.70	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.70	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.70	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.70	ug/Kg
75-00-3	Chloroethane	1.00	U	1.00	5.70	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.70	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.81	U	0.81	5.70	ug/Kg
75-35-4	1,1-Dichloroethene	0.97	U	0.97	5.70	ug/Kg
67-64-1	Acetone	13.8	U	13.8	28.3	ug/Kg
75-15-0	Carbon Disulfide	0.85	U	0.85	5.70	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.10	U	1.10	5.70	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.70	ug/Kg
75-09-2	Methylene Chloride	6.70	U	6.70	11.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.77	U	0.77	5.70	ug/Kg
75-34-3	1,1-Dichloroethane	0.79	U	0.79	5.70	ug/Kg
110-82-7	Cyclohexane	0.95	U	0.95	5.70	ug/Kg
78-93-3	2-Butanone	8.20	U	8.20	28.3	ug/Kg
56-23-5	Carbon Tetrachloride	0.89	U	0.89	5.70	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.77	U	0.77	5.70	ug/Kg
74-97-5	Bromochloromethane	0.92	U	0.92	5.70	ug/Kg
67-66-3	Chloroform	0.76	U	0.76	5.70	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.85	U	0.85	5.70	ug/Kg
108-87-2	Methylcyclohexane	0.91	U	0.91	5.70	ug/Kg
71-43-2	Benzene	0.75	U	0.75	5.70	ug/Kg
107-06-2	1,2-Dichloroethane	0.95	U	0.95	5.70	ug/Kg
79-01-6	Trichloroethene	0.83	U	0.83	5.70	ug/Kg
78-87-5	1,2-Dichloropropane	0.74	U	0.74	5.70	ug/Kg
75-27-4	Bromodichloromethane	0.79	U	0.79	5.70	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.20	U	5.20	28.3	ug/Kg
108-88-3	Toluene	0.71	U	0.71	5.70	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.84	U	0.84	5.70	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.80	U	0.80	5.70	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.5
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012311.D	1		01/23/23 14:14	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.97	U	0.97	5.70	ug/Kg
591-78-6	2-Hexanone	5.30	U	5.30	28.3	ug/Kg
124-48-1	Dibromochloromethane	0.85	U	0.85	5.70	ug/Kg
106-93-4	1,2-Dibromoethane	0.85	U	0.85	5.70	ug/Kg
127-18-4	Tetrachloroethene	0.86	U	0.86	5.70	ug/Kg
108-90-7	Chlorobenzene	0.74	U	0.74	5.70	ug/Kg
100-41-4	Ethyl Benzene	0.79	U	0.79	5.70	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.3	ug/Kg
95-47-6	o-Xylene	0.89	U	0.89	5.70	ug/Kg
100-42-5	Styrene	0.89	U	0.89	5.70	ug/Kg
75-25-2	Bromoform	0.92	U	0.92	5.70	ug/Kg
98-82-8	Isopropylbenzene	0.81	U	0.81	5.70	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.70	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.76	U	0.76	5.70	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.71	U	0.71	5.70	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.72	U	0.72	5.70	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.70	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	5.70	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.70	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	75.6		50 - 163	151%	SPK: 50
1868-53-7	Dibromofluoromethane	55.2		54 - 147	110%	SPK: 50
2037-26-5	Toluene-d8	65.5		58 - 134	131%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.7		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	170000	7.789			
540-36-3	1,4-Difluorobenzene	284000	8.691			
3114-55-4	Chlorobenzene-d5	275000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	126000	13.428			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown10.947	12.6	J		10.9	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.5
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012311.D	1		01/23/23 14:14	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.4
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012295.D	1		01/20/23 17:00	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.94	U	0.94	5.40	ug/Kg
74-87-3	Chloromethane	1.10	U	1.10	5.40	ug/Kg
75-01-4	Vinyl Chloride	0.99	U	0.99	5.40	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.40	ug/Kg
75-00-3	Chloroethane	0.97	U	0.97	5.40	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.40	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.78	U	0.78	5.40	ug/Kg
75-35-4	1,1-Dichloroethene	0.94	U	0.94	5.40	ug/Kg
67-64-1	Acetone	13.3	U	13.3	27.2	ug/Kg
75-15-0	Carbon Disulfide	0.82	U	0.82	5.40	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.00	U	1.00	5.40	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.40	ug/Kg
75-09-2	Methylene Chloride	6.50	U	6.50	10.9	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.74	U	0.74	5.40	ug/Kg
75-34-3	1,1-Dichloroethane	0.76	U	0.76	5.40	ug/Kg
110-82-7	Cyclohexane	0.91	U	0.91	5.40	ug/Kg
78-93-3	2-Butanone	7.90	U	7.90	27.2	ug/Kg
56-23-5	Carbon Tetrachloride	0.86	U	0.86	5.40	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.74	U	0.74	5.40	ug/Kg
74-97-5	Bromochloromethane	0.88	U	0.88	5.40	ug/Kg
67-66-3	Chloroform	0.73	U	0.73	5.40	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.82	U	0.82	5.40	ug/Kg
108-87-2	Methylcyclohexane	0.87	U	0.87	5.40	ug/Kg
71-43-2	Benzene	1.80	J	0.72	5.40	ug/Kg
107-06-2	1,2-Dichloroethane	0.91	U	0.91	5.40	ug/Kg
79-01-6	Trichloroethene	0.79	U	0.79	5.40	ug/Kg
78-87-5	1,2-Dichloropropane	0.71	U	0.71	5.40	ug/Kg
75-27-4	Bromodichloromethane	0.76	U	0.76	5.40	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.00	U	5.00	27.2	ug/Kg
108-88-3	Toluene	1.10	J	0.69	5.40	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.80	U	0.80	5.40	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.77	U	0.77	5.40	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.4
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012295.D	1		01/20/23 17:00	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.94	U	0.94	5.40	ug/Kg
591-78-6	2-Hexanone	5.10	U	5.10	27.2	ug/Kg
124-48-1	Dibromochloromethane	0.82	U	0.82	5.40	ug/Kg
106-93-4	1,2-Dibromoethane	0.82	U	0.82	5.40	ug/Kg
127-18-4	Tetrachloroethene	0.83	U	0.83	5.40	ug/Kg
108-90-7	Chlorobenzene	0.71	U	0.71	5.40	ug/Kg
100-41-4	Ethyl Benzene	0.76	U	0.76	5.40	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	10.9	ug/Kg
95-47-6	o-Xylene	0.86	U	0.86	5.40	ug/Kg
100-42-5	Styrene	0.86	U	0.86	5.40	ug/Kg
75-25-2	Bromoform	0.88	U	0.88	5.40	ug/Kg
98-82-8	Isopropylbenzene	0.78	U	0.78	5.40	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.20	U	1.20	5.40	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.73	U	0.73	5.40	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.69	U	0.69	5.40	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.70	U	0.70	5.40	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.30	U	1.30	5.40	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.00	U	1.00	5.40	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.40	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	69.3		50 - 163	139%	SPK: 50
1868-53-7	Dibromofluoromethane	55.4		54 - 147	111%	SPK: 50
2037-26-5	Toluene-d8	64.9		58 - 134	130%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.6		30 - 143	105%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	206000	7.789			
540-36-3	1,4-Difluorobenzene	346000	8.691			
3114-55-4	Chlorobenzene-d5	328000	11.49			
3855-82-1	1,4-Dichlorobenzene-d4	154000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.4
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012295.D	1		01/20/23 17:00	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88.2
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012312.D	1		01/23/23 14:37	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.96	U	0.96	5.60	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.60	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.60	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.60	ug/Kg
75-00-3	Chloroethane	1.00	U	1.00	5.60	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.60	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.81	U	0.81	5.60	ug/Kg
75-35-4	1,1-Dichloroethene	0.96	U	0.96	5.60	ug/Kg
67-64-1	Acetone	18.2	J	13.6	28.0	ug/Kg
75-15-0	Carbon Disulfide	0.84	U	0.84	5.60	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.00	U	1.00	5.60	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.60	ug/Kg
75-09-2	Methylene Chloride	6.70	U	6.70	11.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.76	U	0.76	5.60	ug/Kg
75-34-3	1,1-Dichloroethane	0.78	U	0.78	5.60	ug/Kg
110-82-7	Cyclohexane	0.94	U	0.94	5.60	ug/Kg
78-93-3	2-Butanone	8.10	U	8.10	28.0	ug/Kg
56-23-5	Carbon Tetrachloride	0.88	U	0.88	5.60	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.76	U	0.76	5.60	ug/Kg
74-97-5	Bromochloromethane	0.91	U	0.91	5.60	ug/Kg
67-66-3	Chloroform	0.75	U	0.75	5.60	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.84	U	0.84	5.60	ug/Kg
108-87-2	Methylcyclohexane	0.89	U	0.89	5.60	ug/Kg
71-43-2	Benzene	0.74	U	0.74	5.60	ug/Kg
107-06-2	1,2-Dichloroethane	0.94	U	0.94	5.60	ug/Kg
79-01-6	Trichloroethene	0.82	U	0.82	5.60	ug/Kg
78-87-5	1,2-Dichloropropane	0.73	U	0.73	5.60	ug/Kg
75-27-4	Bromodichloromethane	0.78	U	0.78	5.60	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.10	U	5.10	28.0	ug/Kg
108-88-3	Toluene	0.70	U	0.70	5.60	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.83	U	0.83	5.60	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.79	U	0.79	5.60	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88.2
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012312.D	1		01/23/23 14:37	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.96	U	0.96	5.60	ug/Kg
591-78-6	2-Hexanone	5.20	U	5.20	28.0	ug/Kg
124-48-1	Dibromochloromethane	0.84	U	0.84	5.60	ug/Kg
106-93-4	1,2-Dibromoethane	0.84	U	0.84	5.60	ug/Kg
127-18-4	Tetrachloroethene	0.85	U	0.85	5.60	ug/Kg
108-90-7	Chlorobenzene	0.73	U	0.73	5.60	ug/Kg
100-41-4	Ethyl Benzene	0.78	U	0.78	5.60	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.2	ug/Kg
95-47-6	o-Xylene	0.88	U	0.88	5.60	ug/Kg
100-42-5	Styrene	0.88	U	0.88	5.60	ug/Kg
75-25-2	Bromoform	0.91	U	0.91	5.60	ug/Kg
98-82-8	Isopropylbenzene	0.81	U	0.81	5.60	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.60	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.75	U	0.75	5.60	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.70	U	0.70	5.60	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.72	U	0.72	5.60	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.60	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	5.60	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.60	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	77.5		50 - 163	155%	SPK: 50
1868-53-7	Dibromofluoromethane	57.0		54 - 147	114%	SPK: 50
2037-26-5	Toluene-d8	65.8		58 - 134	132%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.9		30 - 143	108%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	142000	7.789			
540-36-3	1,4-Difluorobenzene	236000	8.691			
3114-55-4	Chlorobenzene-d5	229000	11.49			
3855-82-1	1,4-Dichlorobenzene-d4	108000	13.428			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown10.947	8.50	J		10.9	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88.2
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012312.D	1		01/23/23 14:37	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012297.D	1		01/20/23 17:46	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.97	U	0.97	5.70	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.70	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.70	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.70	ug/Kg
75-00-3	Chloroethane	1.00	U	1.00	5.70	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.70	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.81	U	0.81	5.70	ug/Kg
75-35-4	1,1-Dichloroethene	0.97	U	0.97	5.70	ug/Kg
67-64-1	Acetone	24.1	J	13.8	28.3	ug/Kg
75-15-0	Carbon Disulfide	0.85	U	0.85	5.70	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.10	U	1.10	5.70	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.70	ug/Kg
75-09-2	Methylene Chloride	6.70	U	6.70	11.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.77	U	0.77	5.70	ug/Kg
75-34-3	1,1-Dichloroethane	0.79	U	0.79	5.70	ug/Kg
110-82-7	Cyclohexane	0.95	U	0.95	5.70	ug/Kg
78-93-3	2-Butanone	8.20	U	8.20	28.3	ug/Kg
56-23-5	Carbon Tetrachloride	0.89	U	0.89	5.70	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.77	U	0.77	5.70	ug/Kg
74-97-5	Bromochloromethane	0.92	U	0.92	5.70	ug/Kg
67-66-3	Chloroform	0.76	U	0.76	5.70	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.85	U	0.85	5.70	ug/Kg
108-87-2	Methylcyclohexane	0.91	U	0.91	5.70	ug/Kg
71-43-2	Benzene	0.75	U	0.75	5.70	ug/Kg
107-06-2	1,2-Dichloroethane	0.95	U	0.95	5.70	ug/Kg
79-01-6	Trichloroethene	0.83	U	0.83	5.70	ug/Kg
78-87-5	1,2-Dichloropropane	0.74	U	0.74	5.70	ug/Kg
75-27-4	Bromodichloromethane	0.79	U	0.79	5.70	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.20	U	5.20	28.3	ug/Kg
108-88-3	Toluene	0.71	U	0.71	5.70	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.84	U	0.84	5.70	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.80	U	0.80	5.70	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012297.D	1		01/20/23 17:46	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.97	U	0.97	5.70	ug/Kg
591-78-6	2-Hexanone	5.30	U	5.30	28.3	ug/Kg
124-48-1	Dibromochloromethane	0.85	U	0.85	5.70	ug/Kg
106-93-4	1,2-Dibromoethane	0.85	U	0.85	5.70	ug/Kg
127-18-4	Tetrachloroethene	0.86	U	0.86	5.70	ug/Kg
108-90-7	Chlorobenzene	0.74	U	0.74	5.70	ug/Kg
100-41-4	Ethyl Benzene	0.79	U	0.79	5.70	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.3	ug/Kg
95-47-6	o-Xylene	0.89	U	0.89	5.70	ug/Kg
100-42-5	Styrene	0.89	U	0.89	5.70	ug/Kg
75-25-2	Bromoform	0.92	U	0.92	5.70	ug/Kg
98-82-8	Isopropylbenzene	0.81	U	0.81	5.70	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.70	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.76	U	0.76	5.70	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.71	U	0.71	5.70	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.72	U	0.72	5.70	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.70	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	5.70	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.70	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	55.1		50 - 163	110%	SPK: 50
1868-53-7	Dibromofluoromethane	54.4		54 - 147	109%	SPK: 50
2037-26-5	Toluene-d8	64.4		58 - 134	129%	SPK: 50
460-00-4	4-Bromofluorobenzene	41.6		30 - 143	83%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	63400	7.789			
540-36-3	1,4-Difluorobenzene	94000	8.691			
3114-55-4	Chlorobenzene-d5	80500	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	33200	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	88
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012297.D	1		01/20/23 17:46	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.3
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012298.D	1		01/20/23 18:10	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.94	U	0.94	5.50	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.50	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.50	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.50	ug/Kg
75-00-3	Chloroethane	0.97	U	0.97	5.50	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.50	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.79	U	0.79	5.50	ug/Kg
75-35-4	1,1-Dichloroethene	0.94	U	0.94	5.50	ug/Kg
67-64-1	Acetone	13.4	U	13.4	27.4	ug/Kg
75-15-0	Carbon Disulfide	0.82	U	0.82	5.50	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.00	U	1.00	5.50	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.50	ug/Kg
75-09-2	Methylene Chloride	6.50	U	6.50	11.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.74	U	0.74	5.50	ug/Kg
75-34-3	1,1-Dichloroethane	0.77	U	0.77	5.50	ug/Kg
110-82-7	Cyclohexane	0.92	U	0.92	5.50	ug/Kg
78-93-3	2-Butanone	8.00	U	8.00	27.4	ug/Kg
56-23-5	Carbon Tetrachloride	0.87	U	0.87	5.50	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.74	U	0.74	5.50	ug/Kg
74-97-5	Bromochloromethane	0.89	U	0.89	5.50	ug/Kg
67-66-3	Chloroform	0.73	U	0.73	5.50	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.82	U	0.82	5.50	ug/Kg
108-87-2	Methylcyclohexane	0.88	U	0.88	5.50	ug/Kg
71-43-2	Benzene	0.72	U	0.72	5.50	ug/Kg
107-06-2	1,2-Dichloroethane	0.92	U	0.92	5.50	ug/Kg
79-01-6	Trichloroethene	0.80	U	0.80	5.50	ug/Kg
78-87-5	1,2-Dichloropropane	0.71	U	0.71	5.50	ug/Kg
75-27-4	Bromodichloromethane	0.77	U	0.77	5.50	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.00	U	5.00	27.4	ug/Kg
108-88-3	Toluene	0.69	U	0.69	5.50	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.81	U	0.81	5.50	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.78	U	0.78	5.50	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.3
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012298.D	1		01/20/23 18:10	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.94	U	0.94	5.50	ug/Kg
591-78-6	2-Hexanone	5.10	U	5.10	27.4	ug/Kg
124-48-1	Dibromochloromethane	0.82	U	0.82	5.50	ug/Kg
106-93-4	1,2-Dibromoethane	0.82	U	0.82	5.50	ug/Kg
127-18-4	Tetrachloroethene	0.83	U	0.83	5.50	ug/Kg
108-90-7	Chlorobenzene	0.71	U	0.71	5.50	ug/Kg
100-41-4	Ethyl Benzene	0.77	U	0.77	5.50	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	11.0	ug/Kg
95-47-6	o-Xylene	0.87	U	0.87	5.50	ug/Kg
100-42-5	Styrene	0.87	U	0.87	5.50	ug/Kg
75-25-2	Bromoform	0.89	U	0.89	5.50	ug/Kg
98-82-8	Isopropylbenzene	0.79	U	0.79	5.50	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.20	U	1.20	5.50	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.73	U	0.73	5.50	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.69	U	0.69	5.50	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.70	U	0.70	5.50	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.50	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.00	U	1.00	5.50	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.50	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	67.8		50 - 163	136%	SPK: 50
1868-53-7	Dibromofluoromethane	55.9		54 - 147	112%	SPK: 50
2037-26-5	Toluene-d8	65.5		58 - 134	131%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.0		30 - 143	106%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	188000	7.789			
540-36-3	1,4-Difluorobenzene	314000	8.691			
3114-55-4	Chlorobenzene-d5	302000	11.49			
3855-82-1	1,4-Dichlorobenzene-d4	141000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	91.3
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012298.D	1		01/20/23 18:10	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012299.D	1		01/20/23 18:33	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.91	U	0.91	5.30	ug/Kg
74-87-3	Chloromethane	1.10	U	1.10	5.30	ug/Kg
75-01-4	Vinyl Chloride	0.96	U	0.96	5.30	ug/Kg
74-83-9	Bromomethane	1.20	U	1.20	5.30	ug/Kg
75-00-3	Chloroethane	0.94	U	0.94	5.30	ug/Kg
75-69-4	Trichlorofluoromethane	1.00	U	1.00	5.30	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.76	U	0.76	5.30	ug/Kg
75-35-4	1,1-Dichloroethene	0.91	U	0.91	5.30	ug/Kg
67-64-1	Acetone	12.9	U	12.9	26.4	ug/Kg
75-15-0	Carbon Disulfide	0.79	U	0.79	5.30	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.98	U	0.98	5.30	ug/Kg
79-20-9	Methyl Acetate	1.30	U	1.30	5.30	ug/Kg
75-09-2	Methylene Chloride	6.30	U	6.30	10.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.72	U	0.72	5.30	ug/Kg
75-34-3	1,1-Dichloroethane	0.74	U	0.74	5.30	ug/Kg
110-82-7	Cyclohexane	0.89	U	0.89	5.30	ug/Kg
78-93-3	2-Butanone	7.70	U	7.70	26.4	ug/Kg
56-23-5	Carbon Tetrachloride	0.84	U	0.84	5.30	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.72	U	0.72	5.30	ug/Kg
74-97-5	Bromochloromethane	0.86	U	0.86	5.30	ug/Kg
67-66-3	Chloroform	0.71	U	0.71	5.30	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.79	U	0.79	5.30	ug/Kg
108-87-2	Methylcyclohexane	0.85	U	0.85	5.30	ug/Kg
71-43-2	Benzene	0.70	U	0.70	5.30	ug/Kg
107-06-2	1,2-Dichloroethane	0.89	U	0.89	5.30	ug/Kg
79-01-6	Trichloroethene	0.77	U	0.77	5.30	ug/Kg
78-87-5	1,2-Dichloropropane	0.69	U	0.69	5.30	ug/Kg
75-27-4	Bromodichloromethane	0.74	U	0.74	5.30	ug/Kg
108-10-1	4-Methyl-2-Pentanone	4.80	U	4.80	26.4	ug/Kg
108-88-3	Toluene	0.67	U	0.67	5.30	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.78	U	0.78	5.30	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.75	U	0.75	5.30	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012299.D	1		01/20/23 18:33	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.91	U	0.91	5.30	ug/Kg
591-78-6	2-Hexanone	4.90	U	4.90	26.4	ug/Kg
124-48-1	Dibromochloromethane	0.79	U	0.79	5.30	ug/Kg
106-93-4	1,2-Dibromoethane	0.79	U	0.79	5.30	ug/Kg
127-18-4	Tetrachloroethene	0.80	U	0.80	5.30	ug/Kg
108-90-7	Chlorobenzene	0.69	U	0.69	5.30	ug/Kg
100-41-4	Ethyl Benzene	0.74	U	0.74	5.30	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	10.6	ug/Kg
95-47-6	o-Xylene	0.84	U	0.84	5.30	ug/Kg
100-42-5	Styrene	0.84	U	0.84	5.30	ug/Kg
75-25-2	Bromoform	0.86	U	0.86	5.30	ug/Kg
98-82-8	Isopropylbenzene	0.76	U	0.76	5.30	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.20	U	1.20	5.30	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.71	U	0.71	5.30	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.67	U	0.67	5.30	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.68	U	0.68	5.30	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.30	U	1.30	5.30	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.99	U	0.99	5.30	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.30	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	96.7	*	50 - 163	193%	SPK: 50
1868-53-7	Dibromofluoromethane	64.9		54 - 147	130%	SPK: 50
2037-26-5	Toluene-d8	67.0		58 - 134	134%	SPK: 50
460-00-4	4-Bromofluorobenzene	56.6		30 - 143	113%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	37500	7.789			
540-36-3	1,4-Difluorobenzene	64400	8.691			
3114-55-4	Chlorobenzene-d5	69300	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	33300	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012299.D	1		01/20/23 18:33	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35BRE	SDG No.:	O1232
Lab Sample ID:	O1232-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012314.D	1		01/23/23 15:24	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.91	U	0.91	5.30	ug/Kg
74-87-3	Chloromethane	1.10	U	1.10	5.30	ug/Kg
75-01-4	Vinyl Chloride	0.97	U	0.97	5.30	ug/Kg
74-83-9	Bromomethane	1.20	U	1.20	5.30	ug/Kg
75-00-3	Chloroethane	0.94	U	0.94	5.30	ug/Kg
75-69-4	Trichlorofluoromethane	1.00	U	1.00	5.30	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.76	U	0.76	5.30	ug/Kg
75-35-4	1,1-Dichloroethene	0.91	U	0.91	5.30	ug/Kg
67-64-1	Acetone	12.9	U	12.9	26.5	ug/Kg
75-15-0	Carbon Disulfide	0.80	U	0.80	5.30	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.99	U	0.99	5.30	ug/Kg
79-20-9	Methyl Acetate	1.30	U	1.30	5.30	ug/Kg
75-09-2	Methylene Chloride	6.30	U	6.30	10.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.72	U	0.72	5.30	ug/Kg
75-34-3	1,1-Dichloroethane	0.74	U	0.74	5.30	ug/Kg
110-82-7	Cyclohexane	0.89	U	0.89	5.30	ug/Kg
78-93-3	2-Butanone	7.70	U	7.70	26.5	ug/Kg
56-23-5	Carbon Tetrachloride	0.84	U	0.84	5.30	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.72	U	0.72	5.30	ug/Kg
74-97-5	Bromochloromethane	0.86	U	0.86	5.30	ug/Kg
67-66-3	Chloroform	0.71	U	0.71	5.30	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.80	U	0.80	5.30	ug/Kg
108-87-2	Methylcyclohexane	0.85	U	0.85	5.30	ug/Kg
71-43-2	Benzene	0.70	U	0.70	5.30	ug/Kg
107-06-2	1,2-Dichloroethane	0.89	U	0.89	5.30	ug/Kg
79-01-6	Trichloroethene	0.77	U	0.77	5.30	ug/Kg
78-87-5	1,2-Dichloropropane	0.69	U	0.69	5.30	ug/Kg
75-27-4	Bromodichloromethane	0.74	U	0.74	5.30	ug/Kg
108-10-1	4-Methyl-2-Pentanone	4.90	U	4.90	26.5	ug/Kg
108-88-3	Toluene	0.67	U	0.67	5.30	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.79	U	0.79	5.30	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.75	U	0.75	5.30	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35BRE	SDG No.:	O1232
Lab Sample ID:	O1232-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012314.D	1		01/23/23 15:24	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.91	U	0.91	5.30	ug/Kg
591-78-6	2-Hexanone	5.00	U	5.00	26.5	ug/Kg
124-48-1	Dibromochloromethane	0.80	U	0.80	5.30	ug/Kg
106-93-4	1,2-Dibromoethane	0.80	U	0.80	5.30	ug/Kg
127-18-4	Tetrachloroethene	0.81	U	0.81	5.30	ug/Kg
108-90-7	Chlorobenzene	0.69	U	0.69	5.30	ug/Kg
100-41-4	Ethyl Benzene	0.74	U	0.74	5.30	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	10.6	ug/Kg
95-47-6	o-Xylene	0.84	U	0.84	5.30	ug/Kg
100-42-5	Styrene	0.84	U	0.84	5.30	ug/Kg
75-25-2	Bromoform	0.86	U	0.86	5.30	ug/Kg
98-82-8	Isopropylbenzene	0.76	U	0.76	5.30	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.20	U	1.20	5.30	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.71	U	0.71	5.30	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.67	U	0.67	5.30	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.68	U	0.68	5.30	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.30	U	1.30	5.30	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.00	U	1.00	5.30	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.30	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	91.6	*	50 - 163	183%	SPK: 50
1868-53-7	Dibromofluoromethane	59.8		54 - 147	120%	SPK: 50
2037-26-5	Toluene-d8	66.2		58 - 134	132%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.3		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	39100	7.789			
540-36-3	1,4-Difluorobenzene	65200	8.691			
3114-55-4	Chlorobenzene-d5	65300	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	29200	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35BRE	SDG No.:	O1232
Lab Sample ID:	O1232-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	93.3
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012314.D	1		01/23/23 15:24	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.1
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012300.D	1		01/20/23 18:57	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.95	U	0.95	5.50	ug/Kg
74-87-3	Chloromethane	1.20	U	1.20	5.50	ug/Kg
75-01-4	Vinyl Chloride	1.00	U	1.00	5.50	ug/Kg
74-83-9	Bromomethane	1.30	U	1.30	5.50	ug/Kg
75-00-3	Chloroethane	0.99	U	0.99	5.50	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.50	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.80	U	0.80	5.50	ug/Kg
75-35-4	1,1-Dichloroethene	0.95	U	0.95	5.50	ug/Kg
67-64-1	Acetone	13.5	U	13.5	27.7	ug/Kg
75-15-0	Carbon Disulfide	0.83	U	0.83	5.50	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.00	U	1.00	5.50	ug/Kg
79-20-9	Methyl Acetate	1.40	U	1.40	5.50	ug/Kg
75-09-2	Methylene Chloride	6.60	U	6.60	11.1	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.75	U	0.75	5.50	ug/Kg
75-34-3	1,1-Dichloroethane	0.78	U	0.78	5.50	ug/Kg
110-82-7	Cyclohexane	0.93	U	0.93	5.50	ug/Kg
78-93-3	2-Butanone	8.10	U	8.10	27.7	ug/Kg
56-23-5	Carbon Tetrachloride	0.88	U	0.88	5.50	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.75	5.50	ug/Kg
74-97-5	Bromochloromethane	0.90	U	0.90	5.50	ug/Kg
67-66-3	Chloroform	0.74	U	0.74	5.50	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.83	U	0.83	5.50	ug/Kg
108-87-2	Methylcyclohexane	0.89	U	0.89	5.50	ug/Kg
71-43-2	Benzene	3.30	J	0.73	5.50	ug/Kg
107-06-2	1,2-Dichloroethane	0.93	U	0.93	5.50	ug/Kg
79-01-6	Trichloroethene	0.81	U	0.81	5.50	ug/Kg
78-87-5	1,2-Dichloropropane	0.72	U	0.72	5.50	ug/Kg
75-27-4	Bromodichloromethane	0.78	U	0.78	5.50	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.10	U	5.10	27.7	ug/Kg
108-88-3	Toluene	1.80	J	0.70	5.50	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.82	U	0.82	5.50	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.79	U	0.79	5.50	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.1
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012300.D	1		01/20/23 18:57	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.95	U	0.95	5.50	ug/Kg
591-78-6	2-Hexanone	5.20	U	5.20	27.7	ug/Kg
124-48-1	Dibromochloromethane	0.83	U	0.83	5.50	ug/Kg
106-93-4	1,2-Dibromoethane	0.83	U	0.83	5.50	ug/Kg
127-18-4	Tetrachloroethene	0.84	U	0.84	5.50	ug/Kg
108-90-7	Chlorobenzene	0.72	U	0.72	5.50	ug/Kg
100-41-4	Ethyl Benzene	0.78	U	0.78	5.50	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	11.1	ug/Kg
95-47-6	o-Xylene	0.88	U	0.88	5.50	ug/Kg
100-42-5	Styrene	0.88	U	0.88	5.50	ug/Kg
75-25-2	Bromoform	0.90	U	0.90	5.50	ug/Kg
98-82-8	Isopropylbenzene	0.80	U	0.80	5.50	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	5.50	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.74	U	0.74	5.50	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.70	U	0.70	5.50	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.71	U	0.71	5.50	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.40	U	1.40	5.50	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.00	U	1.00	5.50	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.10	U	1.10	5.50	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	74.6		50 - 163	149%	SPK: 50
1868-53-7	Dibromofluoromethane	57.2		54 - 147	114%	SPK: 50
2037-26-5	Toluene-d8	66.1		58 - 134	132%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.7		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	152000	7.789			
540-36-3	1,4-Difluorobenzene	253000	8.691			
3114-55-4	Chlorobenzene-d5	250000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	114000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.1
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012300.D	1		01/20/23 18:57	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

QC SUMMARY

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
O1232-01	B-P-17A	1,2-Dichloroethane-d4	50	71.1	142	50	163
		Dibromofluoromethane	50	57.9	116	54	147
		Toluene-d8	50	65.9	132	58	134
		4-Bromofluorobenzene	50	54.9	110	30	143
O1232-02	B-P-17B	1,2-Dichloroethane-d4	50	64.9	130	50	163
		Dibromofluoromethane	50	55.9	112	54	147
		Toluene-d8	50	65.0	130	58	134
		4-Bromofluorobenzene	50	49.7	99	30	143
O1232-04	B-P-18A	1,2-Dichloroethane-d4	50	75.6	151	50	163
		Dibromofluoromethane	50	55.2	110	54	147
		Toluene-d8	50	65.5	131	58	134
		4-Bromofluorobenzene	50	53.7	107	30	143
O1232-05	B-P-18B	1,2-Dichloroethane-d4	50	69.3	139	50	163
		Dibromofluoromethane	50	55.4	111	54	147
		Toluene-d8	50	64.9	130	58	134
		4-Bromofluorobenzene	50	52.6	105	30	143
O1232-06	B-P-19A	1,2-Dichloroethane-d4	50	77.5	155	50	163
		Dibromofluoromethane	50	57.0	114	54	147
		Toluene-d8	50	65.8	132	58	134
		4-Bromofluorobenzene	50	53.9	108	30	143
O1232-07	B-P-19B	1,2-Dichloroethane-d4	50	55.1	110	50	163
		Dibromofluoromethane	50	54.4	109	54	147
		Toluene-d8	50	64.4	129	58	134
		4-Bromofluorobenzene	50	41.6	83	30	143
O1232-08	B-P-35A	1,2-Dichloroethane-d4	50	67.8	136	50	163
		Dibromofluoromethane	50	55.9	112	54	147
		Toluene-d8	50	65.5	131	58	134
		4-Bromofluorobenzene	50	53.0	106	30	143
O1232-09	B-P-35B	1,2-Dichloroethane-d4	50	96.7	193 *	50	163
		Dibromofluoromethane	50	64.9	130	54	147
		Toluene-d8	50	67.0	134	58	134
		4-Bromofluorobenzene	50	56.6	113	30	143
O1232-09RE	B-P-35BRE	1,2-Dichloroethane-d4	50	91.6	183 *	50	163
		Dibromofluoromethane	50	59.8	120	54	147
		Toluene-d8	50	66.2	132	58	134
		4-Bromofluorobenzene	50	53.3	107	30	143
O1232-10	DUP01	1,2-Dichloroethane-d4	50	74.6	149	50	163
		Dibromofluoromethane	50	57.2	114	54	147
		Toluene-d8	50	66.1	132	58	134
		4-Bromofluorobenzene	50	53.7	107	30	143
VY0120SBL01	VY0120SBL01	1,2-Dichloroethane-d4	50	69.0	138	50	163
		Dibromofluoromethane	50	56.2	112	54	147
		Toluene-d8	50	65.7	131	58	134
		4-Bromofluorobenzene	50	53.6	107	30	143
VY0120SBS01	VY0120SBS01	1,2-Dichloroethane-d4	50	46.6	93	50	163
		Dibromofluoromethane	50	45.1	90	54	147
		Toluene-d8	50	47.4	95	58	134
		4-Bromofluorobenzene	50	44.4	89	30	143
VY0120SBSD01	VY0120SBSD01	1,2-Dichloroethane-d4	50	45.5	91	50	163
		Dibromofluoromethane	50	46.2	92	54	147
		Toluene-d8	50	48.7	97	58	134
		4-Bromofluorobenzene	50	44.8	90	30	143

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
VY0123SBL01	VY0123SBL01	1,2-Dichloroethane-d4	50	52.7	105	50	163
		Dibromofluoromethane	50	45.4	91	54	147
		Toluene-d8	50	47.0	94	58	134
		4-Bromofluorobenzene	50	41.2	82	30	143
VY0123SBS01	VY0123SBS01	1,2-Dichloroethane-d4	50	49.4	99	50	163
		Dibromofluoromethane	50	46.3	93	54	147
		Toluene-d8	50	48.5	97	58	134
		4-Bromofluorobenzene	50	44.5	89	30	143

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012282.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VY0120SBS01	Dichlorodifluoromethane	20	20.1	ug/Kg	101			64	136	
	Chloromethane	20	19.9	ug/Kg	100			70	130	
	Vinyl chloride	20	19.6	ug/Kg	98			72	129	
	Bromomethane	20	20.2	ug/Kg	101			58	141	
	Chloroethane	20	20.1	ug/Kg	101			69	130	
	Trichlorofluoromethane	20	19.2	ug/Kg	96			69	134	
	1,1,2-Trichlorotrifluoroethane	20	20.5	ug/Kg	103			81	123	
	1,1-Dichloroethene	20	20.2	ug/Kg	101			79	121	
	Acetone	100	91.9	ug/Kg	92			60	131	
	Carbon disulfide	20	19.9	ug/Kg	100			45	154	
	Methyl tert-butyl Ether	20	19.7	ug/Kg	99			77	129	
	Methyl Acetate	20	19.6	ug/Kg	98			69	149	
	Methylene Chloride	20	16.6	ug/Kg	83			39	175	
	trans-1,2-Dichloroethene	20	20.3	ug/Kg	102			80	123	
	1,1-Dichloroethane	20	20.6	ug/Kg	103			82	123	
	Cyclohexane	20	20.2	ug/Kg	101			76	122	
	2-Butanone	100	100	ug/Kg	100			69	131	
	Carbon Tetrachloride	20	18.9	ug/Kg	95			76	129	
	cis-1,2-Dichloroethene	20	20.6	ug/Kg	103			82	123	
	Bromochloromethane	20	20.5	ug/Kg	103			62	134	
	Chloroform	20	20.1	ug/Kg	101			82	125	
	1,1,1-Trichloroethane	20	19.3	ug/Kg	97			80	126	
	Methylcyclohexane	20	20.0	ug/Kg	100			77	123	
	Benzene	20	20.3	ug/Kg	102			84	121	
	1,2-Dichloroethane	20	19.2	ug/Kg	96			81	126	
	Trichloroethene	20	20.0	ug/Kg	100			83	122	
	1,2-Dichloropropane	20	21.3	ug/Kg	106			83	122	
	Bromodichloromethane	20	19.7	ug/Kg	99			82	123	
	4-Methyl-2-Pentanone	100	100	ug/Kg	100			70	135	
	Toluene	20	20.0	ug/Kg	100			83	122	
	t-1,3-Dichloropropene	20	19.8	ug/Kg	99			78	124	
	cis-1,3-Dichloropropene	20	19.9	ug/Kg	100			81	122	
	1,1,2-Trichloroethane	20	20.2	ug/Kg	101			82	125	
	2-Hexanone	100	100	ug/Kg	100			66	138	
	Dibromochloromethane	20	19.9	ug/Kg	100			79	125	
	1,2-Dibromoethane	20	20.1	ug/Kg	101			80	125	
	Tetrachloroethene	20	21.5	ug/Kg	108			83	125	
	Chlorobenzene	20	19.9	ug/Kg	100			84	122	
	Ethyl Benzene	20	19.9	ug/Kg	100			82	124	
	m/p-Xylenes	40	40.1	ug/Kg	100			83	124	
	o-Xylene	20	20.0	ug/Kg	100			83	123	
	Styrene	20	20.1	ug/Kg	101			82	124	
	Bromoform	20	20.0	ug/Kg	100			75	127	
	Isopropylbenzene	20	20.2	ug/Kg	101			82	124	
	1,1,2,2-Tetrachloroethane	20	20.8	ug/Kg	104			77	127	
	1,3-Dichlorobenzene	20	20.0	ug/Kg	100			83	122	
	1,4-Dichlorobenzene	20	19.6	ug/Kg	98			84	121	
	1,2-Dichlorobenzene	20	19.9	ug/Kg	100			83	124	
	1,2-Dibromo-3-Chloropropane	20	19.7	ug/Kg	99			66	134	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012282.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VY0120SBS01	1,2,4-Trichlorobenzene	20	18.8	ug/Kg	94			78	127	
	1,2,3-Trichlorobenzene	20	18.7	ug/Kg	94			70	137	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012283.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VY0120SBSD01	Dichlorodifluoromethane	20	20.8	ug/Kg	104	3		64	136	20
	Chloromethane	20	20.9	ug/Kg	104	4		70	130	20
	Vinyl chloride	20	20.8	ug/Kg	104	6		72	129	20
	Bromomethane	20	19.9	ug/Kg	100	1		58	141	20
	Chloroethane	20	20.4	ug/Kg	102	1		69	130	20
	Trichlorofluoromethane	20	19.6	ug/Kg	98	2		69	134	20
	1,1,2-Trichlorotrifluoroethane	20	20.9	ug/Kg	104	1		81	123	20
	1,1-Dichloroethene	20	20.6	ug/Kg	103	2		79	121	20
	Acetone	100	85.8	ug/Kg	86	7		60	131	20
	Carbon disulfide	20	20.4	ug/Kg	102	2		45	154	20
	Methyl tert-butyl Ether	20	19.3	ug/Kg	97	2		77	129	20
	Methyl Acetate	20	19.9	ug/Kg	100	2		69	149	20
	Methylene Chloride	20	17.1	ug/Kg	86	4		39	175	20
	trans-1,2-Dichloroethene	20	20.9	ug/Kg	104	2		80	123	20
	1,1-Dichloroethane	20	21.0	ug/Kg	105	2		82	123	20
	Cyclohexane	20	21.0	ug/Kg	105	4		76	122	20
	2-Butanone	100	99.5	ug/Kg	100	0		69	131	20
	Carbon Tetrachloride	20	19.5	ug/Kg	98	3		76	129	20
	cis-1,2-Dichloroethene	20	20.8	ug/Kg	104	1		82	123	20
	Bromochloromethane	20	20.1	ug/Kg	101	2		62	134	20
	Chloroform	20	19.9	ug/Kg	100	1		82	125	20
	1,1,1-Trichloroethane	20	19.7	ug/Kg	99	2		80	126	20
	Methylcyclohexane	20	21.5	ug/Kg	108	8		77	123	20
	Benzene	20	20.9	ug/Kg	104	2		84	121	20
	1,2-Dichloroethane	20	19.1	ug/Kg	96	0		81	126	20
	Trichloroethene	20	20.9	ug/Kg	104	4		83	122	20
	1,2-Dichloropropane	20	22.0	ug/Kg	110	4		83	122	20
	Bromodichloromethane	20	19.9	ug/Kg	100	1		82	123	20
	4-Methyl-2-Pentanone	100	100	ug/Kg	100	0		70	135	20
	Toluene	20	20.4	ug/Kg	102	2		83	122	20
	t-1,3-Dichloropropene	20	19.9	ug/Kg	100	1		78	124	20
	cis-1,3-Dichloropropene	20	20.7	ug/Kg	104	4		81	122	20
	1,1,2-Trichloroethane	20	20.0	ug/Kg	100	1		82	125	20
	2-Hexanone	100	98.5	ug/Kg	99	1		66	138	20
	Dibromochloromethane	20	19.9	ug/Kg	100	0		79	125	20
	1,2-Dibromoethane	20	20.2	ug/Kg	101	0		80	125	20
	Tetrachloroethene	20	21.6	ug/Kg	108	0		83	125	20
	Chlorobenzene	20	20.6	ug/Kg	103	3		84	122	20
	Ethyl Benzene	20	20.5	ug/Kg	103	3		82	124	20
	m/p-Xylenes	40	40.9	ug/Kg	102	2		83	124	20
	o-Xylene	20	20.4	ug/Kg	102	2		83	123	20
	Styrene	20	20.6	ug/Kg	103	2		82	124	20
	Bromoform	20	19.9	ug/Kg	100	0		75	127	20
	Isopropylbenzene	20	20.9	ug/Kg	104	3		82	124	20
	1,1,2,2-Tetrachloroethane	20	20.4	ug/Kg	102	2		77	127	20
	1,3-Dichlorobenzene	20	20.4	ug/Kg	102	2		83	122	20
	1,4-Dichlorobenzene	20	20.4	ug/Kg	102	4		84	121	20
	1,2-Dichlorobenzene	20	20.3	ug/Kg	102	2		83	124	20
	1,2-Dibromo-3-Chloropropane	20	18.7	ug/Kg	94	5		66	134	20

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012283.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VY0120SBSD01	1,2,4-Trichlorobenzene	20	18.8	ug/Kg	94	0		78	127	20
	1,2,3-Trichlorobenzene	20	18.6	ug/Kg	93	1		70	137	20

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012309.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VY0123SBS01	Dichlorodifluoromethane	20	21.2	ug/Kg	106			64	136	
	Chloromethane	20	19.7	ug/Kg	99			70	130	
	Vinyl chloride	20	20.0	ug/Kg	100			72	129	
	Bromomethane	20	21.0	ug/Kg	105			58	141	
	Chloroethane	20	20.8	ug/Kg	104			69	130	
	Trichlorofluoromethane	20	21.2	ug/Kg	106			69	134	
	1,1,2-Trichlorotrifluoroethane	20	20.8	ug/Kg	104			81	123	
	1,1-Dichloroethene	20	20.6	ug/Kg	103			79	121	
	Acetone	100	87.9	ug/Kg	88			60	131	
	Carbon disulfide	20	20.2	ug/Kg	101			45	154	
	Methyl tert-butyl Ether	20	19.4	ug/Kg	97			77	129	
	Methyl Acetate	20	18.3	ug/Kg	92			69	149	
	Methylene Chloride	20	15.2	ug/Kg	76			39	175	
	trans-1,2-Dichloroethene	20	20.1	ug/Kg	101			80	123	
	1,1-Dichloroethane	20	20.5	ug/Kg	103			82	123	
	Cyclohexane	20	20.2	ug/Kg	101			76	122	
	2-Butanone	100	92.3	ug/Kg	92			69	131	
	Carbon Tetrachloride	20	20.7	ug/Kg	104			76	129	
	cis-1,2-Dichloroethene	20	20.5	ug/Kg	103			82	123	
	Bromochloromethane	20	19.2	ug/Kg	96			62	134	
	Chloroform	20	20.4	ug/Kg	102			82	125	
	1,1,1-Trichloroethane	20	20.7	ug/Kg	104			80	126	
	Methylcyclohexane	20	20.8	ug/Kg	104			77	123	
	Benzene	20	20.5	ug/Kg	103			84	121	
	1,2-Dichloroethane	20	20.2	ug/Kg	101			81	126	
	Trichloroethene	20	20.1	ug/Kg	101			83	122	
	1,2-Dichloropropane	20	20.3	ug/Kg	102			83	122	
	Bromodichloromethane	20	20.3	ug/Kg	102			82	123	
	4-Methyl-2-Pentanone	100	93.5	ug/Kg	94			70	135	
	Toluene	20	20.4	ug/Kg	102			83	122	
	t-1,3-Dichloropropene	20	19.6	ug/Kg	98			78	124	
	cis-1,3-Dichloropropene	20	20.1	ug/Kg	101			81	122	
	1,1,2-Trichloroethane	20	19.6	ug/Kg	98			82	125	
	2-Hexanone	100	92.0	ug/Kg	92			66	138	
	Dibromochloromethane	20	19.7	ug/Kg	99			79	125	
	1,2-Dibromoethane	20	19.3	ug/Kg	97			80	125	
	Tetrachloroethene	20	21.0	ug/Kg	105			83	125	
	Chlorobenzene	20	20.2	ug/Kg	101			84	122	
	Ethyl Benzene	20	20.3	ug/Kg	102			82	124	
	m/p-Xylenes	40	41.2	ug/Kg	103			83	124	
	o-Xylene	20	20.0	ug/Kg	100			83	123	
	Styrene	20	20.4	ug/Kg	102			82	124	
	Bromoform	20	19.1	ug/Kg	96			75	127	
	Isopropylbenzene	20	20.6	ug/Kg	103			82	124	
	1,1,2,2-Tetrachloroethane	20	19.3	ug/Kg	97			77	127	
	1,3-Dichlorobenzene	20	19.8	ug/Kg	99			83	122	
	1,4-Dichlorobenzene	20	19.5	ug/Kg	98			84	121	
	1,2-Dichlorobenzene	20	19.4	ug/Kg	97			83	124	
	1,2-Dibromo-3-Chloropropane	20	18.7	ug/Kg	94			66	134	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8260D **Datafile :** VY012309.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VY0123SBS01	1,2,4-Trichlorobenzene	20	17.9	ug/Kg	90			78	127	
	1,2,3-Trichlorobenzene	20	17.2	ug/Kg	86			70	137	

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VY0120SBL01

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012281.D Lab Sample ID: VY0120SBL01

Date Analyzed: 01/20/2023 Time Analyzed: 11:32

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: MSVOA_Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VY0120SBS01	VY0120SBS01	VY012282.D	01/20/2023
VY0120SBSD01	VY0120SBSD01	VY012283.D	01/20/2023
B-P-17A	O1232-01	VY012292.D	01/20/2023
B-P-17B	O1232-02	VY012293.D	01/20/2023
B-P-18B	O1232-05	VY012295.D	01/20/2023
B-P-19B	O1232-07	VY012297.D	01/20/2023
B-P-35A	O1232-08	VY012298.D	01/20/2023
B-P-35B	O1232-09	VY012299.D	01/20/2023
DUP01	O1232-10	VY012300.D	01/20/2023

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VY0123SBL01

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012308.D Lab Sample ID: VY0123SBL01

Date Analyzed: 01/23/2023 Time Analyzed: 13:04

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: MSVOA_Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VY0123SBS01	VY0123SBS01	VY012309.D	01/23/2023
B-P-18A	O1232-04	VY012311.D	01/23/2023
B-P-19A	O1232-06	VY012312.D	01/23/2023
B-P-35BRE	O1232-09RE	VY012314.D	01/23/2023

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012193.D BFB Injection Date: 01/16/2023

Instrument ID: MSVOA_Y BFB Injection Time: 09:00

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.8
75	30.0 - 60.0% of mass 95	54.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1 (1.1) 1
174	50.0 - 100.0% of mass 95	88.4
175	5.0 - 9.0% of mass 174	6.7 (7.6) 1
176	95.0 - 101.0% of mass 174	85.2 (96.4) 1
177	5.0 - 9.0% of mass 176	5.9 (6.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VY012194.D	01/16/2023	12:17
VSTDICC010	VSTDICC010	VY012195.D	01/16/2023	13:03
VSTDICC020	VSTDICC020	VY012196.D	01/16/2023	13:26
VSTDICCC050	VSTDICCC050	VY012197.D	01/16/2023	13:48
VSTDICC100	VSTDICC100	VY012198.D	01/16/2023	14:11
VSTDICC150	VSTDICC150	VY012199.D	01/16/2023	14:34

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012279.D BFB Injection Date: 01/20/2023

Instrument ID: MSVOA_Y BFB Injection Time: 09:50

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.4
75	30.0 - 60.0% of mass 95	51.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	1 (1.1) 1
174	50.0 - 100.0% of mass 95	90.2
175	5.0 - 9.0% of mass 174	6.6 (7.3) 1
176	95.0 - 101.0% of mass 174	86.4 (95.8) 1
177	5.0 - 9.0% of mass 176	6 (7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VY012280.D	01/20/2023	10:34
VY0120SBL01	VY0120SBL01	VY012281.D	01/20/2023	11:32
VY0120SBS01	VY0120SBS01	VY012282.D	01/20/2023	11:55
VY0120SBSD01	VY0120SBSD01	VY012283.D	01/20/2023	12:18
B-P-17A	O1232-01	VY012292.D	01/20/2023	15:49
B-P-17B	O1232-02	VY012293.D	01/20/2023	16:13
B-P-18B	O1232-05	VY012295.D	01/20/2023	17:00
B-P-19B	O1232-07	VY012297.D	01/20/2023	17:46
B-P-35A	O1232-08	VY012298.D	01/20/2023	18:10
B-P-35B	O1232-09	VY012299.D	01/20/2023	18:33
DUP01	O1232-10	VY012300.D	01/20/2023	18:57

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012306.D BFB Injection Date: 01/23/2023

Instrument ID: MSVOA_Y BFB Injection Time: 10:03

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.7
75	30.0 - 60.0% of mass 95	54.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1 (1.1) 1
174	50.0 - 100.0% of mass 95	90.6
175	5.0 - 9.0% of mass 174	6.3 (7) 1
176	95.0 - 101.0% of mass 174	87.1 (96.1) 1
177	5.0 - 9.0% of mass 176	5.8 (6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VY012307.D	01/23/2023	12:09
VY0123SBL01	VY0123SBL01	VY012308.D	01/23/2023	13:04
VY0123SBS01	VY0123SBS01	VY012309.D	01/23/2023	13:27
B-P-18A	O1232-04	VY012311.D	01/23/2023	14:14
B-P-19A	O1232-06	VY012312.D	01/23/2023	14:37
B-P-35BRE	O1232-09RE	VY012314.D	01/23/2023	15:24

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012280.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_Y Time Analyzed: 10:34

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	233023	7.79	353084	8.69	315640	11.49
UPPER LIMIT	466046	8.289	706168	9.191	631280	11.989
LOWER LIMIT	116512	7.289	176542	8.191	157820	10.989
EPA SAMPLE NO.						
B-P-17A	188143	7.79	315261	8.69	309525	11.49
B-P-17B	128819	7.79	208628	8.69	194650	11.49
B-P-18B	205706	7.79	345925	8.69	328400	11.49
B-P-19B	63421 *	7.79	93969 *	8.69	80473 *	11.49
B-P-35A	188384	7.79	314014	8.69	302134	11.49
B-P-35B	37522 *	7.79	64399 *	8.69	69318 *	11.49
DUP01	151828	7.79	252877	8.69	249786	11.49
VY0120SBL01	217392	7.79	360969	8.69	344609	11.49
VY0120SBS01	218108	7.79	336761	8.69	305655	11.49
VY0120SBSD01	226848	7.79	340849	8.69	308539	11.49

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012280.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_Y Time Analyzed: 10:34

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #		RT #				
12 HOUR STD	156820		13.428				
UPPER LIMIT	313640		13.928				
LOWER LIMIT	78410		12.928				
EPA SAMPLE NO.							
B-P-17A	144924		13.43				
B-P-17B	86164		13.43				
B-P-18B	154191		13.43				
B-P-19B	33154	*	13.43				
B-P-35A	140878		13.43				
B-P-35B	33340	*	13.43				
DUP01	114034		13.43				
VY0120SBL01	161157		13.43				
VY0120SBS01	155958		13.43				
VY0120SBSD01	155933		13.43				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012307.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_Y Time Analyzed: 12:09

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	179464	7.79	268117	8.69	243165	11.49
UPPER LIMIT	358928	8.289	536234	9.191	486330	11.99
LOWER LIMIT	89732	7.289	134059	8.191	121583	10.99
EPA SAMPLE NO.						
B-P-18A	170252	7.79	283949	8.69	275020	11.49
B-P-19A	142002	7.79	235758	8.69	228539	11.49
B-P-35BRE	39101 *	7.79	65182 *	8.69	65342 *	11.49
VY0123SBL01	162197	7.79	255207	8.69	227538	11.49
VY0123SBS01	173816	7.79	263834	8.69	239765	11.49

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: VY012307.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_Y Time Analyzed: 12:09

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #	RT #				
12 HOUR STD	123436	13.428				
UPPER LIMIT	246872	13.928				
LOWER LIMIT	61718	12.928				
EPA SAMPLE NO.						
B-P-18A	125590	13.43				
B-P-19A	107729	13.43				
B-P-35BRE	29180 *	13.43				
VY0123SBL01	110055	13.43				
VY0123SBS01	122385	13.43				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBL01	SDG No.:	O1232
Lab Sample ID:	VY0120SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012281.D	1		01/20/23 11:32	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.86	U	0.86	5.00	ug/Kg
74-87-3	Chloromethane	1.10	U	1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	0.91	U	0.91	5.00	ug/Kg
74-83-9	Bromomethane	1.20	U	1.20	5.00	ug/Kg
75-00-3	Chloroethane	0.89	U	0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	0.97	U	0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.72	U	0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	0.86	U	0.86	5.00	ug/Kg
67-64-1	Acetone	12.2	U	12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	0.75	U	0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.93	U	0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	1.30	U	1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	6.00	U	6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.68	U	0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	0.70	U	0.70	5.00	ug/Kg
110-82-7	Cyclohexane	0.84	U	0.84	5.00	ug/Kg
78-93-3	2-Butanone	7.30	U	7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	0.79	U	0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.68	U	0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	0.81	U	0.81	5.00	ug/Kg
67-66-3	Chloroform	0.67	U	0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.75	U	0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	0.80	U	0.80	5.00	ug/Kg
71-43-2	Benzene	0.66	U	0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	0.84	U	0.84	5.00	ug/Kg
79-01-6	Trichloroethene	0.73	U	0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	0.65	U	0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	0.70	U	0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	4.60	U	4.60	25.0	ug/Kg
108-88-3	Toluene	0.63	U	0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.74	U	0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.71	U	0.71	5.00	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBL01	SDG No.:	O1232
Lab Sample ID:	VY0120SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012281.D	1		01/20/23 11:32	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.86	U	0.86	5.00	ug/Kg
591-78-6	2-Hexanone	4.70	U	4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	0.75	U	0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	0.75	U	0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	0.76	U	0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	0.65	U	0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	0.70	U	0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	1.50	U	1.50	10.0	ug/Kg
95-47-6	o-Xylene	0.79	U	0.79	5.00	ug/Kg
100-42-5	Styrene	0.79	U	0.79	5.00	ug/Kg
75-25-2	Bromoform	0.81	U	0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	0.72	U	0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.10	U	1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.67	U	0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.63	U	0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.64	U	0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.20	U	1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.94	U	0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.00	U	1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	69.0		50 - 163	138%	SPK: 50
1868-53-7	Dibromofluoromethane	56.2		54 - 147	112%	SPK: 50
2037-26-5	Toluene-d8	65.7		58 - 134	131%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.6		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	217000	7.789			
540-36-3	1,4-Difluorobenzene	361000	8.691			
3114-55-4	Chlorobenzene-d5	345000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	161000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBL01	SDG No.:	O1232
Lab Sample ID:	VY0120SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012281.D	1		01/20/23 11:32	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBL01	SDG No.:	O1232
Lab Sample ID:	VY0123SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012308.D	1		01/23/23 13:04	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.86	U	0.86	5.00	ug/Kg
74-87-3	Chloromethane	1.10	U	1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	0.91	U	0.91	5.00	ug/Kg
74-83-9	Bromomethane	1.20	U	1.20	5.00	ug/Kg
75-00-3	Chloroethane	0.89	U	0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	0.97	U	0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.72	U	0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	0.86	U	0.86	5.00	ug/Kg
67-64-1	Acetone	12.2	U	12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	0.75	U	0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.93	U	0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	1.30	U	1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	6.00	U	6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.68	U	0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	0.70	U	0.70	5.00	ug/Kg
110-82-7	Cyclohexane	0.84	U	0.84	5.00	ug/Kg
78-93-3	2-Butanone	7.30	U	7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	0.79	U	0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.68	U	0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	0.81	U	0.81	5.00	ug/Kg
67-66-3	Chloroform	0.67	U	0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.75	U	0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	0.80	U	0.80	5.00	ug/Kg
71-43-2	Benzene	0.66	U	0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	0.84	U	0.84	5.00	ug/Kg
79-01-6	Trichloroethene	0.73	U	0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	0.65	U	0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	0.70	U	0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	4.60	U	4.60	25.0	ug/Kg
108-88-3	Toluene	0.63	U	0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.74	U	0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.71	U	0.71	5.00	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBL01	SDG No.:	O1232
Lab Sample ID:	VY0123SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012308.D	1		01/23/23 13:04	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.86	U	0.86	5.00	ug/Kg
591-78-6	2-Hexanone	4.70	U	4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	0.75	U	0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	0.75	U	0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	0.76	U	0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	0.65	U	0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	0.70	U	0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	1.50	U	1.50	10.0	ug/Kg
95-47-6	o-Xylene	0.79	U	0.79	5.00	ug/Kg
100-42-5	Styrene	0.79	U	0.79	5.00	ug/Kg
75-25-2	Bromoform	0.81	U	0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	0.72	U	0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.10	U	1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.67	U	0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.63	U	0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.64	U	0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.20	U	1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.94	U	0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.00	U	1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.7		50 - 163	105%	SPK: 50
1868-53-7	Dibromofluoromethane	45.4		54 - 147	91%	SPK: 50
2037-26-5	Toluene-d8	47.0		58 - 134	94%	SPK: 50
460-00-4	4-Bromofluorobenzene	41.2		30 - 143	82%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	162000	7.789			
540-36-3	1,4-Difluorobenzene	255000	8.691			
3114-55-4	Chlorobenzene-d5	228000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	110000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBL01	SDG No.:	O1232
Lab Sample ID:	VY0123SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012308.D	1		01/23/23 13:04	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBS01	SDG No.:	O1232
Lab Sample ID:	VY0120SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012282.D	1		01/20/23 11:55	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	20.1		0.86	5.00	ug/Kg
74-87-3	Chloromethane	19.9		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	19.6		0.91	5.00	ug/Kg
74-83-9	Bromomethane	20.2		1.20	5.00	ug/Kg
75-00-3	Chloroethane	20.1		0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	19.2		0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	20.5		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	20.2		0.86	5.00	ug/Kg
67-64-1	Acetone	91.9		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	19.9		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	19.7		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	19.6		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	16.6		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	20.3		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	20.6		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	20.2		0.84	5.00	ug/Kg
78-93-3	2-Butanone	100		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	18.9		0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.6		0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	20.5		0.81	5.00	ug/Kg
67-66-3	Chloroform	20.1		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	19.3		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	20.0		0.80	5.00	ug/Kg
71-43-2	Benzene	20.3		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	19.2		0.84	5.00	ug/Kg
79-01-6	Trichloroethene	20.0		0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	21.3		0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	19.7		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	100		4.60	25.0	ug/Kg
108-88-3	Toluene	20.0		0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	19.8		0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	19.9		0.71	5.00	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBS01	SDG No.:	O1232
Lab Sample ID:	VY0120SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012282.D	1		01/20/23 11:55	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	20.2		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	100		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	19.9		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	20.1		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	21.5		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	19.9		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	19.9		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	40.1		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.0		0.79	5.00	ug/Kg
100-42-5	Styrene	20.1		0.79	5.00	ug/Kg
75-25-2	Bromoform	20.0		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	20.2		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	20.8		1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	20.0		0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	19.6		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	19.9		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	19.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	18.8		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	18.7		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	46.7		50 - 163	93%	SPK: 50
1868-53-7	Dibromofluoromethane	45.1		54 - 147	90%	SPK: 50
2037-26-5	Toluene-d8	47.3		58 - 134	95%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.4		30 - 143	89%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	218000	7.789			
540-36-3	1,4-Difluorobenzene	337000	8.691			
3114-55-4	Chlorobenzene-d5	306000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	156000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBS01	SDG No.:	O1232
Lab Sample ID:	VY0120SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012282.D	1		01/20/23 11:55	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBS01	SDG No.:	O1232
Lab Sample ID:	VY0123SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012309.D	1		01/23/23 13:27	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	21.2		0.86	5.00	ug/Kg
74-87-3	Chloromethane	19.7		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	20.0		0.91	5.00	ug/Kg
74-83-9	Bromomethane	21.0		1.20	5.00	ug/Kg
75-00-3	Chloroethane	20.8		0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	21.2		0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	20.8		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	20.6		0.86	5.00	ug/Kg
67-64-1	Acetone	87.9		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	20.2		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	19.4		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	18.3		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	15.2		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	20.1		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	20.5		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	20.2		0.84	5.00	ug/Kg
78-93-3	2-Butanone	92.3		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	20.7		0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.5		0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	19.2		0.81	5.00	ug/Kg
67-66-3	Chloroform	20.4		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	20.7		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	20.8		0.80	5.00	ug/Kg
71-43-2	Benzene	20.5		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	20.2		0.84	5.00	ug/Kg
79-01-6	Trichloroethene	20.1		0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	20.3		0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	20.3		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	93.5		4.60	25.0	ug/Kg
108-88-3	Toluene	20.4		0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	19.6		0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	20.1		0.71	5.00	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBS01	SDG No.:	O1232
Lab Sample ID:	VY0123SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012309.D	1		01/23/23 13:27	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	19.6		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	92.0		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	19.7		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	19.3		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	21.0		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	20.2		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	20.3		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	41.2		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.0		0.79	5.00	ug/Kg
100-42-5	Styrene	20.4		0.79	5.00	ug/Kg
75-25-2	Bromoform	19.1		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	20.6		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	19.3		1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	19.8		0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	19.5		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	19.4		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	18.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	17.9		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	17.2		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	49.4		50 - 163	99%	SPK: 50
1868-53-7	Dibromofluoromethane	46.3		54 - 147	93%	SPK: 50
2037-26-5	Toluene-d8	48.5		58 - 134	97%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.5		30 - 143	89%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	174000	7.789			
540-36-3	1,4-Difluorobenzene	264000	8.691			
3114-55-4	Chlorobenzene-d5	240000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	122000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0123SBS01	SDG No.:	O1232
Lab Sample ID:	VY0123SBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012309.D	1		01/23/23 13:27	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBSD01	SDG No.:	O1232
Lab Sample ID:	VY0120SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012283.D	1		01/20/23 12:18	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	20.8		0.86	5.00	ug/Kg
74-87-3	Chloromethane	20.9		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	20.8		0.91	5.00	ug/Kg
74-83-9	Bromomethane	19.9		1.20	5.00	ug/Kg
75-00-3	Chloroethane	20.4		0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	19.6		0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	20.9		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	20.6		0.86	5.00	ug/Kg
67-64-1	Acetone	85.8		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	20.4		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	19.3		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	19.9		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	17.1		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	20.9		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	21.0		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	21.0		0.84	5.00	ug/Kg
78-93-3	2-Butanone	99.5		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	19.5		0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.8		0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	20.1		0.81	5.00	ug/Kg
67-66-3	Chloroform	19.9		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	19.7		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	21.5		0.80	5.00	ug/Kg
71-43-2	Benzene	20.9		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	19.1		0.84	5.00	ug/Kg
79-01-6	Trichloroethene	20.9		0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	22.0		0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	19.9		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	100		4.60	25.0	ug/Kg
108-88-3	Toluene	20.4		0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	19.9		0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	20.7		0.71	5.00	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBSD01	SDG No.:	O1232
Lab Sample ID:	VY0120SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012283.D	1		01/20/23 12:18	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	20.0		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	98.5		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	19.9		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	20.2		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	21.6		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	20.6		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	20.5		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	40.9		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.4		0.79	5.00	ug/Kg
100-42-5	Styrene	20.6		0.79	5.00	ug/Kg
75-25-2	Bromoform	19.9		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	20.9		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	20.4		1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	20.4		0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	20.4		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	20.3		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	18.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	18.8		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	18.6		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	45.5		50 - 163	91%	SPK: 50
1868-53-7	Dibromofluoromethane	46.2		54 - 147	92%	SPK: 50
2037-26-5	Toluene-d8	48.7		58 - 134	97%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.8		30 - 143	90%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	227000	7.789			
540-36-3	1,4-Difluorobenzene	341000	8.691			
3114-55-4	Chlorobenzene-d5	309000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	156000	13.428			

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VY0120SBSD01	SDG No.:	O1232
Lab Sample ID:	VY0120SBSD01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VY012283.D	1		01/20/23 12:18	VY012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Calibration Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF005 = VY012194.D RRF010 = VY012195.D RRF020 = VY012196.D
RRF050 = VY012197.D RRF100 = VY012198.D RRF150 = VY012199.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.456	0.520	0.486	0.372	0.410	0.378	0.437	13.8
Chloromethane	0.452	0.440	0.400	0.368	0.389	0.372	0.403	8.7
Vinyl Chloride	0.503	0.508	0.479	0.435	0.464	0.436	0.471	6.8
Bromomethane	0.428	0.398	0.355	0.334	0.352	0.317	0.364	11.4
Chloroethane	0.324	0.324	0.310	0.287	0.310	0.288	0.307	5.3
Trichlorofluoromethane	0.951	0.994	0.945	0.842	0.929	0.853	0.919	6.5
1,1,2-Trichlorotrifluoroethane	0.454	0.481	0.455	0.407	0.457	0.430	0.447	5.7
1,1-Dichloroethene	0.470	0.477	0.459	0.438	0.469	0.443	0.459	3.4
Acetone	0.111	0.149	0.123	0.154	0.149	0.150	0.139	12.9
Carbon Disulfide	1.466	1.490	1.413	1.343	1.443	1.367	1.420	4
Methyl tert-butyl Ether	1.159	1.395	1.250	1.280	1.325	1.273	1.280	6.1
Methyl Acetate	0.308	0.340	0.287	0.301	0.308	0.326	0.312	6
Methylene Chloride	1.174	1.020	0.736	0.570	0.559	0.513	0.762	36.1
trans-1,2-Dichloroethene	0.519	0.543	0.512	0.495	0.519	0.487	0.512	3.9
1,1-Dichloroethane	0.804	0.812	0.772	0.760	0.805	0.759	0.785	3.1
Cyclohexane	0.845	0.795	0.707	0.633	0.713	0.681	0.729	10.6
2-Butanone	0.125	0.175	0.143	0.157	0.156	0.166	0.154	11.5
Carbon Tetrachloride	0.600	0.615	0.594	0.552	0.583	0.543	0.581	4.9
cis-1,2-Dichloroethene	0.571	0.583	0.555	0.548	0.582	0.538	0.563	3.3
Bromochloromethane	0.214	0.177	0.160	0.159	0.160	0.158	0.171	12.8
Chloroform	0.940	0.997	0.912	0.900	0.952	0.860	0.927	5.1
1,1,1-Trichloroethane	0.932	0.969	0.901	0.885	0.950	0.868	0.918	4.3
Methylcyclohexane	0.549	0.566	0.556	0.514	0.564	0.550	0.550	3.4
Benzene	1.354	1.375	1.297	1.237	1.289	1.239	1.299	4.4
1,2-Dichloroethane	0.404	0.453	0.413	0.408	0.414	0.389	0.413	5.2
Trichloroethene	0.404	0.405	0.395	0.372	0.387	0.366	0.388	4.2
1,2-Dichloropropane	0.267	0.288	0.268	0.261	0.277	0.266	0.271	3.6
Bromodichloromethane	0.437	0.488	0.460	0.446	0.468	0.440	0.457	4.2
4-Methyl-2-Pentanone	0.165	0.218	0.193	0.199	0.195	0.211	0.197	9.3
Toluene	0.875	0.896	0.872	0.840	0.877	0.828	0.865	3
t-1,3-Dichloropropene	0.454	0.501	0.478	0.475	0.488	0.470	0.478	3.3
cis-1,3-Dichloropropene	0.492	0.547	0.514	0.508	0.525	0.500	0.514	3.8
1,1,2-Trichloroethane	0.252	0.286	0.255	0.254	0.253	0.246	0.258	5.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Calibration Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF005 = VY012194.D RRF010 = VY012195.D RRF020 = VY012196.D
RRF050 = VY012197.D RRF100 = VY012198.D RRF150 = VY012199.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
2-Hexanone	0.115	0.166	0.145	0.158	0.153	0.163	0.150	12.5
Dibromochloromethane	0.321	0.369	0.345	0.343	0.344	0.328	0.342	4.8
1,2-Dibromoethane	0.233	0.273	0.247	0.247	0.250	0.243	0.249	5.4
Tetrachloroethene	0.461	0.494	0.468	0.451	0.447	0.417	0.456	5.6
Chlorobenzene	1.097	1.064	1.013	0.990	1.013	0.961	1.023	4.8
Ethyl Benzene	1.877	1.892	1.821	1.791	1.838	1.752	1.828	2.9
m/p-Xylenes	0.732	0.752	0.730	0.711	0.726	0.687	0.723	3.1
o-Xylene	0.706	0.715	0.695	0.680	0.692	0.654	0.690	3.1
Styrene	1.140	1.203	1.157	1.149	1.167	1.106	1.154	2.8
Bromoform	0.227	0.272	0.250	0.249	0.242	0.240	0.247	6
Isopropylbenzene	3.672	3.672	3.604	3.501	3.715	3.469	3.605	2.8
1,1,2,2-Tetrachloroethane	0.544	0.622	0.546	0.563	0.561	0.572	0.568	5
1,3-Dichlorobenzene	1.837	1.799	1.736	1.665	1.725	1.591	1.726	5.2
1,4-Dichlorobenzene	1.888	1.818	1.695	1.642	1.705	1.577	1.721	6.6
1,2-Dichlorobenzene	1.660	1.639	1.521	1.485	1.511	1.422	1.540	6
1,2-Dibromo-3-Chloropropane	0.103	0.133	0.116	0.116	0.115	0.121	0.117	8.3
1,2,4-Trichlorobenzene	1.049	0.995	0.986	0.932	0.977	0.980	0.987	3.8
1,2,3-Trichlorobenzene	0.870	0.862	0.864	0.798	0.837	0.862	0.849	3.3
1,2-Dichloroethane-d4	0.533	0.551	0.498	0.409	0.409	0.388	0.465	15.3
Dibromofluoromethane	0.292	0.291	0.289	0.241	0.242	0.233	0.265	10.8
Toluene-d8	1.242	1.188	1.195	0.890	0.892	0.859	1.044	17.3
4-Bromofluorobenzene	0.425	0.419	0.403	0.333	0.336	0.323	0.373	12.7

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date/Time: 01/20/2023 10:34

Lab File ID: VY012280.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.437	0.401		-8.24	20
Chloromethane	0.403	0.385	0.1	-4.47	20
Vinyl Chloride	0.471	0.465		-1.27	20
Bromomethane	0.364	0.323		-11.26	20
Chloroethane	0.307	0.297		-3.26	20
Trichlorofluoromethane	0.919	0.886		-3.59	20
1,1,2-Trichlorotrifluoroethane	0.447	0.475		6.26	20
1,1-Dichloroethene	0.459	0.477		3.92	20
Acetone	0.139	0.153		10.07	20
Carbon Disulfide	1.420	1.446		1.83	20
Methyl tert-butyl Ether	1.280	1.266		-1.09	20
Methyl Acetate	0.312	0.310		-0.64	20
Methylene Chloride	0.762	0.537		-29.53	20
trans-1,2-Dichloroethene	0.512	0.536		4.69	20
1,1-Dichloroethane	0.785	0.839	0.1	6.88	20
Cyclohexane	0.729	0.760		4.25	20
2-Butanone	0.154	0.167		8.44	20
Carbon Tetrachloride	0.581	0.573		-1.38	20
cis-1,2-Dichloroethene	0.563	0.583		3.55	20
Bromochloromethane	0.171	0.168		-1.75	20
Chloroform	0.927	0.938		1.19	20
1,1,1-Trichloroethane	0.918	0.916		-0.22	20
Methylcyclohexane	0.550	0.596		8.36	20
Benzene	1.299	1.351		4	20
1,2-Dichloroethane	0.413	0.398		-3.63	20
Trichloroethene	0.388	0.411		5.93	20
1,2-Dichloropropane	0.271	0.298		9.96	20
Bromodichloromethane	0.457	0.465		1.75	20
4-Methyl-2-Pentanone	0.197	0.204		3.55	20
Toluene	0.865	0.890		2.89	20
t-1,3-Dichloropropene	0.478	0.490		2.51	20
cis-1,3-Dichloropropene	0.514	0.531		3.31	20
1,1,2-Trichloroethane	0.258	0.269		4.26	20
2-Hexanone	0.150	0.164		9.33	20
Dibromochloromethane	0.342	0.347		1.46	20
1,2-Dibromoethane	0.249	0.250		0.4	20
Tetrachloroethene	0.456	0.510		11.84	20
Chlorobenzene	1.023	1.059	0.3	3.52	20
Ethyl Benzene	1.828	1.910		4.49	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date/Time: 01/20/2023 10:34

Lab File ID: VY012280.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.723	0.756		4.56	20
o-Xylene	0.690	0.723		4.78	20
Styrene	1.154	1.209		4.77	20
Bromoform	0.247	0.253	0.1	2.43	20
Isopropylbenzene	3.605	3.889		7.88	20
1,1,2,2-Tetrachloroethane	0.568	0.602	0.3	5.99	20
1,3-Dichlorobenzene	1.726	1.771		2.61	20
1,4-Dichlorobenzene	1.721	1.750		1.68	20
1,2-Dichlorobenzene	1.540	1.565		1.62	20
1,2-Dibromo-3-Chloropropane	0.117	0.119		1.71	20
1,2,4-Trichlorobenzene	0.987	1.016		2.94	20
1,2,3-Trichlorobenzene	0.849	0.879		3.53	20
1,2-Dichloroethane-d4	0.465	0.380		-18.28	20
Dibromofluoromethane	0.265	0.247		-6.79	20
Toluene-d8	1.044	0.901		-13.7	20
4-Bromofluorobenzene	0.373	0.334		-10.46	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date/Time: 01/23/2023 12:09

Lab File ID: VY012307.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.437	0.387		-11.44	20
Chloromethane	0.403	0.377	0.1	-6.45	20
Vinyl Chloride	0.471	0.462		-1.91	20
Bromomethane	0.364	0.354		-2.75	20
Chloroethane	0.307	0.305		-0.65	20
Trichlorofluoromethane	0.919	0.884		-3.81	20
1,1,2-Trichlorotrifluoroethane	0.447	0.440		-1.57	20
1,1-Dichloroethene	0.459	0.454		-1.09	20
Acetone	0.139	0.146		5.04	20
Carbon Disulfide	1.420	1.365		-3.87	20
Methyl tert-butyl Ether	1.280	1.242		-2.97	20
Methyl Acetate	0.312	0.292		-6.41	20
Methylene Chloride	0.762	0.518		-32.02	20
trans-1,2-Dichloroethene	0.512	0.505		-1.37	20
1,1-Dichloroethane	0.785	0.778	0.1	-0.89	20
Cyclohexane	0.729	0.682		-6.45	20
2-Butanone	0.154	0.146		-5.2	20
Carbon Tetrachloride	0.581	0.569		-2.07	20
cis-1,2-Dichloroethene	0.563	0.549		-2.66	20
Bromochloromethane	0.171	0.159		-7.02	20
Chloroform	0.927	0.919		-0.86	20
1,1,1-Trichloroethane	0.918	0.900		-1.96	20
Methylcyclohexane	0.550	0.560		1.82	20
Benzene	1.299	1.299		0	20
1,2-Dichloroethane	0.413	0.406		-1.7	20
Trichloroethene	0.388	0.383		-1.29	20
1,2-Dichloropropane	0.271	0.274		1.11	20
Bromodichloromethane	0.457	0.456		-0.22	20
4-Methyl-2-Pentanone	0.197	0.186		-5.58	20
Toluene	0.865	0.875		1.16	20
t-1,3-Dichloropropene	0.478	0.466		-2.51	20
cis-1,3-Dichloropropene	0.514	0.511		-0.58	20
1,1,2-Trichloroethane	0.258	0.247		-4.26	20
2-Hexanone	0.150	0.147		-2	20
Dibromochloromethane	0.342	0.329		-3.8	20
1,2-Dibromoethane	0.249	0.239		-4.02	20
Tetrachloroethene	0.456	0.461		1.1	20
Chlorobenzene	1.023	1.005	0.3	-1.76	20
Ethyl Benzene	1.828	1.852		1.31	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: MSVOA_Y Calibration Date/Time: 01/23/2023 12:09

Lab File ID: VY012307.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 12:17 14:34

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.723	0.728		0.69	20
o-Xylene	0.690	0.693		0.44	20
Styrene	1.154	1.171		1.47	20
Bromoform	0.247	0.234	0.1	-5.26	20
Isopropylbenzene	3.605	3.679		2.05	20
1,1,2,2-Tetrachloroethane	0.568	0.540	0.3	-4.93	20
1,3-Dichlorobenzene	1.726	1.693		-1.91	20
1,4-Dichlorobenzene	1.721	1.678		-2.5	20
1,2-Dichlorobenzene	1.540	1.496		-2.86	20
1,2-Dibromo-3-Chloropropane	0.117	0.110		-5.98	20
1,2,4-Trichlorobenzene	0.987	0.948		-3.95	20
1,2,3-Trichlorobenzene	0.849	0.816		-3.89	20
1,2-Dichloroethane-d4	0.465	0.425		-8.6	20
Dibromofluoromethane	0.265	0.258		-2.64	20
Toluene-d8	1.044	0.958		-8.24	20
4-Bromofluorobenzene	0.373	0.357		-4.29	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/20/23	
			Gasoline Range Organics	8015D			01/20/23	

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	5 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Date Analyzed	Prep Batch ID
FB029149.D	50	01/20/23 15:02	FB012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	847	J	198	2460	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	17.7		50 - 150	88%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SOIL GASOLINE RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

EPA SAMPLE NO.	S1 AAA-TFT	S2	S3	S4	TOT OUT
VBF0120S2	88				0
BSF0120S1	88				0
WC-17	88				0
WC-17MS	102				0
WC-17MSD	94				0

	QC LIMITS
AAA-TFT	For Water : 50-150 For Soil : 50-150

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate Diluted Out

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SOIL GASOLINE RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Client SampleID : WC-17MS **Datafile:** FB029150.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
GRO	9692	847	10039	95%		50-150

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SOIL GASOLINE RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Client SampleID : WC-17MSD **Datafile:** FB029151.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
GRO	9847	847	9063	83%		50-150

MS/MSD % Recovery RPD : 12.8

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SOIL GASOLINE RANGE ORGANICS LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATI

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Matrix Spike - EPA Sample No : BSF0120S1 **Datafile:** FB029144.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
GRO	180	0	177	98	50-150

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METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBF0120S2

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: FB029143.D Lab Sample ID: VBF0120S2

Date Analyzed: 01/20/23 Time Analyzed: 11:18

GC Column: RTX-502.2 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: FB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
BSF0120S1	BSF0120S1	FB029144.D	01/20/23
WC-17	O1232-03	FB029149.D	01/20/23
WC-17MS	O1232-03MS	FB029150.D	01/20/23
WC-17MSD	O1232-03MSD	FB029151.D	01/20/23

COMMENTS:

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	VBF0120S2	SDG No.:	O1232
Lab Sample ID:	VBF0120S2	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	100 Decanted:
Sample Wt/Vol:	5 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Date Analyzed	Prep Batch ID
FB029143.D	50	01/20/23 11:18	FB012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	181	U	181	2250	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	17.6		50 - 150	88%	SPK: 20

Comments:

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LOQ = Limit of Quantitation
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() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	BSF0120S1	SDG No.:	O1232
Lab Sample ID:	BSF0120S1	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	100 Decanted:
Sample Wt/Vol:	5 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Date Analyzed	Prep Batch ID
FB029144.D	1	01/20/23 11:55	FB012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	177		4.00	45.0	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	17.5		50 - 150	88%	SPK: 20

Comments:

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MDL = Method Detection Limit
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17MS	SDG No.:	O1232
Lab Sample ID:	O1232-03MS	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	5.08 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Date Analyzed	Prep Batch ID
FB029150.D	50	01/20/23 15:39	FB012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	10000		195	2420	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	20.4		50 - 150	102%	SPK: 20

Comments:

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
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N = Presumptive Evidence of a Compound
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S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17MSD	SDG No.:	O1232
Lab Sample ID:	O1232-03MSD	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	5 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Date Analyzed	Prep Batch ID
FB029151.D	50	01/20/23 16:16	FB012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	9060		198	2460	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	18.8		50 - 150	94%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
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CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

GASOLINE RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Calibration Sequence : FB011723		Test : Gasoline Range Organics	
Concentration (PPB)	**Area Count**	**Reference Factor**	**File ID**
45	622989	13844	FB029115.D
90	1667787	18531	FB029116.D
180	3442113	19123	FB029117.D
450	8424970	18722	FB029118.D
900	16352397	18169	FB029119.D

AVG RF : 17678 **% RSD : 12.279** **AVG RT : 8.7888**

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GASOLINE RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

20 PPB GRO STD

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

DataFile: FB029141.D Analyst Name: AJ/MA Analyst Date: 01-20-2023

Conc. (PPB)	Area Count	RF	Average RF	%D
180	3112952	17294	17678	2.172

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GASOLINE RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

20 PPB GRO STD

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

DataFile: FB029152.D Analyst Name: AJ/MA Analyst Date: 01-20-2023

Conc. (PPB)	Area Count	RF	Average RF	%D
180	2759829	15332	17678	13.271

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CEQR **Instrument ID:** FID_B

GC Column: RTX-502.2 **ID:** 0.53 **(mm)**

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SUROGATE RT FROM INITIAL CALIBRATION **8.7888**

EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
20 PPB GRO STD	20 PPB GRO STD	20 Jan 2023 10:04	FB029141.D	8.789	
VBF0120S2	VBF0120S2	20 Jan 2023 11:18	FB029143.D	8.793	
BSF0120S1	BSF0120S1	20 Jan 2023 11:55	FB029144.D	8.792	
WC-17	O1232-03	20 Jan 2023 15:02	FB029149.D	8.792	
WC-17MS	O1232-03MS	20 Jan 2023 15:39	FB029150.D	8.791	
WC-17MSD	O1232-03MSD	20 Jan 2023 16:16	FB029151.D	8.796	
20 PPB GRO STD	20 PPB GRO STD	20 Jan 2023 16:54	FB029152.D	8.793	

 # Column used to flag RT values with an * values outside of QC limits

QC Limits (± 0.10 minutes)	Lower Limit	Upper Limits
	8.6888	8.8888

CHEMTECH
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Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20			01/20/23	01/24/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-10	**DUP01**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	

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Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
Client ID : B-P-17A									
O1232-01	B-P-17A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,200.000	AB	0	0	ug/Kg
O1232-01	B-P-17A	SOIL	Carbonic acid, hexadecyl prop-1-e	*	140.000	J	0	0	ug/Kg
O1232-01	B-P-17A	SOIL	n-Hexadecanoic acid	*	120.000	J	0	0	ug/Kg
			Total Tics :		**1,460.00**				
			Total Concentration:		**1,460.00**				
Client ID : B-P-17B									
O1232-02	B-P-17B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,000.000	AB	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	5-Eicosene, (E)-	*	130.000	J	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	Butane, 2-methoxy-2-methyl-	*	920.000	J	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	n-Hexadecanoic acid	*	160.000	J	0	0	ug/Kg
			Total Tics :		**2,210.00**				
			Total Concentration:		**2,210.00**				
Client ID : B-P-18A									
O1232-04	B-P-18A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	920.000	AB	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Benzene, 1,3-dimethyl-	*	130.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Butane, 2-methoxy-2-methyl-	*	790.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Heptadecyl heptafluorobutyrate	*	200.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	n-Hexadecanoic acid	*	86.200	J	0	0	ug/Kg
			Total Tics :		**2,126.20**				
			Total Concentration:		**2,126.20**				
Client ID : B-P-18B									
O1232-05	B-P-18B	SOIL	Fluoranthene		95.300	J	87.1	190	ug/Kg
O1232-05	B-P-18B	SOIL	Pyrene		110.000	J	81	190	ug/Kg
O1232-05	B-P-18B	SOIL	Benzo(b)fluoranthene		100.000	J	75.3	190	ug/Kg
O1232-05	B-P-18B	SOIL	Benzo(a)pyrene		74.200	J	73.9	190	ug/Kg
			Total Svoc :		**379.50**				
O1232-05	B-P-18B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	660.000	AB	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	n-Hexadecanoic acid	*	180.000	J	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	Pentafluoropropionic acid, pentad	*	130.000	J	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	Butyl citrate	*	150.000	J	0	0	ug/Kg
			Total Tics :		**1,120.00**				
			Total Concentration:		**1,499.50**				
Client ID : B-P-19A									
O1232-06	B-P-19A	SOIL	Phenanthrene		1,000.000		94.7	190	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene		210.000		95.2	190	ug/Kg
O1232-06	B-P-19A	SOIL	Fluoranthene		790.000		90.4	190	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene		1,200.000		84.1	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(a)anthracene		520.000		98.3	190	ug/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
O1232-06	B-P-19A	SOIL	Chrysene		570.000		96.9	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(b)fluoranthene		390.000		78.2	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(k)fluoranthene		130.000	J	83.4	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(a)pyrene		400.000		76.7	190	ug/Kg
O1232-06	B-P-19A	SOIL	Indeno(1,2,3-cd)pyrene		190.000		110	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(g,h,i)perylene		250.000		110	190	ug/Kg
			Total Svoc :		**5,650.00**				
O1232-06	B-P-19A	SOIL	11H-Benzo[b]fluorene	*	220.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1H-Indene, 1-phenyl-	*	570.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1-Methyl-3-phenyl-1H-indene	*	360.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1-Nonadecene	*	180.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	630.000	AB	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	4-Methylnaphtho[1,2-b]thiophene	*	160.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	9,10-Anthracenedione	*	210.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo[e]pyrene	*	380.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Benzophenone	*	150.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	di-p-Tolylacetylene	*	200.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Naphthalene, 2-phenyl-	*	230.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene, 1-methyl-	*	790.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene, 2-methyl-	*	210.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 1-methyl-	*	180.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 2-methyl-	*	140.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 4-methyl-	*	130.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 2,5-dimethyl-	*	540.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 2-methyl-	*	670.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 3-methyl-	*	330.000	J	0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 4,5-dimethyl-	*	230.000	J	0	0	ug/Kg
			Total Tics :		**12,210.00**				
			Total Concentration:		**17,860.00**				
Client ID :	**B-P-19B**								
O1232-07	B-P-19B	SOIL	Phenanthrene		1,000.000		94.8	190	ug/Kg
O1232-07	B-P-19B	SOIL	Anthracene		180.000	J	95.3	190	ug/Kg
O1232-07	B-P-19B	SOIL	Fluoranthene		1,000.000		90.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene		1,000.000		84.2	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(a)anthracene		500.000		98.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Chrysene		480.000		97	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(b)fluoranthene		480.000		78.3	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(k)fluoranthene		160.000	J	83.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(a)pyrene		360.000		76.8	190	ug/Kg
O1232-07	B-P-19B	SOIL	Indeno(1,2,3-cd)pyrene		190.000		110	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(g,h,i)perylene		230.000		110	190	ug/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
			Total Svoc :		**5,580.00**				
O1232-07	B-P-19B	SOIL	Anthracene, 1-methyl-	*	100.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Anthracene, 2-methyl-	*	310.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	11H-Benzo[a]fluoren-11-one	*	96.100	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	660.000	AB	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	3,4-Dimethylphenanthrene	*	100.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	3-Octadecene, (E)-	*	160.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	7H-Benz[de]anthracen-7-one	*	93.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	9,10-Anthracenedione	*	110.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	9,10-Dimethylanthracene	*	280.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo[e]pyrene	*	310.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Benzophenone	*	180.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Cyclopenta(def)phenanthrenone	*	180.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Naphthalene, 2-phenyl-	*	160.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene, 1-methyl-	*	130.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene, 2-methyl-	*	87.400	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	unknown18.706	*	380.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Phenanthrene, 2-methyl-	*	370.000	J	0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Phenanthrene, 4-methyl-	*	150.000	J	0	0	ug/Kg
			Total Tics :		**3,856.50**				
			Total Concentration:		**9,436.50**				
Client ID :	**B-P-35A**								
O1232-08	B-P-35A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,300.000	AB	0	0	ug/Kg
O1232-08	B-P-35A	SOIL	Benzophenone	*	100.000	J	0	0	ug/Kg
O1232-08	B-P-35A	SOIL	n-Hexadecanoic acid	*	120.000	J	0	0	ug/Kg
O1232-08	B-P-35A	SOIL	Pentadecafluorooctanoic acid, oct	*	160.000	J	0	0	ug/Kg
			Total Tics :		**1,680.00**				
			Total Concentration:		**1,680.00**				
Client ID :	**B-P-35B**								
O1232-09	B-P-35B	SOIL	Chrysene		98.900	J	91.5	180	ug/Kg
O1232-09	B-P-35B	SOIL	Bis(2-ethylhexyl)phthalate		110.000	J	94.8	180	ug/Kg
			Total Svoc :		**208.90**				
O1232-09	B-P-35B	SOIL	1-Tetracosene	*	190.000	J	0	0	ug/Kg
O1232-09	B-P-35B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,100.000	AB	0	0	ug/Kg
O1232-09	B-P-35B	SOIL	Benzophenone	*	99.900	J	0	0	ug/Kg
O1232-09	B-P-35B	SOIL	Butane, 2-methoxy-2-methyl-	*	830.000	J	0	0	ug/Kg
O1232-09	B-P-35B	SOIL	n-Hexadecanoic acid	*	94.200	J	0	0	ug/Kg
			Total Tics :		**2,314.10**				
			Total Concentration:		**2,523.00**				
Client ID :	**DUP01**								
O1232-10	DUP01	SOIL	11-Methyldodecanol	*	130.000	J	0	0	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
O1232-10	DUP01	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	580.000	AB	0	0	ug/Kg
O1232-10	DUP01	SOIL	Benzophenone	*	99.200	J	0	0	ug/Kg
O1232-10	DUP01	SOIL	Butyl citrate	*	210.000	J	0	0	ug/Kg
O1232-10	DUP01	SOIL	n-Hexadecanoic acid	*	160.000	J	0	0	ug/Kg
			Total Tics :		**1,179.20**				
			Total Concentration:		**1,179.20**				

SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.4
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132175.D	1	01/20/23 12:30	01/20/23 22:46	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	370	ug/Kg
108-95-2	Phenol	75.6	U	75.6	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	89.6	U	89.6	190	ug/Kg
95-57-8	2-Chlorophenol	76.2	U	76.2	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	190	ug/Kg
98-86-2	Acetophenone	89.4	U	89.4	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	84.9	U	84.9	89.3	ug/Kg
67-72-1	Hexachloroethane	82.2	U	82.2	190	ug/Kg
98-95-3	Nitrobenzene	82.5	U	82.5	190	ug/Kg
78-59-1	Isophorone	74.3	U	74.3	190	ug/Kg
88-75-5	2-Nitrophenol	100	U	100	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	91.2	U	91.2	190	ug/Kg
91-20-3	Naphthalene	82.5	U	82.5	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	370	ug/Kg
59-50-7	4-Chloro-3-methylphenol	87.8	U	87.8	190	ug/Kg
91-57-6	2-Methylnaphthalene	83.7	U	83.7	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	95.3	U	95.3	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	93.3	U	93.3	190	ug/Kg
92-52-4	1,1-Biphenyl	96.5	U	96.5	190	ug/Kg
91-58-7	2-Chloronaphthalene	95.4	U	95.4	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	90.3	U	90.3	190	ug/Kg
208-96-8	Acenaphthylene	76.7	U	76.7	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	87.2	U	87.2	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.4
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132175.D	1	01/20/23 12:30	01/20/23 22:46	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	88.0	U	88.0	190	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	370	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	370	ug/Kg
132-64-9	Dibenzofuran	82.8	U	82.8	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	94.4	U	94.4	190	ug/Kg
84-66-2	Diethylphthalate	89.8	U	89.8	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	87.9	U	87.9	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	96.2	U	96.2	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	91.7	U	91.7	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	190	ug/Kg
1912-24-9	Atrazine	100	U	100	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	370	ug/Kg
85-01-8	Phenanthrene	93.3	U	93.3	190	ug/Kg
120-12-7	Anthracene	93.7	U	93.7	190	ug/Kg
86-74-8	Carbazole	94.0	U	94.0	190	ug/Kg
84-74-2	Di-n-butylphthalate	97.1	U	97.1	190	ug/Kg
206-44-0	Fluoranthene	89.1	U	89.1	190	ug/Kg
129-00-0	Pyrene	82.8	U	82.8	190	ug/Kg
85-68-7	Butylbenzylphthalate	92.3	U	92.3	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	370	ug/Kg
56-55-3	Benzo(a)anthracene	96.9	U	96.9	190	ug/Kg
218-01-9	Chrysene	95.4	U	95.4	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	98.9	U	98.9	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	77.0	U	77.0	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	82.1	U	82.1	190	ug/Kg
50-32-8	Benzo(a)pyrene	75.6	U	75.6	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.4
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132175.D	1	01/20/23 12:30	01/20/23 22:46	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	190	ug/Kg
123-91-1	1,4-Dioxane	99.4	U	99.4	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	90.6	U	90.6	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	91.9		18 - 112	61%	SPK: 150
13127-88-3	Phenol-d6	95.1		21 - 104	63%	SPK: 150
4165-60-0	Nitrobenzene-d5	65.3		27 - 109	65%	SPK: 100
321-60-8	2-Fluorobiphenyl	56.1		30 - 103	56%	SPK: 100
118-79-6	2,4,6-Tribromophenol	95.4		10 - 121	64%	SPK: 150
1718-51-0	Terphenyl-d14	59.5		21 - 107	59%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	179000	7.089			
1146-65-2	Naphthalene-d8	654000	8.378			
15067-26-2	Acenaphthene-d10	351000	10.142			
1517-22-2	Phenanthrene-d10	682000	11.636			
1719-03-5	Chrysene-d12	457000	14.301			
1520-96-3	Perylene-d12	397000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1200	AB		5.34	ug/Kg
000057-10-3	n-Hexadecanoic acid	120	J		12.1	ug/Kg
1000382-90-3	Carbonic acid, hexadecyl prop-1-en	140	J		14.1	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	86.9
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013566.D	1	01/20/23 12:30	01/24/23 12:17	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	380	ug/Kg
108-95-2	Phenol	77.8	U	77.8	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	92.3	U	92.3	200	ug/Kg
95-57-8	2-Chlorophenol	78.5	U	78.5	200	ug/Kg
95-48-7	2-Methylphenol	120	U	120	200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	200	ug/Kg
98-86-2	Acetophenone	92.0	U	92.0	200	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	87.4	U	87.4	91.9	ug/Kg
67-72-1	Hexachloroethane	84.7	U	84.7	200	ug/Kg
98-95-3	Nitrobenzene	84.9	U	84.9	200	ug/Kg
78-59-1	Isophorone	76.5	U	76.5	200	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	200	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	200	ug/Kg
120-83-2	2,4-Dichlorophenol	93.9	U	93.9	200	ug/Kg
91-20-3	Naphthalene	84.9	U	84.9	200	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	200	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	200	ug/Kg
105-60-2	Caprolactam	110	U	110	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	90.4	U	90.4	200	ug/Kg
91-57-6	2-Methylnaphthalene	86.2	U	86.2	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	98.1	U	98.1	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	96.0	U	96.0	200	ug/Kg
92-52-4	1,1-Biphenyl	99.4	U	99.4	200	ug/Kg
91-58-7	2-Chloronaphthalene	98.2	U	98.2	200	ug/Kg
88-74-4	2-Nitroaniline	130	U	130	200	ug/Kg
131-11-3	Dimethylphthalate	92.9	U	92.9	200	ug/Kg
208-96-8	Acenaphthylene	78.9	U	78.9	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	89.7	U	89.7	200	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	86.9
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013566.D	1	01/20/23 12:30	01/24/23 12:17	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	120	U	120	200	ug/Kg
83-32-9	Acenaphthene	90.6	U	90.6	200	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	380	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	380	ug/Kg
132-64-9	Dibenzofuran	85.2	U	85.2	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	97.2	U	97.2	200	ug/Kg
84-66-2	Diethylphthalate	92.5	U	92.5	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	200	ug/Kg
86-73-7	Fluorene	90.5	U	90.5	200	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	99.0	U	99.0	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	94.4	U	94.4	200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	200	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	200	ug/Kg
1912-24-9	Atrazine	100	U	100	200	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	380	ug/Kg
85-01-8	Phenanthrene	96.0	U	96.0	200	ug/Kg
120-12-7	Anthracene	96.5	U	96.5	200	ug/Kg
86-74-8	Carbazole	96.7	U	96.7	200	ug/Kg
84-74-2	Di-n-butylphthalate	99.9	U	99.9	200	ug/Kg
206-44-0	Fluoranthene	91.7	U	91.7	200	ug/Kg
129-00-0	Pyrene	85.2	U	85.2	200	ug/Kg
85-68-7	Butylbenzylphthalate	95.0	U	95.0	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	380	ug/Kg
56-55-3	Benzo(a)anthracene	99.7	U	99.7	200	ug/Kg
218-01-9	Chrysene	98.2	U	98.2	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	100	U	100	200	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	79.3	U	79.3	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	84.6	U	84.6	200	ug/Kg
50-32-8	Benzo(a)pyrene	77.8	U	77.8	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	120	U	120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	120	U	120	200	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	86.9
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013566.D	1	01/20/23 12:30	01/24/23 12:17	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	200	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	93.3	U	93.3	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	95.6		18 - 112	64%	SPK: 150
13127-88-3	Phenol-d6	89.3		21 - 104	60%	SPK: 150
4165-60-0	Nitrobenzene-d5	66.4		27 - 109	66%	SPK: 100
321-60-8	2-Fluorobiphenyl	60.1		30 - 103	60%	SPK: 100
118-79-6	2,4,6-Tribromophenol	104		10 - 121	69%	SPK: 150
1718-51-0	Terphenyl-d14	55.5		21 - 107	55%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	251000	8.157			
1146-65-2	Naphthalene-d8	955000	10.987			
15067-26-2	Acenaphthene-d10	504000	14.792			
1517-22-2	Phenanthrene-d10	1010000	17.545			
1719-03-5	Chrysene-d12	943000	21.621			
1520-96-3	Perylene-d12	1150000	24.21			
TENTATIVE IDENTIFIED COMPOUNDS						
000994-05-8	Butane, 2-methoxy-2-methyl-	920	J		3.22	ug/Kg
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1000	AB		5.22	ug/Kg
000057-10-3	n-Hexadecanoic acid	160	J		18.4	ug/Kg
074685-30-6	5-Eicosene, (E)-	130	J		21.3	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013584.D	1	01/20/23 12:30	01/24/23 22:44	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	150	U	150	360	ug/Kg
108-95-2	Phenol	74.0	U	74.0	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	87.8	U	87.8	190	ug/Kg
95-57-8	2-Chlorophenol	74.7	U	74.7	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	100	U	100	190	ug/Kg
98-86-2	Acetophenone	87.5	U	87.5	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	360	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	83.2	U	83.2	87.4	ug/Kg
67-72-1	Hexachloroethane	80.6	U	80.6	190	ug/Kg
98-95-3	Nitrobenzene	80.8	U	80.8	190	ug/Kg
78-59-1	Isophorone	72.8	U	72.8	190	ug/Kg
88-75-5	2-Nitrophenol	100	U	100	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	89.3	U	89.3	190	ug/Kg
91-20-3	Naphthalene	80.8	U	80.8	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	360	ug/Kg
59-50-7	4-Chloro-3-methylphenol	86.0	U	86.0	190	ug/Kg
91-57-6	2-Methylnaphthalene	82.0	U	82.0	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	360	ug/Kg
88-06-2	2,4,6-Trichlorophenol	93.3	U	93.3	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	91.4	U	91.4	190	ug/Kg
92-52-4	1,1-Biphenyl	94.5	U	94.5	190	ug/Kg
91-58-7	2-Chloronaphthalene	93.5	U	93.5	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	88.4	U	88.4	190	ug/Kg
208-96-8	Acenaphthylene	75.1	U	75.1	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	85.4	U	85.4	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013584.D	1	01/20/23 12:30	01/24/23 22:44	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	86.2	U	86.2	190	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	360	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	360	ug/Kg
132-64-9	Dibenzofuran	81.1	U	81.1	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	92.5	U	92.5	190	ug/Kg
84-66-2	Diethylphthalate	88.0	U	88.0	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	86.1	U	86.1	190	ug/Kg
100-01-6	4-Nitroaniline	110	U	110	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	94.2	U	94.2	360	ug/Kg
86-30-6	n-Nitrosodiphenylamine	89.8	U	89.8	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	110	U	110	190	ug/Kg
1912-24-9	Atrazine	98.4	U	98.4	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	360	ug/Kg
85-01-8	Phenanthrene	91.4	U	91.4	190	ug/Kg
120-12-7	Anthracene	91.8	U	91.8	190	ug/Kg
86-74-8	Carbazole	92.0	U	92.0	190	ug/Kg
84-74-2	Di-n-butylphthalate	95.1	U	95.1	190	ug/Kg
206-44-0	Fluoranthene	87.2	U	87.2	190	ug/Kg
129-00-0	Pyrene	81.1	U	81.1	190	ug/Kg
85-68-7	Butylbenzylphthalate	90.4	U	90.4	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	360	ug/Kg
56-55-3	Benzo(a)anthracene	95.4	J	94.9	190	ug/Kg
218-01-9	Chrysene	120	J	93.5	190	ug/Kg
117-84-0	Di-n-octyl phthalate	99.5	U	99.5	360	ug/Kg
205-99-2	Benzo(b)fluoranthene	75.4	U	75.4	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	80.4	U	80.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.0	U	74.0	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013584.D	1	01/20/23 12:30	01/24/23 22:44	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
95-94-3	1,2,4,5-Tetrachlorobenzene	99.7	U	99.7	190	ug/Kg
123-91-1	1,4-Dioxane	97.4	U	97.4	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	88.8	U	88.8	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	100		18 - 112	67%	SPK: 150
13127-88-3	Phenol-d6	94.7		21 - 104	63%	SPK: 150
4165-60-0	Nitrobenzene-d5	68.4		27 - 109	68%	SPK: 100
321-60-8	2-Fluorobiphenyl	62.4		30 - 103	62%	SPK: 100
118-79-6	2,4,6-Tribromophenol	104		10 - 121	69%	SPK: 150
1718-51-0	Terphenyl-d14	65.2		21 - 107	65%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	386000	8.158			
1146-65-2	Naphthalene-d8	1520000	10.987			
15067-26-2	Acenaphthene-d10	828000	14.793			
1517-22-2	Phenanthrene-d10	1520000	17.545			
1719-03-5	Chrysene-d12	1000000	21.616			
1520-96-3	Perylene-d12	1340000	24.204			
TENTATIVE IDENTIFIED COMPOUNDS						
117-81-7	Bis(2-ethylhexyl)phthalate					
117-81-7	Bis(2-ethylhexyl)phthalate	110			21.5	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.5
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013586.D	1	01/20/23 12:30	01/24/23 23:52	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	380	ug/Kg
108-95-2	Phenol	77.2	U	77.2	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	91.5	U	91.5	190	ug/Kg
95-57-8	2-Chlorophenol	77.8	U	77.8	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	190	ug/Kg
98-86-2	Acetophenone	91.3	U	91.3	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	86.7	U	86.7	91.2	ug/Kg
67-72-1	Hexachloroethane	84.0	U	84.0	190	ug/Kg
98-95-3	Nitrobenzene	84.2	U	84.2	190	ug/Kg
78-59-1	Isophorone	75.9	U	75.9	190	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	93.1	U	93.1	190	ug/Kg
91-20-3	Naphthalene	84.2	U	84.2	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	89.7	U	89.7	190	ug/Kg
91-57-6	2-Methylnaphthalene	85.5	U	85.5	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	97.3	U	97.3	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	95.3	U	95.3	190	ug/Kg
92-52-4	1,1-Biphenyl	98.6	U	98.6	190	ug/Kg
91-58-7	2-Chloronaphthalene	97.5	U	97.5	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	92.2	U	92.2	190	ug/Kg
208-96-8	Acenaphthylene	78.3	U	78.3	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	89.0	U	89.0	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.5
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013586.D	1	01/20/23 12:30	01/24/23 23:52	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	120	U	120	190	ug/Kg
83-32-9	Acenaphthene	89.9	U	89.9	190	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	380	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	380	ug/Kg
132-64-9	Dibenzofuran	84.6	U	84.6	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	96.4	U	96.4	190	ug/Kg
84-66-2	Diethylphthalate	91.8	U	91.8	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	190	ug/Kg
86-73-7	Fluorene	89.8	U	89.8	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	98.3	U	98.3	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	93.7	U	93.7	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	190	ug/Kg
1912-24-9	Atrazine	100	U	100	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	380	ug/Kg
85-01-8	Phenanthrene	95.3	U	95.3	190	ug/Kg
120-12-7	Anthracene	95.7	U	95.7	190	ug/Kg
86-74-8	Carbazole	96.0	U	96.0	190	ug/Kg
84-74-2	Di-n-butylphthalate	99.2	U	99.2	190	ug/Kg
206-44-0	Fluoranthene	91.0	U	91.0	190	ug/Kg
129-00-0	Pyrene	84.6	U	84.6	190	ug/Kg
85-68-7	Butylbenzylphthalate	94.3	U	94.3	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	380	ug/Kg
56-55-3	Benzo(a)anthracene	98.9	U	98.9	190	ug/Kg
218-01-9	Chrysene	97.5	U	97.5	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	100	U	100	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	78.6	U	78.6	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	83.9	U	83.9	190	ug/Kg
50-32-8	Benzo(a)pyrene	77.2	U	77.2	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	120	U	120	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	120	U	120	190	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.5
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013586.D	1	01/20/23 12:30	01/24/23 23:52	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	190	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	92.6	U	92.6	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	93.1		18 - 112	62%	SPK: 150
13127-88-3	Phenol-d6	88.9		21 - 104	59%	SPK: 150
4165-60-0	Nitrobenzene-d5	62.4		27 - 109	62%	SPK: 100
321-60-8	2-Fluorobiphenyl	53.4		30 - 103	53%	SPK: 100
118-79-6	2,4,6-Tribromophenol	114		10 - 121	76%	SPK: 150
1718-51-0	Terphenyl-d14	66.3		21 - 107	66%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	400000	8.158			
1146-65-2	Naphthalene-d8	1630000	10.987			
15067-26-2	Acenaphthene-d10	968000	14.792			
1517-22-2	Phenanthrene-d10	2090000	17.545			
1719-03-5	Chrysene-d12	1480000	21.622			
1520-96-3	Perylene-d12	1450000	24.204			
TENTATIVE IDENTIFIED COMPOUNDS						
000994-05-8	Butane, 2-methoxy-2-methyl-	790	J		3.22	ug/Kg
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	920	AB		5.22	ug/Kg
000108-38-3	Benzene, 1,3-dimethyl-	130	J		5.76	ug/Kg
000057-10-3	n-Hexadecanoic acid	86.2	J		18.4	ug/Kg
959085-66-6	Heptadecyl heptafluorobutyrate	200	J		21.3	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056373.D	1	01/20/23 12:30	01/20/23 18:47	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	150	U	150	360	ug/Kg
108-95-2	Phenol	73.9	U	73.9	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	87.7	U	87.7	190	ug/Kg
95-57-8	2-Chlorophenol	74.6	U	74.6	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	100	U	100	190	ug/Kg
98-86-2	Acetophenone	87.5	U	87.5	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	360	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	83.1	U	83.1	87.4	ug/Kg
67-72-1	Hexachloroethane	80.5	U	80.5	190	ug/Kg
98-95-3	Nitrobenzene	80.7	U	80.7	190	ug/Kg
78-59-1	Isophorone	72.7	U	72.7	190	ug/Kg
88-75-5	2-Nitrophenol	100	U	100	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	89.2	U	89.2	190	ug/Kg
91-20-3	Naphthalene	80.7	U	80.7	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	360	ug/Kg
59-50-7	4-Chloro-3-methylphenol	85.9	U	85.9	190	ug/Kg
91-57-6	2-Methylnaphthalene	81.9	U	81.9	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	360	ug/Kg
88-06-2	2,4,6-Trichlorophenol	93.2	U	93.2	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	91.3	U	91.3	190	ug/Kg
92-52-4	1,1-Biphenyl	94.5	U	94.5	190	ug/Kg
91-58-7	2-Chloronaphthalene	93.4	U	93.4	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	88.3	U	88.3	190	ug/Kg
208-96-8	Acenaphthylene	75.0	U	75.0	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	85.3	U	85.3	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056373.D	1	01/20/23 12:30	01/20/23 18:47	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	86.2	U	86.2	190	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	360	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	360	ug/Kg
132-64-9	Dibenzofuran	81.0	U	81.0	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	92.4	U	92.4	190	ug/Kg
84-66-2	Diethylphthalate	87.9	U	87.9	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	86.0	U	86.0	190	ug/Kg
100-01-6	4-Nitroaniline	110	U	110	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	94.1	U	94.1	360	ug/Kg
86-30-6	n-Nitrosodiphenylamine	89.8	U	89.8	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	110	U	110	190	ug/Kg
1912-24-9	Atrazine	98.3	U	98.3	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	360	ug/Kg
85-01-8	Phenanthrene	91.3	U	91.3	190	ug/Kg
120-12-7	Anthracene	91.7	U	91.7	190	ug/Kg
86-74-8	Carbazole	91.9	U	91.9	190	ug/Kg
84-74-2	Di-n-butylphthalate	95.0	U	95.0	190	ug/Kg
206-44-0	Fluoranthene	95.3	J	87.1	190	ug/Kg
129-00-0	Pyrene	110	J	81.0	190	ug/Kg
85-68-7	Butylbenzylphthalate	90.3	U	90.3	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	360	ug/Kg
56-55-3	Benzo(a)anthracene	94.8	U	94.8	190	ug/Kg
218-01-9	Chrysene	93.4	U	93.4	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	96.7	U	96.7	190	ug/Kg
117-84-0	Di-n-octyl phthalate	99.4	U	99.4	360	ug/Kg
205-99-2	Benzo(b)fluoranthene	100	J	75.3	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	80.4	U	80.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.2	J	73.9	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.06 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056373.D	1	01/20/23 12:30	01/20/23 18:47	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	99.6	U	99.6	190	ug/Kg
123-91-1	1,4-Dioxane	97.3	U	97.3	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	88.7	U	88.7	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	159		18 - 112	106%	SPK: 150
13127-88-3	Phenol-d6	142		21 - 104	95%	SPK: 150
4165-60-0	Nitrobenzene-d5	85.4		27 - 109	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	98.8		30 - 103	99%	SPK: 100
118-79-6	2,4,6-Tribromophenol	151		10 - 121	101%	SPK: 150
1718-51-0	Terphenyl-d14	100		21 - 107	100%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	44000	8.301			
1146-65-2	Naphthalene-d8	169000	11.133			
15067-26-2	Acenaphthene-d10	129000	14.916			
1517-22-2	Phenanthrene-d10	301000	17.654			
1719-03-5	Chrysene-d12	277000	21.944			
1520-96-3	Perylene-d12	301000	25.387			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	660	AB		5.34	ug/Kg
000057-10-3	n-Hexadecanoic acid	180	J		18.5	ug/Kg
000077-94-1	Butyl citrate	150	J		19.9	ug/Kg
959092-08-1	Pentafluoropropionic acid, pentade	130	J		21.5	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88.2
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056372.D	1	01/20/23 12:30	01/20/23 18:05	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	370	ug/Kg
108-95-2	Phenol	76.7	U	76.7	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	91.0	U	91.0	190	ug/Kg
95-57-8	2-Chlorophenol	77.4	U	77.4	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	190	ug/Kg
98-86-2	Acetophenone	90.8	U	90.8	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	86.2	U	86.2	90.6	ug/Kg
67-72-1	Hexachloroethane	83.5	U	83.5	190	ug/Kg
98-95-3	Nitrobenzene	83.7	U	83.7	190	ug/Kg
78-59-1	Isophorone	75.5	U	75.5	190	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	92.6	U	92.6	190	ug/Kg
91-20-3	Naphthalene	83.7	U	83.7	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	370	ug/Kg
59-50-7	4-Chloro-3-methylphenol	89.2	U	89.2	190	ug/Kg
91-57-6	2-Methylnaphthalene	85.0	U	85.0	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	96.8	U	96.8	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	94.7	U	94.7	190	ug/Kg
92-52-4	1,1-Biphenyl	98.0	U	98.0	190	ug/Kg
91-58-7	2-Chloronaphthalene	96.9	U	96.9	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	91.7	U	91.7	190	ug/Kg
208-96-8	Acenaphthylene	77.8	U	77.8	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	88.5	U	88.5	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88.2
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056372.D	1	01/20/23 12:30	01/20/23 18:05	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	89.4	U	89.4	190	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	370	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	370	ug/Kg
132-64-9	Dibenzofuran	84.1	U	84.1	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	95.9	U	95.9	190	ug/Kg
84-66-2	Diethylphthalate	91.2	U	91.2	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	190	ug/Kg
86-73-7	Fluorene	89.3	U	89.3	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	97.7	U	97.7	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	93.1	U	93.1	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	190	ug/Kg
1912-24-9	Atrazine	100	U	100	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	370	ug/Kg
85-01-8	Phenanthrene	1000		94.7	190	ug/Kg
120-12-7	Anthracene	210		95.2	190	ug/Kg
86-74-8	Carbazole	95.4	U	95.4	190	ug/Kg
84-74-2	Di-n-butylphthalate	98.6	U	98.6	190	ug/Kg
206-44-0	Fluoranthene	790		90.4	190	ug/Kg
129-00-0	Pyrene	1200		84.1	190	ug/Kg
85-68-7	Butylbenzylphthalate	93.7	U	93.7	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	370	ug/Kg
56-55-3	Benzo(a)anthracene	520		98.3	190	ug/Kg
218-01-9	Chrysene	570		96.9	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	100	U	100	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	390		78.2	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	130	J	83.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	400		76.7	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	190		110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	120	U	120	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88.2
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056372.D	1	01/20/23 12:30	01/20/23 18:05	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	250		110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	190	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	92.0	U	92.0	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	115		18 - 112	77%	SPK: 150
13127-88-3	Phenol-d6	105		21 - 104	70%	SPK: 150
4165-60-0	Nitrobenzene-d5	63.9		27 - 109	64%	SPK: 100
321-60-8	2-Fluorobiphenyl	69.1		30 - 103	69%	SPK: 100
118-79-6	2,4,6-Tribromophenol	113		10 - 121	75%	SPK: 150
1718-51-0	Terphenyl-d14	70.2		21 - 107	70%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	36900	8.302			
1146-65-2	Naphthalene-d8	139000	11.134			
15067-26-2	Acenaphthene-d10	115000	14.912			
1517-22-2	Phenanthrene-d10	282000	17.65			
1719-03-5	Chrysene-d12	266000	21.945			
1520-96-3	Perylene-d12	295000	25.382			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	630	AB		5.34	ug/Kg
000119-61-9	Benzophenone	150	J		16.3	ug/Kg
067388-11-8	4-Methylnaphtho[1,2-b]thiophene	160	J		18.2	ug/Kg
002531-84-2	Phenanthrene, 2-methyl-	670	J		18.5	ug/Kg
001961-96-2	1H-Indene, 1-phenyl-	570	J		18.6	ug/Kg
000613-12-7	Anthracene, 2-methyl-	210	J		18.6	ug/Kg
000610-48-0	Anthracene, 1-methyl-	790	J		18.7	ug/Kg
000832-71-3	Phenanthrene, 3-methyl-	330	J		18.7	ug/Kg
000612-94-2	Naphthalene, 2-phenyl-	230	J		19.0	ug/Kg
000084-65-1	9,10-Anthracenedione	210	J		19.1	ug/Kg
003674-69-9	Phenanthrene, 4,5-dimethyl-	230	J		19.2	ug/Kg
003674-66-6	Phenanthrene, 2,5-dimethyl-	540	J		19.4	ug/Kg
002789-88-0	di-p-Tolylacetylene	200	J		19.5	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88.2
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056372.D	1	01/20/23 12:30	01/20/23 18:05	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
022360-62-9	1-Methyl-3-phenyl-1H-indene	360	J		19.6	ug/Kg
002381-21-7	Pyrene, 1-methyl-	180	J		20.4	ug/Kg
000243-17-4	11H-Benzo[b]fluorene	220	J		20.5	ug/Kg
003442-78-2	Pyrene, 2-methyl-	140	J		20.7	ug/Kg
003353-12-6	Pyrene, 4-methyl-	130	J		20.8	ug/Kg
018435-45-5	1-Nonadecene	180	J		21.5	ug/Kg
000192-97-2	Benzo[e]pyrene	380	J		25.1	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056414.D	1	01/20/23 12:30	01/24/23 22:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	370	ug/Kg
108-95-2	Phenol	76.8	U	76.8	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	91.1	U	91.1	190	ug/Kg
95-57-8	2-Chlorophenol	77.5	U	77.5	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	190	ug/Kg
98-86-2	Acetophenone	90.9	U	90.9	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	86.3	U	86.3	90.8	ug/Kg
67-72-1	Hexachloroethane	83.6	U	83.6	190	ug/Kg
98-95-3	Nitrobenzene	83.8	U	83.8	190	ug/Kg
78-59-1	Isophorone	75.6	U	75.6	190	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	92.7	U	92.7	190	ug/Kg
91-20-3	Naphthalene	83.8	U	83.8	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	370	ug/Kg
59-50-7	4-Chloro-3-methylphenol	89.3	U	89.3	190	ug/Kg
91-57-6	2-Methylnaphthalene	85.1	U	85.1	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	96.9	U	96.9	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	94.8	U	94.8	190	ug/Kg
92-52-4	1,1-Biphenyl	98.1	U	98.1	190	ug/Kg
91-58-7	2-Chloronaphthalene	97.0	U	97.0	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	91.8	U	91.8	190	ug/Kg
208-96-8	Acenaphthylene	77.9	U	77.9	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	88.6	U	88.6	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056414.D	1	01/20/23 12:30	01/24/23 22:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	89.5	U	89.5	190	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	370	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	370	ug/Kg
132-64-9	Dibenzofuran	84.2	U	84.2	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	96.0	U	96.0	190	ug/Kg
84-66-2	Diethylphthalate	91.3	U	91.3	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	190	ug/Kg
86-73-7	Fluorene	89.4	U	89.4	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	97.8	U	97.8	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	93.3	U	93.3	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	190	ug/Kg
1912-24-9	Atrazine	100	U	100	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	370	ug/Kg
85-01-8	Phenanthrene	1000		94.8	190	ug/Kg
120-12-7	Anthracene	180	J	95.3	190	ug/Kg
86-74-8	Carbazole	95.5	U	95.5	190	ug/Kg
84-74-2	Di-n-butylphthalate	98.7	U	98.7	190	ug/Kg
206-44-0	Fluoranthene	1000		90.5	190	ug/Kg
129-00-0	Pyrene	1000		84.2	190	ug/Kg
85-68-7	Butylbenzylphthalate	93.8	U	93.8	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	370	ug/Kg
56-55-3	Benzo(a)anthracene	500		98.5	190	ug/Kg
218-01-9	Chrysene	480		97.0	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	100	U	100	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	480		78.3	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	160	J	83.5	190	ug/Kg
50-32-8	Benzo(a)pyrene	360		76.8	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	190		110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	120	U	120	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056414.D	1	01/20/23 12:30	01/24/23 22:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	230		110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	190	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	92.1	U	92.1	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	120		18 - 112	80%	SPK: 150
13127-88-3	Phenol-d6	110		21 - 104	73%	SPK: 150
4165-60-0	Nitrobenzene-d5	63.3		27 - 109	63%	SPK: 100
321-60-8	2-Fluorobiphenyl	67.7		30 - 103	68%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		10 - 121	74%	SPK: 150
1718-51-0	Terphenyl-d14	65.3		21 - 107	65%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	40800	8.288			
1146-65-2	Naphthalene-d8	165000	11.126			
15067-26-2	Acenaphthene-d10	127000	14.904			
1517-22-2	Phenanthrene-d10	292000	17.642			
1719-03-5	Chrysene-d12	275000	21.931			
1520-96-3	Perylene-d12	300000	25.363			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	660	AB		5.33	ug/Kg
000119-61-9	Benzophenone	180	J		16.2	ug/Kg
002531-84-2	Phenanthrene, 2-methyl-	370	J		18.5	ug/Kg
000613-12-7	Anthracene, 2-methyl-	310	J		18.6	ug/Kg
000610-48-0	Anthracene, 1-methyl-	100	J		18.6	ug/Kg
	unknown18.706	380	J		18.7	ug/Kg
000832-64-4	Phenanthrene, 4-methyl-	150	J		18.7	ug/Kg
000612-94-2	Naphthalene, 2-phenyl-	160	J		19.0	ug/Kg
000084-65-1	9,10-Anthracenedione	110	J		19.0	ug/Kg
1000452-24-5	3,4-Dimethylphenanthrene	100	J		19.2	ug/Kg
000781-43-1	9,10-Dimethylanthracene	280	J		19.4	ug/Kg
005737-13-3	Cyclopenta(def)phenanthrenone	180	J		19.6	ug/Kg
002381-21-7	Pyrene, 1-methyl-	130	J		20.4	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	88
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056414.D	1	01/20/23 12:30	01/24/23 22:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
003442-78-2	Pyrene, 2-methyl-	87.4	J		20.7	ug/Kg
000479-79-8	11H-Benzo[a]fluoren-11-one	96.1	J		21.3	ug/Kg
007206-19-1	3-Octadecene, (E)-	160	J		21.5	ug/Kg
000082-05-3	7H-Benz[de]anthracen-7-one	93.0	J		21.6	ug/Kg
000192-97-2	Benzo[e]pyrene	310	J		25.0	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.3
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132177.D	1	01/20/23 12:30	01/20/23 23:51	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	150	U	150	360	ug/Kg
108-95-2	Phenol	74.0	U	74.0	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	87.7	U	87.7	190	ug/Kg
95-57-8	2-Chlorophenol	74.6	U	74.6	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	100	U	100	190	ug/Kg
98-86-2	Acetophenone	87.5	U	87.5	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	360	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	83.1	U	83.1	87.4	ug/Kg
67-72-1	Hexachloroethane	80.5	U	80.5	190	ug/Kg
98-95-3	Nitrobenzene	80.7	U	80.7	190	ug/Kg
78-59-1	Isophorone	72.8	U	72.8	190	ug/Kg
88-75-5	2-Nitrophenol	100	U	100	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	89.2	U	89.2	190	ug/Kg
91-20-3	Naphthalene	80.7	U	80.7	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	360	ug/Kg
59-50-7	4-Chloro-3-methylphenol	86.0	U	86.0	190	ug/Kg
91-57-6	2-Methylnaphthalene	81.9	U	81.9	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	360	ug/Kg
88-06-2	2,4,6-Trichlorophenol	93.3	U	93.3	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	91.3	U	91.3	190	ug/Kg
92-52-4	1,1-Biphenyl	94.5	U	94.5	190	ug/Kg
91-58-7	2-Chloronaphthalene	93.4	U	93.4	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	88.4	U	88.4	190	ug/Kg
208-96-8	Acenaphthylene	75.0	U	75.0	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	85.3	U	85.3	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.3
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132177.D	1	01/20/23 12:30	01/20/23 23:51	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	86.2	U	86.2	190	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	360	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	360	ug/Kg
132-64-9	Dibenzofuran	81.1	U	81.1	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	92.4	U	92.4	190	ug/Kg
84-66-2	Diethylphthalate	87.9	U	87.9	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	86.1	U	86.1	190	ug/Kg
100-01-6	4-Nitroaniline	110	U	110	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	94.2	U	94.2	360	ug/Kg
86-30-6	n-Nitrosodiphenylamine	89.8	U	89.8	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	110	U	110	190	ug/Kg
1912-24-9	Atrazine	98.3	U	98.3	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	360	ug/Kg
85-01-8	Phenanthrene	91.3	U	91.3	190	ug/Kg
120-12-7	Anthracene	91.8	U	91.8	190	ug/Kg
86-74-8	Carbazole	92.0	U	92.0	190	ug/Kg
84-74-2	Di-n-butylphthalate	95.0	U	95.0	190	ug/Kg
206-44-0	Fluoranthene	87.2	U	87.2	190	ug/Kg
129-00-0	Pyrene	81.1	U	81.1	190	ug/Kg
85-68-7	Butylbenzylphthalate	90.3	U	90.3	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	360	ug/Kg
56-55-3	Benzo(a)anthracene	94.8	U	94.8	190	ug/Kg
218-01-9	Chrysene	93.4	U	93.4	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	96.8	U	96.8	190	ug/Kg
117-84-0	Di-n-octyl phthalate	99.4	U	99.4	360	ug/Kg
205-99-2	Benzo(b)fluoranthene	75.4	U	75.4	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	80.4	U	80.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.0	U	74.0	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.3
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132177.D	1	01/20/23 12:30	01/20/23 23:51	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	99.6	U	99.6	190	ug/Kg
123-91-1	1,4-Dioxane	97.3	U	97.3	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	88.7	U	88.7	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	101		18 - 112	68%	SPK: 150
13127-88-3	Phenol-d6	105		21 - 104	70%	SPK: 150
4165-60-0	Nitrobenzene-d5	71.8		27 - 109	72%	SPK: 100
321-60-8	2-Fluorobiphenyl	60.6		30 - 103	61%	SPK: 100
118-79-6	2,4,6-Tribromophenol	107		10 - 121	71%	SPK: 150
1718-51-0	Terphenyl-d14	64.3		21 - 107	64%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	185000	7.09			
1146-65-2	Naphthalene-d8	675000	8.378			
15067-26-2	Acenaphthene-d10	372000	10.142			
1517-22-2	Phenanthrene-d10	724000	11.636			
1719-03-5	Chrysene-d12	486000	14.301			
1520-96-3	Perylene-d12	396000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1300	AB		5.34	ug/Kg
000119-61-9	Benzophenone	100	J		10.9	ug/Kg
000057-10-3	n-Hexadecanoic acid	120	J		12.1	ug/Kg
1000406-04-8	Pentadecafluorooctanoic acid, octa	160	J		14.1	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	93.3
Sample Wt/Vol:	30.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013581.D	1	01/20/23 12:30	01/24/23 21:02	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	150	U	150	350	ug/Kg
108-95-2	Phenol	72.5	U	72.5	180	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	86.0	U	86.0	180	ug/Kg
95-57-8	2-Chlorophenol	73.1	U	73.1	180	ug/Kg
95-48-7	2-Methylphenol	110	U	110	180	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	100	U	100	180	ug/Kg
98-86-2	Acetophenone	85.7	U	85.7	180	ug/Kg
65794-96-9	3+4-Methylphenols	100	U	100	350	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	81.5	U	81.5	85.6	ug/Kg
67-72-1	Hexachloroethane	78.9	U	78.9	180	ug/Kg
98-95-3	Nitrobenzene	79.1	U	79.1	180	ug/Kg
78-59-1	Isophorone	71.3	U	71.3	180	ug/Kg
88-75-5	2-Nitrophenol	99.3	U	99.3	180	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	180	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	180	ug/Kg
120-83-2	2,4-Dichlorophenol	87.5	U	87.5	180	ug/Kg
91-20-3	Naphthalene	79.1	U	79.1	180	ug/Kg
106-47-8	4-Chloroaniline	100	U	100	180	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	180	ug/Kg
105-60-2	Caprolactam	110	U	110	350	ug/Kg
59-50-7	4-Chloro-3-methylphenol	84.2	U	84.2	180	ug/Kg
91-57-6	2-Methylnaphthalene	80.3	U	80.3	180	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	350	ug/Kg
88-06-2	2,4,6-Trichlorophenol	91.4	U	91.4	180	ug/Kg
95-95-4	2,4,5-Trichlorophenol	89.5	U	89.5	180	ug/Kg
92-52-4	1,1-Biphenyl	92.6	U	92.6	180	ug/Kg
91-58-7	2-Chloronaphthalene	91.5	U	91.5	180	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	180	ug/Kg
131-11-3	Dimethylphthalate	86.6	U	86.6	180	ug/Kg
208-96-8	Acenaphthylene	73.5	U	73.5	180	ug/Kg
606-20-2	2,6-Dinitrotoluene	83.6	U	83.6	180	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	93.3
Sample Wt/Vol:	30.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013581.D	1	01/20/23 12:30	01/24/23 21:02	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	180	ug/Kg
83-32-9	Acenaphthene	84.5	U	84.5	180	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	350	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	350	ug/Kg
132-64-9	Dibenzofuran	79.4	U	79.4	180	ug/Kg
121-14-2	2,4-Dinitrotoluene	90.6	U	90.6	180	ug/Kg
84-66-2	Diethylphthalate	86.2	U	86.2	180	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	180	ug/Kg
86-73-7	Fluorene	84.3	U	84.3	180	ug/Kg
100-01-6	4-Nitroaniline	110	U	110	180	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	92.3	U	92.3	350	ug/Kg
86-30-6	n-Nitrosodiphenylamine	88.0	U	88.0	180	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	180	ug/Kg
118-74-1	Hexachlorobenzene	110	U	110	180	ug/Kg
1912-24-9	Atrazine	96.3	U	96.3	180	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	350	ug/Kg
85-01-8	Phenanthrene	89.5	U	89.5	180	ug/Kg
120-12-7	Anthracene	89.9	U	89.9	180	ug/Kg
86-74-8	Carbazole	90.1	U	90.1	180	ug/Kg
84-74-2	Di-n-butylphthalate	93.1	U	93.1	180	ug/Kg
206-44-0	Fluoranthene	85.4	U	85.4	180	ug/Kg
129-00-0	Pyrene	79.4	U	79.4	180	ug/Kg
85-68-7	Butylbenzylphthalate	88.5	U	88.5	180	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	350	ug/Kg
56-55-3	Benzo(a)anthracene	92.9	U	92.9	180	ug/Kg
218-01-9	Chrysene	98.9	J	91.5	180	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	110	J	94.8	180	ug/Kg
117-84-0	Di-n-octyl phthalate	97.4	U	97.4	350	ug/Kg
205-99-2	Benzo(b)fluoranthene	73.9	U	73.9	180	ug/Kg
207-08-9	Benzo(k)fluoranthene	78.8	U	78.8	180	ug/Kg
50-32-8	Benzo(a)pyrene	72.5	U	72.5	180	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	180	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	180	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	93.3
Sample Wt/Vol:	30.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013581.D	1	01/20/23 12:30	01/24/23 21:02	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	100	U	100	180	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	97.6	U	97.6	180	ug/Kg
123-91-1	1,4-Dioxane	95.4	U	95.4	180	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	86.9	U	86.9	180	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	118		18 - 112	79%	SPK: 150
13127-88-3	Phenol-d6	112		21 - 104	75%	SPK: 150
4165-60-0	Nitrobenzene-d5	79.8		27 - 109	80%	SPK: 100
321-60-8	2-Fluorobiphenyl	68.9		30 - 103	69%	SPK: 100
118-79-6	2,4,6-Tribromophenol	135		10 - 121	90%	SPK: 150
1718-51-0	Terphenyl-d14	75.4		21 - 107	75%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	365000	8.158			
1146-65-2	Naphthalene-d8	1460000	10.987			
15067-26-2	Acenaphthene-d10	861000	14.792			
1517-22-2	Phenanthrene-d10	1870000	17.545			
1719-03-5	Chrysene-d12	1650000	21.622			
1520-96-3	Perylene-d12	1470000	24.204			
TENTATIVE IDENTIFIED COMPOUNDS						
000994-05-8	Butane, 2-methoxy-2-methyl-	830	J		3.22	ug/Kg
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1100	AB		5.22	ug/Kg
000119-61-9	Benzophenone	99.9	J		16.1	ug/Kg
000057-10-3	n-Hexadecanoic acid	94.2	J		18.4	ug/Kg
010192-32-2	1-Tetracosene	190	J		21.3	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.1
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056375.D	1	01/20/23 12:30	01/20/23 20:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	370	ug/Kg
108-95-2	Phenol	74.9	U	74.9	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	88.9	U	88.9	190	ug/Kg
95-57-8	2-Chlorophenol	75.6	U	75.6	190	ug/Kg
95-48-7	2-Methylphenol	120	U	120	190	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	190	ug/Kg
98-86-2	Acetophenone	88.6	U	88.6	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	84.2	U	84.2	88.5	ug/Kg
67-72-1	Hexachloroethane	81.6	U	81.6	190	ug/Kg
98-95-3	Nitrobenzene	81.8	U	81.8	190	ug/Kg
78-59-1	Isophorone	73.7	U	73.7	190	ug/Kg
88-75-5	2-Nitrophenol	100	U	100	190	ug/Kg
105-67-9	2,4-Dimethylphenol	110	U	110	190	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	120	U	120	190	ug/Kg
120-83-2	2,4-Dichlorophenol	90.4	U	90.4	190	ug/Kg
91-20-3	Naphthalene	81.8	U	81.8	190	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	190	ug/Kg
87-68-3	Hexachlorobutadiene	110	U	110	190	ug/Kg
105-60-2	Caprolactam	110	U	110	370	ug/Kg
59-50-7	4-Chloro-3-methylphenol	87.1	U	87.1	190	ug/Kg
91-57-6	2-Methylnaphthalene	83.0	U	83.0	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	94.5	U	94.5	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	92.5	U	92.5	190	ug/Kg
92-52-4	1,1-Biphenyl	95.7	U	95.7	190	ug/Kg
91-58-7	2-Chloronaphthalene	94.6	U	94.6	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	89.5	U	89.5	190	ug/Kg
208-96-8	Acenaphthylene	76.0	U	76.0	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	86.4	U	86.4	190	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.1
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056375.D	1	01/20/23 12:30	01/20/23 20:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	110	U	110	190	ug/Kg
83-32-9	Acenaphthene	87.3	U	87.3	190	ug/Kg
51-28-5	2,4-Dinitrophenol	140	U	140	370	ug/Kg
100-02-7	4-Nitrophenol	150	U	150	370	ug/Kg
132-64-9	Dibenzofuran	82.1	U	82.1	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	93.6	U	93.6	190	ug/Kg
84-66-2	Diethylphthalate	89.1	U	89.1	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	87.2	U	87.2	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	95.4	U	95.4	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	91.0	U	91.0	190	ug/Kg
101-55-3	4-Bromophenyl-phenylether	110	U	110	190	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	190	ug/Kg
1912-24-9	Atrazine	99.6	U	99.6	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	370	ug/Kg
85-01-8	Phenanthrene	92.5	U	92.5	190	ug/Kg
120-12-7	Anthracene	93.0	U	93.0	190	ug/Kg
86-74-8	Carbazole	93.2	U	93.2	190	ug/Kg
84-74-2	Di-n-butylphthalate	96.3	U	96.3	190	ug/Kg
206-44-0	Fluoranthene	88.3	U	88.3	190	ug/Kg
129-00-0	Pyrene	82.1	U	82.1	190	ug/Kg
85-68-7	Butylbenzylphthalate	91.5	U	91.5	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	370	ug/Kg
56-55-3	Benzo(a)anthracene	96.0	U	96.0	190	ug/Kg
218-01-9	Chrysene	94.6	U	94.6	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	98.0	U	98.0	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	76.4	U	76.4	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	81.4	U	81.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.9	U	74.9	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.1
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG056375.D	1	01/20/23 12:30	01/20/23 20:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	100	U	100	190	ug/Kg
123-91-1	1,4-Dioxane	98.6	U	98.6	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	89.9	U	89.9	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	111		18 - 112	74%	SPK: 150
13127-88-3	Phenol-d6	99.1		21 - 104	66%	SPK: 150
4165-60-0	Nitrobenzene-d5	61.4		27 - 109	61%	SPK: 100
321-60-8	2-Fluorobiphenyl	73.7		30 - 103	74%	SPK: 100
118-79-6	2,4,6-Tribromophenol	107		10 - 121	71%	SPK: 150
1718-51-0	Terphenyl-d14	70.9		21 - 107	71%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	47000	8.302			
1146-65-2	Naphthalene-d8	178000	11.134			
15067-26-2	Acenaphthene-d10	128000	14.918			
1517-22-2	Phenanthrene-d10	294000	17.656			
1719-03-5	Chrysene-d12	270000	21.945			
1520-96-3	Perylene-d12	286000	25.388			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	580	AB		5.34	ug/Kg
000119-61-9	Benzophenone	99.2	J		16.3	ug/Kg
000057-10-3	n-Hexadecanoic acid	160	J		18.5	ug/Kg
000077-94-1	Butyl citrate	210	J		19.9	ug/Kg
085763-57-1	11-Methyldodecanol	130	J		21.5	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

QC SUMMARY

Surrogate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
O1232-01	B-P-17A	2-Fluorophenol	150	91.9	61		18	112
		Phenol-d6	150	95.1	63		21	104
		Nitrobenzene-d5	100	65.3	65		27	109
		2-Fluorobiphenyl	100	56.1	56		30	103
		2,4,6-Tribromophenol	150	95.4	64		10	121
		Terphenyl-d14	100	59.5	59		21	107
O1232-02	B-P-17B	2-Fluorophenol	150	95.6	64		18	112
		Phenol-d6	150	89.3	60		21	104
		Nitrobenzene-d5	100	66.4	66		27	109
		2-Fluorobiphenyl	100	60.1	60		30	103
		2,4,6-Tribromophenol	150	104	69		10	121
		Terphenyl-d14	100	55.5	55		21	107
O1232-04	B-P-18A	2-Fluorophenol	150	93.1	62		18	112
		Phenol-d6	150	88.9	59		21	104
		Nitrobenzene-d5	100	62.4	62		27	109
		2-Fluorobiphenyl	100	53.4	53		30	103
		2,4,6-Tribromophenol	150	114	76		10	121
		Terphenyl-d14	100	66.3	66		21	107
O1232-05	B-P-18B	2-Fluorophenol	150	159	106		18	112
		Phenol-d6	150	142	95		21	104
		Nitrobenzene-d5	100	85.4	85		27	109
		2-Fluorobiphenyl	100	98.8	99		30	103
		2,4,6-Tribromophenol	150	151	101		10	121
		Terphenyl-d14	100	100	100		21	107
O1232-06	B-P-19A	2-Fluorophenol	150	115	77		18	112
		Phenol-d6	150	105	70		21	104
		Nitrobenzene-d5	100	63.9	64		27	109
		2-Fluorobiphenyl	100	69.1	69		30	103
		2,4,6-Tribromophenol	150	113	75		10	121
		Terphenyl-d14	100	70.2	70		21	107
O1232-07	B-P-19B	2-Fluorophenol	150	120	80		18	112
		Phenol-d6	150	110	73		21	104
		Nitrobenzene-d5	100	63.3	63		27	109
		2-Fluorobiphenyl	100	67.7	68		30	103
		2,4,6-Tribromophenol	150	110	74		10	121
		Terphenyl-d14	100	65.3	65		21	107
O1232-08	B-P-35A	2-Fluorophenol	150	101	68		18	112
		Phenol-d6	150	105	70		21	104
		Nitrobenzene-d5	100	71.8	72		27	109
		2-Fluorobiphenyl	100	60.6	61		30	103
		2,4,6-Tribromophenol	150	107	71		10	121
		Terphenyl-d14	100	64.3	64		21	107
O1232-09	B-P-35B	2-Fluorophenol	150	118	79		18	112
		Phenol-d6	150	112	75		21	104
		Nitrobenzene-d5	100	79.8	80		27	109
		2-Fluorobiphenyl	100	68.9	69		30	103
		2,4,6-Tribromophenol	150	135	90		10	121
		Terphenyl-d14	100	75.4	75		21	107
O1232-10	DUP01	2-Fluorophenol	150	111	74		18	112
		Phenol-d6	150	99.1	66		21	104
		Nitrobenzene-d5	100	61.4	61		27	109
		2-Fluorobiphenyl	100	73.7	74		30	103

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Surrogate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
O1232-10	DUP01	2,4,6-Tribromophenol	150	107	71		10	121
		Terphenyl-d14	100	70.9	71		21	107
O1233-02MS	B-P34AMS	2-Fluorophenol	150	111	74		18	112
		Phenol-d6	150	118	79		21	104
		Nitrobenzene-d5	100	81.4	81		27	109
		2-Fluorobiphenyl	100	65.7	66		30	103
		2,4,6-Tribromophenol	150	131	88		10	121
		Terphenyl-d14	100	73.6	74		21	107
O1233-02MSD	B-P34AMSD	2-Fluorophenol	150	111	74		18	112
		Phenol-d6	150	117	78		21	104
		Nitrobenzene-d5	100	82.3	82		27	109
		2-Fluorobiphenyl	100	66.1	66		30	103
		2,4,6-Tribromophenol	150	131	87		10	121
		Terphenyl-d14	100	74.4	74		21	107
PB150378BL	PB150378BL	2-Fluorophenol	150	128	85		18	112
		Phenol-d6	150	125	83		21	104
		Nitrobenzene-d5	100	78.9	79		27	109
		2-Fluorobiphenyl	100	67.6	68		30	103
		2,4,6-Tribromophenol	150	131	88		10	121
		Terphenyl-d14	100	70.3	70		21	107
PB150378BS	PB150378BS	2-Fluorophenol	150	146	97		18	112
		Phenol-d6	150	144	96		21	104
		Nitrobenzene-d5	100	90.3	90		27	109
		2-Fluorobiphenyl	100	85.2	85		30	103
		2,4,6-Tribromophenol	150	141	94		10	121
		Terphenyl-d14	100	103	103		21	107

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: O1233-02MS		**Client Sample ID: B-P34AMS**						**DataFile: BF132171.D**			
Benzaldehyde	2000	0	1200	ug/Kg	60				26	163	
Phenol	2000	0	1700	ug/Kg	85				67	126	
bis(2-Chloroethyl)ether	2000	0	1700	ug/Kg	85				74	116	
2-Chlorophenol	2000	0	1800	ug/Kg	90				61	138	
2-Methylphenol	2000	0	1700	ug/Kg	85				66	122	
2,2-oxybis(1-Chloropropane)	2000	0	1700	ug/Kg	85				52	115	
Acetophenone	2000	0	1600	ug/Kg	80				75	111	
3+4-Methylphenols	2000	0	1700	ug/Kg	85				53	132	
N-Nitroso-di-n-propylamine	2000	0	1700	ug/Kg	85				59	119	
Hexachloroethane	2000	0	1800	ug/Kg	90				65	117	
Nitrobenzene	2000	0	1700	ug/Kg	85				70	119	
Isophorone	2000	0	1700	ug/Kg	85				76	122	
2-Nitrophenol	2000	0	2000	ug/Kg	100				54	145	
2,4-Dimethylphenol	2000	0	1700	ug/Kg	85				83	144	
bis(2-Chloroethoxy)methane	2000	0	1600	ug/Kg	80				68	112	
2,4-Dichlorophenol	2000	0	1700	ug/Kg	85				72	118	
Naphthalene	2000	0	1600	ug/Kg	80				72	110	
4-Chloroaniline	2000	0	590	ug/Kg	29				10	100	
Hexachlorobutadiene	2000	0	1600	ug/Kg	80				66	114	
Caprolactam	2000	0	2000	ug/Kg	100				51	134	
4-Chloro-3-methylphenol	2000	0	1800	ug/Kg	90				57	132	
2-Methylnaphthalene	2000	0	1500	ug/Kg	75				59	123	
Hexachlorocyclopentadiene	3900	0	3600	ug/Kg	92				10	175	
2,4,6-Trichlorophenol	2000	0	1700	ug/Kg	85				72	117	
2,4,5-Trichlorophenol	2000	0	1600	ug/Kg	80				72	117	
1,1-Biphenyl	2000	0	1600	ug/Kg	80				75	113	
2-Chloronaphthalene	2000	0	1600	ug/Kg	80				67	118	
2-Nitroaniline	2000	0	1800	ug/Kg	90				69	127	
Dimethylphthalate	2000	0	1600	ug/Kg	80				70	113	
Acenaphthylene	2000	0	1600	ug/Kg	80				79	118	
2,6-Dinitrotoluene	2000	0	2000	ug/Kg	100				70	125	
3-Nitroaniline	2000	0	1300	ug/Kg	65				20	111	
Acenaphthene	2000	0	1800	ug/Kg	90				70	121	
2,4-Dinitrophenol	3900	0	4200	ug/Kg	108				16	160	
4-Nitrophenol	3900	0	3900	ug/Kg	100				45	133	
Dibenzofuran	2000	0	1500	ug/Kg	75				72	110	
2,4-Dinitrotoluene	2000	0	2100	ug/Kg	105				55	128	
Diethylphthalate	2000	0	1700	ug/Kg	85				70	112	
4-Chlorophenyl-phenylether	2000	0	1600	ug/Kg	80				71	108	
Fluorene	2000	0	1600	ug/Kg	80				68	116	
4-Nitroaniline	2000	0	1900	ug/Kg	95				55	120	
4,6-Dinitro-2-methylphenol	2000	0	1900	ug/Kg	95				32	145	
N-Nitrosodiphenylamine	2000	0	1500	ug/Kg	75				73	118	
4-Bromophenyl-phenylether	2000	0	1500	ug/Kg	75				65	121	
Hexachlorobenzene	2000	0	1700	ug/Kg	85				67	118	
Atrazine	2000	0	1800	ug/Kg	90				79	127	
Pentachlorophenol	3900	0	3100	ug/Kg	79				47	128	

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Phenanthrene	2000	0	1500	ug/Kg	75				72	113	
Anthracene	2000	0	1500	ug/Kg	75				62	124	
Carbazole	2000	0	1700	ug/Kg	85				59	119	
Di-n-butylphthalate	2000	0	1800	ug/Kg	90				69	118	
Fluoranthene	2000	0	1700	ug/Kg	85				59	125	
Pyrene	2000	0	1600	ug/Kg	80				52	128	
Butylbenzylphthalate	2000	0	1900	ug/Kg	95				64	126	
3,3-Dichlorobenzidine	2000	0	830	ug/Kg	42				10	164	
Benzo(a)anthracene	2000	0	1700	ug/Kg	85				71	114	
Chrysene	2000	0	1600	ug/Kg	80				57	121	
bis(2-Ethylhexyl)phthalate	2000	0	1800	ug/Kg	90				66	127	
Di-n-octyl phthalate	2000	0	1700	ug/Kg	85				71	126	
Benzo(b)fluoranthene	2000	0	1800	ug/Kg	90				67	121	
Benzo(k)fluoranthene	2000	0	1700	ug/Kg	85				74	114	
Benzo(a)pyrene	2000	0	1600	ug/Kg	80				70	142	
Indeno(1,2,3-cd)pyrene	2000	0	1500	ug/Kg	75				61	125	
Dibenz(a,h)anthracene	2000	0	1700	ug/Kg	85				67	130	
Benzo(g,h,i)perylene	2000	0	1500	ug/Kg	75				53	140	
1,2,4,5-Tetrachlorobenzene	2000	0	1500	ug/Kg	75				69	124	
1,4-Dioxane	2000	0	1500	ug/Kg	75				46	112	
2,3,4,6-Tetrachlorophenol	2000	0	1800	ug/Kg	90				56	133	

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Lab Sample ID: O1233-02MSD		**Client Sample ID: B-P34AMSD**						**DataFile: BF132172.D**			
Benzaldehyde	1900	0	1200	ug/Kg	63		5		26	163	20
Phenol	1900	0	1700	ug/Kg	89		5		67	126	20
bis(2-Chloroethyl)ether	1900	0	1700	ug/Kg	89		5		74	116	20
2-Chlorophenol	1900	0	1800	ug/Kg	95		5		61	138	20
2-Methylphenol	1900	0	1700	ug/Kg	89		5		66	122	20
2,2-oxybis(1-Chloropropane)	1900	0	1700	ug/Kg	89		5		52	115	20
Acetophenone	1900	0	1600	ug/Kg	84		5		75	111	20
3+4-Methylphenols	1900	0	1700	ug/Kg	89		5		53	132	20
N-Nitroso-di-n-propylamine	1900	0	1600	ug/Kg	84		1		59	119	20
Hexachloroethane	1900	0	1800	ug/Kg	95		5		65	117	20
Nitrobenzene	1900	0	1700	ug/Kg	89		5		70	119	20
Isophorone	1900	0	1700	ug/Kg	89		5		76	122	20
2-Nitrophenol	1900	0	2000	ug/Kg	105		5		54	145	20
2,4-Dimethylphenol	1900	0	1700	ug/Kg	89		5		83	144	20
bis(2-Chloroethoxy)methane	1900	0	1600	ug/Kg	84		5		68	112	20
2,4-Dichlorophenol	1900	0	1700	ug/Kg	89		5		72	118	20
Naphthalene	1900	0	1600	ug/Kg	84		5		72	110	20
4-Chloroaniline	1900	0	600	ug/Kg	32		10		10	100	20
Hexachlorobutadiene	1900	0	1600	ug/Kg	84		5		66	114	20
Caprolactam	1900	0	2000	ug/Kg	105		5		51	134	20
4-Chloro-3-methylphenol	1900	0	1800	ug/Kg	95		5		57	132	20
2-Methylnaphthalene	1900	0	1500	ug/Kg	79		5		59	123	20
Hexachlorocyclopentadiene	3900	0	3700	ug/Kg	95		3		10	175	20
2,4,6-Trichlorophenol	1900	0	1700	ug/Kg	89		5		72	117	20
2,4,5-Trichlorophenol	1900	0	1600	ug/Kg	84		5		72	117	20
1,1-Biphenyl	1900	0	1600	ug/Kg	84		5		75	113	20
2-Chloronaphthalene	1900	0	1600	ug/Kg	84		5		67	118	20
2-Nitroaniline	1900	0	1800	ug/Kg	95		5		69	127	20
Dimethylphthalate	1900	0	1600	ug/Kg	84		5		70	113	20
Acenaphthylene	1900	0	1600	ug/Kg	84		5		79	118	20
2,6-Dinitrotoluene	1900	0	1900	ug/Kg	100		0		70	125	20
3-Nitroaniline	1900	0	1200	ug/Kg	63		3		20	111	20
Acenaphthene	1900	0	1800	ug/Kg	95		5		70	121	20
2,4-Dinitrophenol	3900	0	4200	ug/Kg	108		0		16	160	20
4-Nitrophenol	3900	0	3900	ug/Kg	100		0		45	133	20
Dibenzofuran	1900	0	1600	ug/Kg	84		11		72	110	20
2,4-Dinitrotoluene	1900	0	2100	ug/Kg	111		6		55	128	20
Diethylphthalate	1900	0	1600	ug/Kg	84		1		70	112	20
4-Chlorophenyl-phenylether	1900	0	1600	ug/Kg	84		5		71	108	20
Fluorene	1900	0	1600	ug/Kg	84		5		68	116	20
4-Nitroaniline	1900	0	1900	ug/Kg	100		5		55	120	20
4,6-Dinitro-2-methylphenol	1900	0	1900	ug/Kg	100		5		32	145	20
N-Nitrosodiphenylamine	1900	0	1500	ug/Kg	79		5		73	118	20
4-Bromophenyl-phenylether	1900	0	1500	ug/Kg	79		5		65	121	20
Hexachlorobenzene	1900	0	1600	ug/Kg	84		1		67	118	20
Atrazine	1900	0	1800	ug/Kg	95		5		79	127	20
Pentachlorophenol	3900	0	3100	ug/Kg	79		0		47	128	20

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Phenanthrene	1900	0	1500	ug/Kg	79		5		72	113	20
Anthracene	1900	0	1500	ug/Kg	79		5		62	124	20
Carbazole	1900	0	1600	ug/Kg	84		1		59	119	20
Di-n-butylphthalate	1900	0	1700	ug/Kg	89		1		69	118	20
Fluoranthene	1900	0	1700	ug/Kg	89		5		59	125	20
Pyrene	1900	0	1600	ug/Kg	84		5		52	128	20
Butylbenzylphthalate	1900	0	1900	ug/Kg	100		5		64	126	20
3,3-Dichlorobenzidine	1900	0	870	ug/Kg	46		9		10	164	20
Benzo(a)anthracene	1900	0	1600	ug/Kg	84		1		71	114	20
Chrysene	1900	0	1600	ug/Kg	84		5		57	121	20
bis(2-Ethylhexyl)phthalate	1900	0	1700	ug/Kg	89		1		66	127	20
Di-n-octyl phthalate	1900	0	1700	ug/Kg	89		5		71	126	20
Benzo(b)fluoranthene	1900	0	1800	ug/Kg	95		5		67	121	20
Benzo(k)fluoranthene	1900	0	1700	ug/Kg	89		5		74	114	20
Benzo(a)pyrene	1900	0	1600	ug/Kg	84		5		70	142	20
Indeno(1,2,3-cd)pyrene	1900	0	1500	ug/Kg	79		5		61	125	20
Dibenz(a,h)anthracene	1900	0	1600	ug/Kg	84		1		67	130	20
Benzo(g,h,i)perylene	1900	0	1500	ug/Kg	79		5		53	140	20
1,2,4,5-Tetrachlorobenzene	1900	0	1500	ug/Kg	79		5		69	124	20
1,4-Dioxane	1900	0	1500	ug/Kg	79		5		46	112	20
2,3,4,6-Tetrachlorophenol	1900	0	1800	ug/Kg	95		5		56	133	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E **DataFile:** BP013684.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB150378BS	Benzaldehyde	1700	960	ug/Kg	56				10	109	
	Phenol	1700	1600	ug/Kg	94				62	112	
	bis(2-Chloroethyl)ether	1700	1500	ug/Kg	88				60	101	
	2-Chlorophenol	1700	1600	ug/Kg	94				65	112	
	2-Methylphenol	1700	1500	ug/Kg	88				61	108	
	2,2-oxybis(1-Chloropropane)	1700	1600	ug/Kg	94				51	100	
	Acetophenone	1700	1400	ug/Kg	82				55	104	
	3+4-Methylphenols	1700	1500	ug/Kg	88				58	111	
	N-Nitroso-di-n-propylamine	1700	1500	ug/Kg	88				63	95	
	Hexachloroethane	1700	1600	ug/Kg	94				59	102	
	Nitrobenzene	1700	1400	ug/Kg	82				57	101	
	Isophorone	1700	1400	ug/Kg	82				59	99	
	2-Nitrophenol	1700	1400	ug/Kg	82				61	111	
	2,4-Dimethylphenol	1700	1500	ug/Kg	88				67	119	
	bis(2-Chloroethoxy)methane	1700	1400	ug/Kg	82				53	105	
	2,4-Dichlorophenol	1700	1500	ug/Kg	88				62	107	
	Naphthalene	1700	1400	ug/Kg	82				62	100	
	4-Chloroaniline	1700	810	ug/Kg	48				16	100	
	Hexachlorobutadiene	1700	1500	ug/Kg	88				53	98	
	Caprolactam	1700	1400	ug/Kg	82				42	122	
	4-Chloro-3-methylphenol	1700	1500	ug/Kg	88				58	112	
	2-Methylnaphthalene	1700	1300	ug/Kg	76				60	104	
	Hexachlorocyclopentadiene	3300	3600	ug/Kg	109				45	134	
	2,4,6-Trichlorophenol	1700	1500	ug/Kg	88				59	102	
	2,4,5-Trichlorophenol	1700	1400	ug/Kg	82				61	98	
	1,1-Biphenyl	1700	1400	ug/Kg	82				57	103	
	2-Chloronaphthalene	1700	1400	ug/Kg	82				58	99	
	2-Nitroaniline	1700	1400	ug/Kg	82				53	105	
	Dimethylphthalate	1700	1400	ug/Kg	82				61	99	
	Acenaphthylene	1700	1400	ug/Kg	82				63	101	
	2,6-Dinitrotoluene	1700	1400	ug/Kg	82				61	104	
	3-Nitroaniline	1700	1100	ug/Kg	65				28	100	
	Acenaphthene	1700	1600	ug/Kg	94				57	104	
	2,4-Dinitrophenol	3300	2900	ug/Kg	88				37	128	
	4-Nitrophenol	3300	3100	ug/Kg	94				48	119	
	Dibenzofuran	1700	1400	ug/Kg	82				63	99	
	2,4-Dinitrotoluene	1700	1500	ug/Kg	88				60	106	
	Diethylphthalate	1700	1400	ug/Kg	82				60	101	
	4-Chlorophenyl-phenylether	1700	1400	ug/Kg	82				58	98	
	Fluorene	1700	1400	ug/Kg	82				61	101	
	4-Nitroaniline	1700	1300	ug/Kg	76				47	102	
	4,6-Dinitro-2-methylphenol	1700	1400	ug/Kg	82				48	132	
	N-Nitrosodiphenylamine	1700	1400	ug/Kg	82				56	107	
	4-Bromophenyl-phenylether	1700	1400	ug/Kg	82				55	99	
	Hexachlorobenzene	1700	1500	ug/Kg	88				64	98	
	Atrazine	1700	1600	ug/Kg	94				47	125	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E **DataFile:** BP013684.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB150378BS	Pentachlorophenol	3300	2800	ug/Kg	85				67	105	
	Phenanthrene	1700	1400	ug/Kg	82				59	103	
	Anthracene	1700	1400	ug/Kg	82				61	105	
	Carbazole	1700	1400	ug/Kg	82				61	99	
	Di-n-butylphthalate	1700	1400	ug/Kg	82				58	104	
	Fluoranthene	1700	1400	ug/Kg	82				57	107	
	Pyrene	1700	1600	ug/Kg	94				59	103	
	Butylbenzylphthalate	1700	1600	ug/Kg	94				55	103	
	3,3-Dichlorobenzidine	1700	1300	ug/Kg	76				30	89	
	Benzo(a)anthracene	1700	1500	ug/Kg	88				60	102	
	Chrysene	1700	1400	ug/Kg	82				59	101	
	bis(2-Ethylhexyl)phthalate	1700	1500	ug/Kg	88				51	114	
	Di-n-octyl phthalate	1700	1300	ug/Kg	76				52	114	
	Benzo(b)fluoranthene	1700	1700	ug/Kg	100				62	109	
	Benzo(k)fluoranthene	1700	1600	ug/Kg	94				62	109	
	Benzo(a)pyrene	1700	1400	ug/Kg	82				63	103	
	Indeno(1,2,3-cd)pyrene	1700	1300	ug/Kg	76				63	101	
	Dibenz(a,h)anthracene	1700	1300	ug/Kg	76				61	112	
	Benzo(g,h,i)perylene	1700	1200	ug/Kg	71				57	116	
	1,2,4,5-Tetrachlorobenzene	1700	1400	ug/Kg	82				53	101	
	1,4-Dioxane	1700	1100	ug/Kg	65				50	96	
	2,3,4,6-Tetrachlorophenol	1700	1500	ug/Kg	88				59	108	

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SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150378BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013572.D Lab Sample ID: PB150378BL

Instrument ID: BNA_P Date Extracted: 01/20/2023

Matrix: (soil/water) SOIL Date Analyzed: 01/24/2023

Level: (low/med) LOW Time Analyzed: 15:50

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
B-P-35B	O1232-09	BP013581.D	01/24/2023
B-P-18A	O1232-04	BP013586.D	01/24/2023
PB150378BS	PB150378BS	BP013684.D	01/31/2023
B-P-17A	O1232-01	BF132175.D	01/20/2023
B-P-35A	O1232-08	BF132177.D	01/20/2023
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023
B-P-19A	O1232-06	BG056372.D	01/20/2023
B-P-18B	O1232-05	BG056373.D	01/20/2023
DUP01	O1232-10	BG056375.D	01/20/2023
B-P-19B	O1232-07	BG056414.D	01/24/2023
B-P-17B	O1232-02	BP013566.D	01/24/2023

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BF132139.D DFTPP Injection Date: 01/19/2023

Instrument ID: BNA_F DFTPP Injection Time: 10:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	40.6
68	Less than 2.0% of mass 69	0.7 (1.8) 1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	48.4
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	28.2
365	Greater than 1% of mass 198	3.9
441	Present, but less than mass 443	12.5
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	16 (19.3) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BF132140.D	01/19/2023	11:21
SSTDICC005	SSTDICC005	BF132141.D	01/19/2023	11:53
SSTDICC010	SSTDICC010	BF132142.D	01/19/2023	12:26
SSTDICC020	SSTDICC020	BF132143.D	01/19/2023	12:59
SSTDICCC040	SSTDICCC040	BF132144.D	01/19/2023	13:32
SSTDICC050	SSTDICC050	BF132145.D	01/19/2023	14:05
SSTDICC060	SSTDICC060	BF132146.D	01/19/2023	14:38
SSTDICC080	SSTDICC080	BF132147.D	01/19/2023	15:11

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BF132163.D DFTPP Injection Date: 01/20/2023

Instrument ID: BNA_F DFTPP Injection Time: 16:08

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.5
68	Less than 2.0% of mass 69	0.7 (1.9) 1
69	Mass 69 relative abundance	36
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	46.9
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	28.3
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.9
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	17.6 (19.7) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF132164.D	01/20/2023	16:40
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023	20:35
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023	21:08
B-P-17A	O1232-01	BF132175.D	01/20/2023	22:46
B-P-35A	O1232-08	BF132177.D	01/20/2023	23:51

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BG056125.D DFTPP Injection Date: 12/27/2022

Instrument ID: BNA_G DFTPP Injection Time: 14:13

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	15.4
68	Less than 2.0% of mass 69	0.2 (0.7) 1
69	Mass 69 relative abundance	23.8
70	Less than 2.0% of mass 69	0.1 (0.6) 1
127	10.0 - 80.0% of mass 198	34.9
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	31.4
365	Greater than 1% of mass 198	4
441	Present, but less than mass 443	10.6
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	14.8 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BG056126.D	12/27/2022	14:55
SSTDICC005	SSTDICC005	BG056127.D	12/27/2022	15:36
SSTDICC010	SSTDICC010	BG056128.D	12/27/2022	16:17
SSTDICC020	SSTDICC020	BG056129.D	12/27/2022	16:58
SSTDICCC040	SSTDICCC040	BG056130.D	12/27/2022	17:40
SSTDICC050	SSTDICC050	BG056131.D	12/27/2022	18:21
SSTDICC060	SSTDICC060	BG056132.D	12/27/2022	19:01
SSTDICC080	SSTDICC080	BG056133.D	12/27/2022	19:42

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BG056362.D DFTPP Injection Date: 01/20/2023

Instrument ID: BNA_G DFTPP Injection Time: 11:01

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	14.1
68	Less than 2.0% of mass 69	0.1 (0.4) 1
69	Mass 69 relative abundance	20.1
70	Less than 2.0% of mass 69	0.1 (0.3) 1
127	10.0 - 80.0% of mass 198	34.1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	35.3
365	Greater than 1% of mass 198	4.4
441	Present, but less than mass 443	13.1
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	16.8 (20.8) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BG056363.D	01/20/2023	11:44
B-P-19A	O1232-06	BG056372.D	01/20/2023	18:05
B-P-18B	O1232-05	BG056373.D	01/20/2023	18:47
DUP01	O1232-10	BG056375.D	01/20/2023	20:09

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BG056402.D DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_G DFTPP Injection Time: 14:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	13.5
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	19.6
70	Less than 2.0% of mass 69	0.1 (0.3) 1
127	10.0 - 80.0% of mass 198	33.6
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	34.5
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.7
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	16.9 (20.8) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BG056403.D	01/24/2023	14:59
B-P-19B	O1232-07	BG056414.D	01/24/2023	22:35

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013544.D DFTPP Injection Date: 01/23/2023

Instrument ID: BNA_P DFTPP Injection Time: 10:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.4
68	Less than 2.0% of mass 69	0.6 (1.7) 1
69	Mass 69 relative abundance	34.2
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	47.0
197	Less than 2.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	26.6
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.2
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.9 (19.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BP013545.D	01/23/2023	11:25
SSTDICC005	SSTDICC005	BP013546.D	01/23/2023	12:00
SSTDICC010	SSTDICC010	BP013547.D	01/23/2023	12:34
SSTDICC020	SSTDICC020	BP013548.D	01/23/2023	13:08
SSTDICCC040	SSTDICCC040	BP013549.D	01/23/2023	13:42
SSTDICC050	SSTDICC050	BP013550.D	01/23/2023	14:17
SSTDICC060	SSTDICC060	BP013551.D	01/23/2023	14:51
SSTDICC080	SSTDICC080	BP013552.D	01/23/2023	16:01

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013561.D DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_P DFTPP Injection Time: 09:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.3
68	Less than 2.0% of mass 69	0.4 (1.6) 1
69	Mass 69 relative abundance	30.6
70	Less than 2.0% of mass 69	0.1 (0.5) 1
127	10.0 - 80.0% of mass 198	44.6
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	27.3
365	Greater than 1% of mass 198	3.7
441	Present, but less than mass 443	17.2
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BP013562.D	01/24/2023	09:53
B-P-17B	O1232-02	BP013566.D	01/24/2023	12:17

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013570.D DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_P DFTPP Injection Time: 14:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.9
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	32.2
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	46.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	26.4
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.9
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BP013571.D	01/24/2023	15:13
PB150378BL	PB150378BL	BP013572.D	01/24/2023	15:50
B-P-35B	O1232-09	BP013581.D	01/24/2023	21:02
B-P-18A	O1232-04	BP013586.D	01/24/2023	23:52

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013668.D DFTPP Injection Date: 01/31/2023

Instrument ID: BNA_P DFTPP Injection Time: 10:47

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.0
68	Less than 2.0% of mass 69	0.5 (1.8) 1
69	Mass 69 relative abundance	29.4
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	37.3
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	29.7
365	Greater than 1% of mass 198	4.0
441	Present, but less than mass 443	16.4
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BP013669.D	01/31/2023	11:21
SSTDICC005	SSTDICC005	BP013670.D	01/31/2023	11:55
SSTDICC010	SSTDICC010	BP013671.D	01/31/2023	12:30
SSTDICC020	SSTDICC020	BP013672.D	01/31/2023	13:04
SSTDICCC040	SSTDICCC040	BP013673.D	01/31/2023	13:38
SSTDICC050	SSTDICC050	BP013674.D	01/31/2023	14:12
SSTDICC060	SSTDICC060	BP013675.D	01/31/2023	14:47
SSTDICC080	SSTDICC080	BP013676.D	01/31/2023	15:56
PB150378BS	PB150378BS	BP013684.D	01/31/2023	21:04

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BF132164.D Time Analyzed: 16:40

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	175584	7.09	590884	8.38	314145	10.14
	UPPER LIMIT	351168	7.59	1181770	8.878	628290	10.642
	LOWER LIMIT	87792	6.59	295442	7.878	157073	9.642
	EPA SAMPLE NO.						
01	B-P-17A	179173	7.09	654165	8.38	350949	10.14
02	B-P-35A	185310	7.09	674589	8.38	371842	10.14
03	B-P34AMS	184212	7.09	674454	8.38	369043	10.14
04	B-P34AMSD	185010	7.09	669898	8.38	363370	10.14

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BF132164.D Time Analyzed: 16:40

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	631542	11.642	364265	14.307	316916	15.901
	UPPER LIMIT	1263080	12.142	728530	14.807	633832	16.401
	LOWER LIMIT	315771	11.142	182133	13.807	158458	15.401
	EPA SAMPLE NO.						
01	B-P-17A	681798	11.64	457343	14.30	397282	15.90
02	B-P-35A	723544	11.64	486031	14.30	396449	15.90
03	B-P34AMS	748390	11.64	455426	14.31	405760	15.90
04	B-P34AMSD	736982	11.64	439968	14.31	406965	15.90

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BG056363.D Time Analyzed: 11:44

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	37412	8.307	143761	11.14	115862	14.92
	UPPER LIMIT	74824	8.807	287522	11.639	231724	15.423
	LOWER LIMIT	18706	7.807	71880.5	10.639	57931	14.423
	EPA SAMPLE NO.						
01	B-P-18B	44014	8.30	169116	11.13	128743	14.92
02	B-P-19A	36892	8.30	139086	11.13	114800	14.91
03	DUP01	47011	8.30	177848	11.13	127856	14.92

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BG056363.D Time Analyzed: 11:44

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	283626	17.661	257188	21.956	278421	25.399
	UPPER LIMIT	567252	18.161	514376	22.456	556842	25.899
	LOWER LIMIT	141813	17.161	128594	21.456	139211	24.899
	EPA SAMPLE NO.						
01	B-P-18B	300749	17.65	276762	21.94	300974	25.39
02	B-P-19A	281635	17.65	266133	21.95	294871	25.38
03	DUP01	293543	17.66	269833	21.95	285669	25.39

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BG056403.D Time Analyzed: 14:59

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	39529	8.294	145808	11.13	117421	14.91
	UPPER LIMIT	79058	8.794	291616	11.626	234842	15.41
	LOWER LIMIT	19764.5	7.794	72904	10.626	58710.5	14.41
	EPA SAMPLE NO.						
01	B-P-19B	40835	8.29	164752	11.13	126513	14.90

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BG056403.D Time Analyzed: 14:59

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	289164	17.648	265057	21.943	286788	25.369
	UPPER LIMIT	578328	18.148	530114	22.443	573576	25.869
	LOWER LIMIT	144582	17.148	132529	21.443	143394	24.869
	EPA SAMPLE NO.						
01	B-P-19B	291766	17.64	274867	21.93	299958	25.36

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013562.D Time Analyzed: 09:53

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	306826	8.164	1252680	10.99	763071	14.80
	UPPER LIMIT	613652	8.664	2505360	11.493	1526140	15.299
	LOWER LIMIT	153413	7.664	626340	10.493	381536	14.299
	EPA SAMPLE NO.						
01	B-P-17B	250560	8.16	955341	10.99	503514	14.79

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013562.D Time Analyzed: 09:53

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	1590580	17.551	1270420	21.628	1120190	24.216
	UPPER LIMIT	3181160	18.051	2540840	22.128	2240380	24.716
	LOWER LIMIT	795290	17.051	635210	21.128	560095	23.716
	EPA SAMPLE NO.						
01	B-P-17B	1009560	17.55	942607	21.62	1148370	24.21

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	306718	8.163	1319960	10.99	845480	14.80
	UPPER LIMIT	613436	8.663	2639920	11.493	1690960	15.298
	LOWER LIMIT	153359	7.663	659980	10.493	422740	14.298
	EPA SAMPLE NO.						
01	B-P-18A	399746	8.16	1629410	10.99	968292	14.79
02	B-P-35B	364997	8.16	1463840	10.99	861008	14.79
03	PB150378BL	291029	8.16	1295640	10.99	837908	14.80

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	1830850	17.551	1775330	21.627	1903850	24.215
	UPPER LIMIT	3661700	18.051	3550660	22.127	3807700	24.715
	LOWER LIMIT	915425	17.051	887665	21.127	951925	23.715
	EPA SAMPLE NO.						
01	B-P-18A	2094750	17.55	1475320	21.62	1445620	24.20
02	B-P-35B	1874320	17.55	1653010	21.62	1474510	24.20
03	PB150378BL	1910080	17.55	1883140	21.63	2131870	24.22

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	222064	8.14	832306	10.97	549003	14.78
	UPPER LIMIT	444128	8.64	1664610	11.469	1098010	15.281
	LOWER LIMIT	111032	7.64	416153	10.469	274502	14.281
	EPA SAMPLE NO.						
01	PB150378BS	297815	8.14	1192600	10.97	801024	14.78

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	1258360	17.533	1280890	21.61	1494510	24.186
	UPPER LIMIT	2516720	18.033	2561780	22.11	2989020	24.686
	LOWER LIMIT	629180	17.033	640445	21.11	747255	23.686
	EPA SAMPLE NO.						
01	PB150378BS	1851080	17.53	1639740	21.61	1453640	24.18

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BL	SDG No.:	O1232
Lab Sample ID:	PB150378BL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	140	U	140	330	ug/Kg
108-95-2	Phenol	67.7	U	67.7	170	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	80.3	U	80.3	170	ug/Kg
95-57-8	2-Chlorophenol	68.3	U	68.3	170	ug/Kg
95-48-7	2-Methylphenol	110	U	110	170	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	95.9	U	95.9	170	ug/Kg
98-86-2	Acetophenone	80.1	U	80.1	170	ug/Kg
65794-96-9	3+4-Methylphenols	97.4	U	97.4	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	76.1	U	76.1	80.0	ug/Kg
67-72-1	Hexachloroethane	73.7	U	73.7	170	ug/Kg
98-95-3	Nitrobenzene	73.9	U	73.9	170	ug/Kg
78-59-1	Isophorone	66.6	U	66.6	170	ug/Kg
88-75-5	2-Nitrophenol	92.8	U	92.8	170	ug/Kg
105-67-9	2,4-Dimethylphenol	98.8	U	98.8	170	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	110	U	110	170	ug/Kg
120-83-2	2,4-Dichlorophenol	81.7	U	81.7	170	ug/Kg
91-20-3	Naphthalene	73.9	U	73.9	170	ug/Kg
106-47-8	4-Chloroaniline	96.3	U	96.3	170	ug/Kg
87-68-3	Hexachlorobutadiene	99.4	U	99.4	170	ug/Kg
105-60-2	Caprolactam	100	U	100	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	78.7	U	78.7	170	ug/Kg
91-57-6	2-Methylnaphthalene	75.0	U	75.0	170	ug/Kg
77-47-4	Hexachlorocyclopentadiene	170	U	170	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	85.4	U	85.4	170	ug/Kg
95-95-4	2,4,5-Trichlorophenol	83.6	U	83.6	170	ug/Kg
92-52-4	1,1-Biphenyl	86.5	U	86.5	170	ug/Kg
91-58-7	2-Chloronaphthalene	85.5	U	85.5	170	ug/Kg
88-74-4	2-Nitroaniline	110	U	110	170	ug/Kg
131-11-3	Dimethylphthalate	80.9	U	80.9	170	ug/Kg
208-96-8	Acenaphthylene	68.7	U	68.7	170	ug/Kg
606-20-2	2,6-Dinitrotoluene	78.1	U	78.1	170	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BL	SDG No.:	O1232
Lab Sample ID:	PB150378BL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	100	U	100	170	ug/Kg
83-32-9	Acenaphthene	78.9	U	78.9	170	ug/Kg
51-28-5	2,4-Dinitrophenol	130	U	130	330	ug/Kg
100-02-7	4-Nitrophenol	140	U	140	330	ug/Kg
132-64-9	Dibenzofuran	74.2	U	74.2	170	ug/Kg
121-14-2	2,4-Dinitrotoluene	84.6	U	84.6	170	ug/Kg
84-66-2	Diethylphthalate	80.5	U	80.5	170	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	93.6	U	93.6	170	ug/Kg
86-73-7	Fluorene	78.8	U	78.8	170	ug/Kg
100-01-6	4-Nitroaniline	100	U	100	170	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	86.2	U	86.2	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	82.2	U	82.2	170	ug/Kg
101-55-3	4-Bromophenyl-phenylether	98.4	U	98.4	170	ug/Kg
118-74-1	Hexachlorobenzene	100	U	100	170	ug/Kg
1912-24-9	Atrazine	90.0	U	90.0	170	ug/Kg
87-86-5	Pentachlorophenol	120	U	120	330	ug/Kg
85-01-8	Phenanthrene	83.6	U	83.6	170	ug/Kg
120-12-7	Anthracene	84.0	U	84.0	170	ug/Kg
86-74-8	Carbazole	84.2	U	84.2	170	ug/Kg
84-74-2	Di-n-butylphthalate	87.0	U	87.0	170	ug/Kg
206-44-0	Fluoranthene	79.8	U	79.8	170	ug/Kg
129-00-0	Pyrene	74.2	U	74.2	170	ug/Kg
85-68-7	Butylbenzylphthalate	82.7	U	82.7	170	ug/Kg
91-94-1	3,3-Dichlorobenzidine	140	U	140	330	ug/Kg
56-55-3	Benzo(a)anthracene	86.8	U	86.8	170	ug/Kg
218-01-9	Chrysene	85.5	U	85.5	170	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	88.6	U	88.6	170	ug/Kg
117-84-0	Di-n-octyl phthalate	91.0	U	91.0	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	69.0	U	69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	73.6	U	73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	67.7	U	67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	100	U	100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	100	U	100	170	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BL	SDG No.:	O1232
Lab Sample ID:	PB150378BL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	96.9	U	96.9	170	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	91.2	U	91.2	170	ug/Kg
123-91-1	1,4-Dioxane	89.1	U	89.1	170	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	81.2	U	81.2	170	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	128		18 - 112	85%	SPK: 150
13127-88-3	Phenol-d6	125		21 - 104	83%	SPK: 150
4165-60-0	Nitrobenzene-d5	78.9		27 - 109	79%	SPK: 100
321-60-8	2-Fluorobiphenyl	67.6		30 - 103	68%	SPK: 100
118-79-6	2,4,6-Tribromophenol	131		10 - 121	88%	SPK: 150
1718-51-0	Terphenyl-d14	70.3		21 - 107	70%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	291000	8.163			
1146-65-2	Naphthalene-d8	1300000	10.993			
15067-26-2	Acenaphthene-d10	838000	14.798			
1517-22-2	Phenanthrene-d10	1910000	17.551			
1719-03-5	Chrysene-d12	1880000	21.627			
1520-96-3	Perylene-d12	2130000	24.216			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1000	A		5.22	ug/Kg
055124-79-3	Heptadecane, 9-hexyl-	120	J		24.1	ug/Kg
000629-97-0	Docosane	140	J		24.9	ug/Kg
013475-77-9	Eicosane, 9-octyl-	170	J		25.9	ug/Kg
000629-78-7	Heptadecane	120	J		27.0	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BS	SDG No.:	O1232
Lab Sample ID:	PB150378BS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	960		140	330	ug/Kg
108-95-2	Phenol	1600		67.7	170	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1500		80.2	170	ug/Kg
95-57-8	2-Chlorophenol	1600		68.3	170	ug/Kg
95-48-7	2-Methylphenol	1500		110	170	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1600		95.8	170	ug/Kg
98-86-2	Acetophenone	1400		80.0	170	ug/Kg
65794-96-9	3+4-Methylphenols	1500		97.3	330	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1500		76.0	79.9	ug/Kg
67-72-1	Hexachloroethane	1600		73.7	170	ug/Kg
98-95-3	Nitrobenzene	1400		73.9	170	ug/Kg
78-59-1	Isophorone	1400		66.6	170	ug/Kg
88-75-5	2-Nitrophenol	1400		92.7	170	ug/Kg
105-67-9	2,4-Dimethylphenol	1500		98.7	170	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1400		110	170	ug/Kg
120-83-2	2,4-Dichlorophenol	1500		81.6	170	ug/Kg
91-20-3	Naphthalene	1400		73.9	170	ug/Kg
106-47-8	4-Chloroaniline	810		96.2	170	ug/Kg
87-68-3	Hexachlorobutadiene	1500		99.3	170	ug/Kg
105-60-2	Caprolactam	1400		99.9	330	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1500		78.6	170	ug/Kg
91-57-6	2-Methylnaphthalene	1300		75.0	170	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3600	E	170	330	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1500		85.3	170	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1400		83.5	170	ug/Kg
92-52-4	1,1-Biphenyl	1400		86.4	170	ug/Kg
91-58-7	2-Chloronaphthalene	1400		85.4	170	ug/Kg
88-74-4	2-Nitroaniline	1400		110	170	ug/Kg
131-11-3	Dimethylphthalate	1400		80.8	170	ug/Kg
208-96-8	Acenaphthylene	1400		68.7	170	ug/Kg
606-20-2	2,6-Dinitrotoluene	1400		78.0	170	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BS	SDG No.:	O1232
Lab Sample ID:	PB150378BS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1100		100	170	ug/Kg
83-32-9	Acenaphthene	1600		78.8	170	ug/Kg
51-28-5	2,4-Dinitrophenol	2900	E	130	330	ug/Kg
100-02-7	4-Nitrophenol	3100	E	140	330	ug/Kg
132-64-9	Dibenzofuran	1400		74.2	170	ug/Kg
121-14-2	2,4-Dinitrotoluene	1500		84.5	170	ug/Kg
84-66-2	Diethylphthalate	1400		80.4	170	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1400		93.5	170	ug/Kg
86-73-7	Fluorene	1400		78.7	170	ug/Kg
100-01-6	4-Nitroaniline	1300		100	170	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1400		86.1	330	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1400		82.1	170	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1400		98.3	170	ug/Kg
118-74-1	Hexachlorobenzene	1500		100	170	ug/Kg
1912-24-9	Atrazine	1600		89.9	170	ug/Kg
87-86-5	Pentachlorophenol	2800	E	120	330	ug/Kg
85-01-8	Phenanthrene	1400		83.5	170	ug/Kg
120-12-7	Anthracene	1400		83.9	170	ug/Kg
86-74-8	Carbazole	1400		84.1	170	ug/Kg
84-74-2	Di-n-butylphthalate	1400		86.9	170	ug/Kg
206-44-0	Fluoranthene	1400		79.7	170	ug/Kg
129-00-0	Pyrene	1600		74.2	170	ug/Kg
85-68-7	Butylbenzylphthalate	1600		82.6	170	ug/Kg
91-94-1	3,3-Dichlorobenzidine	1300		140	330	ug/Kg
56-55-3	Benzo(a)anthracene	1500		86.7	170	ug/Kg
218-01-9	Chrysene	1400		85.4	170	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1500		88.5	170	ug/Kg
117-84-0	Di-n-octyl phthalate	1300		90.9	330	ug/Kg
205-99-2	Benzo(b)fluoranthene	1700		69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	1600		73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	1400		67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1300		100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1300		100	170	ug/Kg

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BS	SDG No.:	O1232
Lab Sample ID:	PB150378BS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1200		96.8	170	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1400		91.1	170	ug/Kg
123-91-1	1,4-Dioxane	1100		89.0	170	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1500		81.1	170	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	146		18 - 112	97%	SPK: 150
13127-88-3	Phenol-d6	144		21 - 104	96%	SPK: 150
4165-60-0	Nitrobenzene-d5	90.3		27 - 109	90%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.2		30 - 103	85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	141		10 - 121	94%	SPK: 150
1718-51-0	Terphenyl-d14	103		21 - 107	103%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	298000	8.14			
1146-65-2	Naphthalene-d8	1190000	10.969			
15067-26-2	Acenaphthene-d10	801000	14.775			
1517-22-2	Phenanthrene-d10	1850000	17.528			
1719-03-5	Chrysene-d12	1640000	21.61			
1520-96-3	Perylene-d12	1450000	24.18			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	1200		170	390	ug/Kg
108-95-2	Phenol	1700		79.2	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1700		94.0	200	ug/Kg
95-57-8	2-Chlorophenol	1800		79.9	200	ug/Kg
95-48-7	2-Methylphenol	1700		130	200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1700		110	200	ug/Kg
98-86-2	Acetophenone	1600		93.7	200	ug/Kg
65794-96-9	3+4-Methylphenols	1700		110	390	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1700		89.1	93.6	ug/Kg
67-72-1	Hexachloroethane	1800		86.3	200	ug/Kg
98-95-3	Nitrobenzene	1700		86.5	200	ug/Kg
78-59-1	Isophorone	1700		77.9	200	ug/Kg
88-75-5	2-Nitrophenol	2000		110	200	ug/Kg
105-67-9	2,4-Dimethylphenol	1700		120	200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1600		130	200	ug/Kg
120-83-2	2,4-Dichlorophenol	1700		95.6	200	ug/Kg
91-20-3	Naphthalene	1600		86.5	200	ug/Kg
106-47-8	4-Chloroaniline	590		110	200	ug/Kg
87-68-3	Hexachlorobutadiene	1600		120	200	ug/Kg
105-60-2	Caprolactam	2000		120	390	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1800		92.1	200	ug/Kg
91-57-6	2-Methylnaphthalene	1500		87.8	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3600	E	200	390	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1700		100	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1600		97.8	200	ug/Kg
92-52-4	1,1-Biphenyl	1600		100	200	ug/Kg
91-58-7	2-Chloronaphthalene	1600		100	200	ug/Kg
88-74-4	2-Nitroaniline	1800		130	200	ug/Kg
131-11-3	Dimethylphthalate	1600		94.7	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	2000		91.4	200	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1300		120	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
51-28-5	2,4-Dinitrophenol	4200	E	150	390	ug/Kg
100-02-7	4-Nitrophenol	3900	E	160	390	ug/Kg
132-64-9	Dibenzofuran	1500		86.8	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	2100		99.0	200	ug/Kg
84-66-2	Diethylphthalate	1700		94.2	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600		110	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
100-01-6	4-Nitroaniline	1900		120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1900		100	390	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1500		96.2	200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1500		120	200	ug/Kg
118-74-1	Hexachlorobenzene	1700		120	200	ug/Kg
1912-24-9	Atrazine	1800		110	200	ug/Kg
87-86-5	Pentachlorophenol	3100		140	390	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.3	200	ug/Kg
86-74-8	Carbazole	1700		98.5	200	ug/Kg
84-74-2	Di-n-butylphthalate	1800		100	200	ug/Kg
206-44-0	Fluoranthene	1700		93.4	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
85-68-7	Butylbenzylphthalate	1900		96.8	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	830		160	390	ug/Kg
56-55-3	Benzo(a)anthracene	1700		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1800		100	200	ug/Kg
117-84-0	Di-n-octyl phthalate	1700		110	390	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.8	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1700		120	200	ug/Kg

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1500		110	200	ug/Kg
123-91-1	1,4-Dioxane	1500		100	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1800		95.0	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	111		18 - 112	74%	SPK: 150
13127-88-3	Phenol-d6	118		21 - 104	79%	SPK: 150
4165-60-0	Nitrobenzene-d5	81.4		27 - 109	81%	SPK: 100
321-60-8	2-Fluorobiphenyl	65.7		30 - 103	66%	SPK: 100
118-79-6	2,4,6-Tribromophenol	131		10 - 121	88%	SPK: 150
1718-51-0	Terphenyl-d14	73.6		21 - 107	74%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	184000	7.09			
1146-65-2	Naphthalene-d8	674000	8.378			
15067-26-2	Acenaphthene-d10	369000	10.142			
1517-22-2	Phenanthrene-d10	748000	11.642			
1719-03-5	Chrysene-d12	455000	14.307			
1520-96-3	Perylene-d12	406000	15.901			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	1200		160	390	ug/Kg
108-95-2	Phenol	1700		79.2	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1700		93.9	200	ug/Kg
95-57-8	2-Chlorophenol	1800		79.9	200	ug/Kg
95-48-7	2-Methylphenol	1700		130	200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1700		110	200	ug/Kg
98-86-2	Acetophenone	1600		93.7	200	ug/Kg
65794-96-9	3+4-Methylphenols	1700		110	390	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1600		89.0	93.6	ug/Kg
67-72-1	Hexachloroethane	1800		86.2	200	ug/Kg
98-95-3	Nitrobenzene	1700		86.4	200	ug/Kg
78-59-1	Isophorone	1700		77.9	200	ug/Kg
88-75-5	2-Nitrophenol	2000		110	200	ug/Kg
105-67-9	2,4-Dimethylphenol	1700		120	200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1600		130	200	ug/Kg
120-83-2	2,4-Dichlorophenol	1700		95.6	200	ug/Kg
91-20-3	Naphthalene	1600		86.4	200	ug/Kg
106-47-8	4-Chloroaniline	600		110	200	ug/Kg
87-68-3	Hexachlorobutadiene	1600		120	200	ug/Kg
105-60-2	Caprolactam	2000		120	390	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1800		92.0	200	ug/Kg
91-57-6	2-Methylnaphthalene	1500		87.7	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3700	E	200	390	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1700		99.9	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1600		97.8	200	ug/Kg
92-52-4	1,1-Biphenyl	1600		100	200	ug/Kg
91-58-7	2-Chloronaphthalene	1600		100	200	ug/Kg
88-74-4	2-Nitroaniline	1800		130	200	ug/Kg
131-11-3	Dimethylphthalate	1600		94.6	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	1900		91.3	200	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1200		120	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
51-28-5	2,4-Dinitrophenol	4200	E	150	390	ug/Kg
100-02-7	4-Nitrophenol	3900	E	160	390	ug/Kg
132-64-9	Dibenzofuran	1600		86.8	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	2100		98.9	200	ug/Kg
84-66-2	Diethylphthalate	1600		94.2	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600		110	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
100-01-6	4-Nitroaniline	1900		120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1900		100	390	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1500		96.1	200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1500		120	200	ug/Kg
118-74-1	Hexachlorobenzene	1600		120	200	ug/Kg
1912-24-9	Atrazine	1800		110	200	ug/Kg
87-86-5	Pentachlorophenol	3100		140	390	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.2	200	ug/Kg
86-74-8	Carbazole	1600		98.5	200	ug/Kg
84-74-2	Di-n-butylphthalate	1700		100	200	ug/Kg
206-44-0	Fluoranthene	1700		93.3	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
85-68-7	Butylbenzylphthalate	1900		96.7	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	870		160	390	ug/Kg
56-55-3	Benzo(a)anthracene	1600		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1700		100	200	ug/Kg
117-84-0	Di-n-octyl phthalate	1700		110	390	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.7	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1600		120	200	ug/Kg

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1500		110	200	ug/Kg
123-91-1	1,4-Dioxane	1500		100	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1800		95.0	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	111		18 - 112	74%	SPK: 150
13127-88-3	Phenol-d6	117		21 - 104	78%	SPK: 150
4165-60-0	Nitrobenzene-d5	82.3		27 - 109	82%	SPK: 100
321-60-8	2-Fluorobiphenyl	66.1		30 - 103	66%	SPK: 100
118-79-6	2,4,6-Tribromophenol	131		10 - 121	87%	SPK: 150
1718-51-0	Terphenyl-d14	74.4		21 - 107	74%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	185000	7.089			
1146-65-2	Naphthalene-d8	670000	8.378			
15067-26-2	Acenaphthene-d10	363000	10.142			
1517-22-2	Phenanthrene-d10	737000	11.642			
1719-03-5	Chrysene-d12	440000	14.307			
1520-96-3	Perylene-d12	407000	15.901			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
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M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

CALIBRATION SUMMARY

Response Factor Report BNA_F

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Fri Jan 20 00:50:42 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BF132140.D 5 =BF132141.D 10 =BF132142.D 20 =BF132143.D 40 =BF132144.D 50 =BF132145.D 60 =BF132146.D 80 =BF1321
47.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------	ISTD	----------							
2)		1,4-Dioxane		0.624	0.591	0.586	0.580	0.553	0.575	0.553	0.580	4.24
3)		Pyridine		1.663	1.539	1.599	1.567	1.496	1.554	1.480	1.557	3.98
4)		n-Nitrosodimet...		0.731	0.705	0.733	0.730	0.724	0.761	0.742	0.732	2.31
5)	S	2-Fluorophenol		1.301	1.246	1.204	1.116	1.063	1.077	1.009	1.145	9.35
6)		Aniline		2.241	2.090	2.044	1.937	1.865	1.940	1.857	1.996	6.91
7)	S	Phenol-d6		1.696	1.541	1.516	1.404	1.325	1.352	1.254	1.441	10.54
8)		2-Chlorophenol		1.351	1.306	1.286	1.183	1.129	1.136	1.034	1.203	9.50
9)		Benzaldehyde			1.086	1.022	0.903	0.814	0.812		0.927	13.33
10)	C	Phenol		1.733	1.636	1.580	1.468	1.375	1.408	1.303	1.500	10.29
11)		bis(2-Chloroet...		1.461	1.341	1.325	1.236	1.178	1.219	1.131	1.270	8.87
12)		1,3-Dichlorobe...		1.556	1.458	1.406	1.312	1.242	1.269	1.174	1.345	9.97
13)	C	1,4-Dichlorobe...		1.544	1.451	1.419	1.314	1.238	1.266	1.163	1.342	9.99
14)		1,2-Dichlorobe...		1.495	1.391	1.326	1.200	1.128	1.134	1.014	1.241	13.62
15)		Benzyl Alcohol		1.128	1.103	1.125	1.106	1.090	1.105	1.060	1.102	2.07
16)		2,2'-oxybis(1-...		2.119	1.959	1.937	1.815	1.731	1.743	1.617	1.846	9.20
17)		2-Methylphenol		1.172	1.098	1.104	1.042	0.990	1.019	0.955	1.054	7.08
18)		Hexachloroethane		0.503	0.486	0.495	0.489	0.466	0.485	0.449	0.482	3.82
19)	P	n-Nitroso-di-n...	0.922	1.015	0.971	0.921	0.847	0.797	0.814	0.776	0.883	9.86
20)		3+4-Methylphenols		1.509	1.435	1.426	1.317	1.235	1.258	1.119	1.328	10.25
21)	I	Naphthalene-d8	----------	ISTD	----------							
22)		Acetophenone		0.579	0.528	0.504	0.462	0.431	0.442	0.419	0.481	12.18
23)	S	Nitrobenzene-d5		0.363	0.366	0.383	0.383	0.371	0.388	0.381	0.376	2.54
24)		Nitrobenzene		0.397	0.392	0.410	0.406	0.388	0.406	0.391	0.399	2.20
25)		Isophorone		0.767	0.740	0.738	0.719	0.711	0.739	0.743	0.737	2.45
26)	C	2-Nitrophenol		0.099	0.105	0.128	0.148	0.154			0.127	19.49
27)		2,4-Dimethylph...		0.334	0.330	0.324	0.322	0.308	0.313	0.300	0.319	3.82
28)		bis(2-Chloroet...		0.497	0.471	0.461	0.430	0.407	0.421	0.406	0.442	7.97
29)	C	2,4-Dichloroph...		0.303	0.298	0.313	0.309	0.294	0.305	0.296	0.303	2.28
30)		1,2,4-Trichlor...		0.388	0.360	0.355	0.338	0.320	0.328	0.316	0.344	7.49
31)		Naphthalene		1.185	1.119	1.075	0.998	0.942	0.965	0.907	1.027	9.89
32)		Benzoic acid			0.118	0.151	0.188	0.200	0.228	0.235	0.187	24.10
33)		4-Chloroaniline		0.496	0.474	0.458	0.437	0.411	0.410	0.390	0.440	8.72
34)	C	Hexachlorobuta...		0.252	0.234	0.234	0.227	0.220	0.230	0.220	0.231	4.75
35)		Caprolactam		0.075	0.081	0.086	0.090	0.089	0.090	0.089	0.086	6.65
36)	C	4-Chloro-3-met...		0.299	0.305	0.314	0.309	0.305	0.302	0.298	0.305	1.80
37)		2-Methylnaphth...		0.828	0.783	0.739	0.684	0.643	0.655	0.619	0.707	11.04
38)		1-Methylnaphth...		0.774	0.719	0.690	0.638	0.599	0.609	0.577	0.658	10.93

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.789	0.737	0.719	0.684	0.641	0.667	0.634	0.696	8.04
41)	P	Hexachlorocycl...		0.306	0.342	0.390	0.389	0.422	0.428	0.380	12.43
42)	S	2,4,6-Tribromo...	0.197	0.207	0.222	0.221	0.217	0.219	0.212	0.214	4.25
43)	C	2,4,6-Trichlor...	0.392	0.414	0.445	0.448	0.437	0.451	0.436	0.432	4.95
44)		2,4,5-Trichlor...	0.475	0.487	0.519	0.523	0.504	0.524	0.504	0.505	3.69
45)	S	2-Fluorobiphenyl	1.669	1.529	1.407	1.250	1.162	1.197		1.369	14.76
46)		1,1'-Biphenyl	1.813	1.710	1.657	1.537	1.450	1.490	1.388	1.578	9.70
47)		2-Chloronaphth...	1.372	1.294	1.270	1.195	1.131	1.167	1.110	1.220	7.81
48)		2-Nitroaniline	0.245	0.288	0.354	0.380	0.391	0.405	0.395	0.351	17.42
49)		Acenaphthylene	2.180	2.078	2.033	1.912	1.834	1.851	1.771	1.951	7.63
50)		Dimethylphthalate	1.562	1.520	1.519	1.435	1.369	1.396	1.338	1.449	5.95
51)		2,6-Dinitrotol...	0.224	0.253	0.286	0.301	0.300	0.307	0.296	0.281	10.95
52)	C	Acenaphthene	1.315	1.269	1.214	1.141	1.085	1.123	1.070	1.174	8.01
53)		3-Nitroaniline	0.256	0.289	0.318	0.322	0.319	0.307	0.291	0.300	7.88
54)	P	2,4-Dinitrophenol		0.078	0.097	0.111	0.124	0.131		0.108	19.86
55)		Dibenzofuran	2.079	1.971	1.883	1.771	1.692	1.707	1.594	1.814	9.44
56)	P	4-Nitrophenol	0.172	0.191	0.221	0.232	0.242	0.239	0.233	0.218	12.18
57)		2,4-Dinitrotol...	0.266	0.281	0.340	0.355	0.372	0.379	0.366	0.337	13.46
58)		Fluorene	1.619	1.504	1.416	1.282	1.219	1.221	1.148	1.344	12.87
59)		2,3,4,6-Tetrac...	0.344	0.366	0.400	0.405	0.393	0.399	0.382	0.384	5.77
60)		Diethylphthalate	1.495	1.493	1.485	1.423	1.389	1.362	1.296	1.420	5.37
61)		4-Chlorophenyl...	0.838	0.783	0.750	0.704	0.664	0.673	0.625	0.720	10.37
62)		4-Nitroaniline	0.258	0.275	0.293	0.282	0.290	0.283	0.276	0.279	4.12
63)		Azobenzene	1.594	1.515	1.498	1.401	1.349	1.354	1.268	1.426	8.00
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.058	0.072	0.085	0.094	0.103	0.109	0.087	22.26
66)	c	n-Nitrosodiphe...	0.705	0.681	0.655	0.614	0.598	0.628	0.601	0.641	6.46
67)		4-Bromophenyl-...	0.260	0.253	0.247	0.237	0.230	0.244	0.236	0.244	4.25
68)		Hexachlorobenzene	0.260	0.248	0.243	0.235	0.229	0.242	0.237	0.242	4.22
69)		Atrazine	0.204	0.202	0.203	0.197	0.190	0.198	0.190	0.198	2.96
70)	C	Pentachlorophenol	0.123	0.136	0.156	0.162	0.167	0.174	0.172	0.156	12.45
71)		Phenanthrene	1.231	1.134	1.083	0.997	0.960	1.003	0.939	1.050	10.02
72)		Anthracene	1.244	1.150	1.104	1.007	0.965	1.006	0.956	1.062	10.15
73)		Carbazole	1.046	0.997	0.952	0.865	0.829	0.852	0.808	0.907	10.07
74)		Di-n-butylphth...	1.021	1.052	1.071	0.990	0.977	1.001	0.955	1.010	4.07
75)	C	Fluoranthene	1.297	1.190	1.123	1.008	0.979	1.002	0.949	1.078	11.96
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.607	0.635	0.615	0.682	0.569	0.574	0.521	0.600	8.60
78)		Pyrene	1.905	1.890	1.961	1.847	1.820	1.833	1.646	1.843	5.41
79)	S	Terphenyl-d14	1.378	1.298	1.274	1.157	1.116	1.127	1.007	1.194	10.71
80)		Butylbenzylpht...	0.360	0.428	0.535	0.582	0.598	0.624	0.612	0.534	19.03
81)		Benzo(a)anthra...	1.454	1.419	1.446	1.403	1.402	1.471	1.406	1.429	1.95
82)		3,3'-Dichlorob...	0.310	0.345	0.403	0.422	0.418	0.456	0.430	0.398	12.91
83)		Chrysene	1.457	1.365	1.351	1.331	1.310	1.380	1.325	1.360	3.62
84)		Bis(2-ethylhex...	0.472	0.547	0.691	0.768	0.788	0.841	0.830	0.705	20.44
85)	c	Di-n-octyl pht...		0.595	0.816	1.093	1.187	1.360	1.445	1.083	30.01#

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.093	1.197	1.461	1.579	1.556	1.661	1.613	1.451	15.17
88)		Benzo(b)fluora...	1.288	1.234	1.181	1.230	1.164	1.212	1.214	1.218	3.28
89)		Benzo(k)fluora...	1.336	1.302	1.303	1.211	1.157	1.208	1.177	1.242	5.66
90)	C	Benzo(a)pyrene	1.124	1.102	1.157	1.195	1.167	1.243	1.212	1.171	4.23
91)		Dibenzo(a,h)an...	0.926	1.009	1.215	1.294	1.249	1.323	1.268	1.184	12.94
92)		Benzo(g,h,i)pe...	0.925	1.038	1.267	1.354	1.328	1.422	1.385	1.246	15.21

(#) = Out of Range

Response Factor Report GC/MS Ins

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG122722.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Wed Dec 28 05:20:14 2022
Response Via : Initial Calibration

Calibration Files
2.5 =BG056126.D 5 =BG056127.D 10 =BG056128.D 20 =BG056129.D 40 =BG056130.D 50 =BG056131.D 60 =BG056132.D 80 =BG0561
33.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------									
2)		1,4-Dioxane		0.534	0.553	0.535	0.538	0.502	0.477	0.442	0.512	7.80
3)		Pyridine		1.468	1.554	1.680	1.617	1.599	1.528	1.462	1.558	5.13
4)		n-Nitrosodimet...		0.311	0.311	0.330	0.335	0.331	0.301	0.300	0.317	4.70
5)	S	2-Fluorophenol		1.169	1.169	1.157	1.128	1.128	1.061	1.029	1.120	4.90
6)		Aniline		2.284	2.358	2.331	2.300	2.228	2.176	2.114	2.256	3.88
7)	S	Phenol-d6		1.750	1.738	1.781	1.786	1.729	1.653	1.605	1.720	3.90
8)		2-Chlorophenol		1.120	1.124	1.156	1.137	1.119	1.098	1.048	1.115	3.08
9)		Benzaldehyde		1.168	1.151	1.108	1.001	0.997	0.899	0.837	1.023	12.35
10)	C	Phenol		1.756	1.808	1.805	1.796	1.756	1.682	1.608	1.745	4.25
11)		bis(2-Chloroet...		1.212	1.248	1.285	1.195	1.162	1.103	1.070	1.182	6.48
12)		1,3-Dichlorobe...		1.421	1.485	1.384	1.355	1.353	1.278	1.220	1.357	6.48
13)	C	1,4-Dichlorobe...		1.411	1.428	1.394	1.383	1.362	1.302	1.256	1.362	4.54
14)		1,2-Dichlorobe...		1.358	1.364	1.374	1.332	1.321	1.249	1.202	1.314	4.95
15)		Benzyl Alcohol		1.241	1.231	1.290	1.315	1.268	1.220	1.199	1.252	3.28
16)		2,2'-oxybis(1-...		0.241	0.227	0.216	0.210	0.201	0.187	0.181	0.209	10.28
17)		2-Methylphenol		1.283	1.274	1.327	1.330	1.275	1.247	1.225	1.280	3.01
18)		Hexachloroethane		0.446	0.427	0.430	0.418	0.420	0.386	0.371	0.414	6.36
19)	P	n-Nitroso-di-n...	1.042	1.116	1.102	1.088	1.060	1.051	0.963	0.947	1.046	5.88
20)		3+4-Methylphenols		1.764	1.762	1.838	1.872	1.825	1.781	1.756	1.800	2.52
21)	I	Naphthalene-d8	----------ISTD----------									
22)		Acetophenone		0.571	0.584	0.572	0.567	0.564	0.557	0.543	0.566	2.28
23)	S	Nitrobenzene-d5		0.405	0.387	0.401	0.389	0.386	0.391	0.378	0.391	2.38
24)		Nitrobenzene		0.408	0.387	0.390	0.383	0.387	0.381	0.376	0.387	2.58
25)		Isophorone		0.868	0.842	0.828	0.819	0.814	0.807	0.781	0.823	3.33
26)	C	2-Nitrophenol		0.198	0.193	0.195	0.198	0.200	0.202	0.202	0.198	1.72
27)		2,4-Dimethylph...		0.352	0.381	0.372	0.359	0.356	0.358	0.353	0.362	2.99
28)		bis(2-Chloroet...		0.451	0.427	0.450	0.420	0.424	0.412	0.409	0.428	3.95
29)	C	2,4-Dichloroph...		0.381	0.385	0.397	0.411	0.413	0.414	0.398	0.400	3.39
30)		1,2,4-Trichlor...		0.473	0.453	0.452	0.448	0.457	0.447	0.445	0.454	2.06
31)		Naphthalene		1.075	1.041	1.064	1.036	1.055	1.057	1.040	1.053	1.36
32)		Benzoic acid		0.226	0.235	0.284	0.279	0.288	0.291	0.276	0.268	9.91
33)		4-Chloroaniline		0.519	0.490	0.501	0.502	0.501	0.505	0.500	0.503	1.71
34)	C	Hexachlorobuta...		0.340	0.326	0.327	0.330	0.322	0.322	0.317	0.326	2.20
35)		Caprolactam		0.140	0.135	0.145	0.134	0.130	0.135	0.129	0.135	4.15
36)	C	4-Chloro-3-met...		0.404	0.384	0.417	0.402	0.413	0.417	0.401	0.406	2.86
37)		2-Methylnaphth...		0.914	0.894	0.878	0.890	0.888	0.885	0.872	0.889	1.49
38)		1-Methylnaphth...		0.825	0.824	0.844	0.817	0.828	0.829	0.810	0.825	1.29

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG122722.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.761	0.719	0.750	0.765	0.776	0.755	0.721	0.750	2.89
41)	P	Hexachlorocycl...	0.384	0.371	0.415	0.456	0.472	0.450	0.443	0.427	8.98
42)	S	2,4,6-Tribromo...	0.249	0.249	0.258	0.257	0.260	0.254	0.246	0.253	2.09
43)	C	2,4,6-Trichlor...	0.470	0.462	0.494	0.517	0.527	0.508	0.492	0.496	4.78
44)		2,4,5-Trichlor...	0.579	0.570	0.578	0.597	0.616	0.590	0.573	0.586	2.76
45)	S	2-Fluorobiphenyl	1.505	1.433	1.451	1.469	1.486	1.430	1.365	1.448	3.18
46)		1,1'-Biphenyl	1.455	1.398	1.448	1.457	1.463	1.426	1.380	1.432	2.26
47)		2-Chloronaphth...	1.158	1.106	1.117	1.149	1.159	1.134	1.090	1.131	2.41
48)		2-Nitroaniline	0.229	0.226	0.244	0.246	0.252	0.252	0.236	0.241	4.32
49)		Acenaphthylene	1.888	1.808	1.841	1.872	1.893	1.827	1.749	1.840	2.78
50)		Dimethylphthalate	1.665	1.624	1.674	1.624	1.627	1.581	1.506	1.615	3.52
51)		2,6-Dinitrotol...	0.353	0.342	0.342	0.341	0.354	0.345	0.331	0.344	2.25
52)	C	Acenaphthene	1.216	1.126	1.202	1.223	1.243	1.208	1.157	1.197	3.40
53)		3-Nitroaniline	0.336	0.308	0.329	0.334	0.339	0.331	0.315	0.327	3.54
54)	P	2,4-Dinitrophenol	0.209	0.229	0.249	0.261	0.262	0.260	0.251	0.246	8.00
55)		Dibenzofuran	2.038	1.939	2.015	2.022	2.016	1.959	1.872	1.980	3.01
56)	P	4-Nitrophenol	0.251	0.240	0.256	0.261	0.252	0.256	0.246	0.252	2.73
57)		2,4-Dinitrotol...	0.467	0.461	0.488	0.496	0.498	0.491	0.466	0.481	3.28
58)		Fluorene	1.679	1.588	1.623	1.601	1.606	1.559	1.491	1.593	3.63
59)		2,3,4,6-Tetrac...	0.535	0.531	0.569	0.559	0.569	0.561	0.528	0.551	3.33
60)		Diethylphthalate	1.633	1.519	1.533	1.531	1.523	1.467	1.393	1.514	4.82
61)		4-Chlorophenyl...	1.011	0.975	1.007	1.012	1.019	0.985	0.948	0.994	2.61
62)		4-Nitroaniline	0.335	0.336	0.347	0.345	0.333	0.333	0.318	0.335	2.87
63)		Azobenzene	1.227	1.199	1.207	1.169	1.177	1.128	1.072	1.168	4.54
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...	0.124	0.120	0.135	0.141	0.141	0.142	0.139	0.135	6.60
66)	c	n-Nitrosodiphe...	0.559	0.545	0.556	0.560	0.568	0.553	0.543	0.555	1.54
67)		4-Bromophenyl-...	0.258	0.248	0.254	0.258	0.261	0.253	0.252	0.255	1.78
68)		Hexachlorobenzene	0.245	0.229	0.235	0.241	0.242	0.237	0.235	0.238	2.21
69)		Atrazine	0.229	0.235	0.232	0.238	0.230	0.226	0.221	0.230	2.53
70)	C	Pentachlorophenol	0.161	0.169	0.181	0.190	0.193	0.195	0.190	0.183	7.14
71)		Phenanthrene	1.069	1.039	1.044	1.049	1.039	1.024	0.991	1.036	2.33
72)		Anthracene	1.126	1.064	1.088	1.081	1.067	1.047	1.011	1.069	3.32
73)		Carbazole	0.955	0.902	0.905	0.913	0.887	0.881	0.849	0.899	3.63
74)		Di-n-butylphth...	0.913	0.884	0.913	0.914	0.898	0.889	0.860	0.896	2.26
75)	C	Fluoranthene	1.422	1.370	1.385	1.373	1.331	1.319	1.265	1.352	3.82
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.731	0.700	0.698	0.732	0.698	0.690	0.656	0.701	3.67
78)		Pyrene	1.497	1.431	1.424	1.404	1.419	1.365	1.329	1.410	3.76
79)	S	Terphenyl-d14	1.209	1.145	1.140	1.113	1.105	1.072	1.033	1.117	5.04
80)		Butylbenzylpht...	0.406	0.388	0.401	0.409	0.418	0.409	0.401	0.404	2.31
81)		Benzo(a)anthra...	1.449	1.398	1.401	1.416	1.424	1.392	1.354	1.405	2.10
82)		3,3'-Dichlorob...	0.517	0.499	0.505	0.526	0.512	0.497	0.484	0.506	2.76
83)		Chrysene	1.350	1.311	1.314	1.333	1.334	1.299	1.269	1.316	2.04
84)		Bis(2-ethylhex...	0.608	0.567	0.565	0.590	0.601	0.578	0.570	0.583	2.96
85)	c	Di-n-octyl pht...	0.994	0.973	0.976	1.000	1.008	0.973	0.962	0.984	1.73

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG122722.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.482	1.429	1.447	1.484	1.447	1.479	1.414	1.455	1.90
88)		Benzo(b)fluora...	1.310	1.235	1.285	1.297	1.277	1.289	1.201	1.271	3.03
89)		Benzo(k)fluora...	1.300	1.284	1.245	1.283	1.284	1.244	1.218	1.265	2.36
90)	C	Benzo(a)pyrene	1.277	1.233	1.230	1.261	1.258	1.226	1.191	1.239	2.30
91)		Dibenzo(a,h)an...	1.270	1.222	1.221	1.234	1.198	1.217	1.174	1.219	2.43
92)		Benzo(g,h,i)pe...	1.215	1.162	1.179	1.213	1.169	1.192	1.148	1.183	2.14

(#) = Out of Range

Response Factor Report MSBNA_P

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Tue Jan 24 04:44:15 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BP013545.D 5 =BP013546.D 10 =BP013547.D 20 =BP013548.D 40 =BP013549.D 50 =BP013550.D 60 =BP013551.D 80 =BP0135
52.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------									
2)		1,4-Dioxane		0.496	0.484	0.477	0.495	0.475	0.451	0.417	0.471	5.98
3)		Pyridine		1.435	1.372	1.356	1.479	1.425	1.385	1.327	1.397	3.73
4)		n-Nitrosodimet...		0.665	0.639	0.646	0.662	0.634	0.607	0.569	0.632	5.34
5)	S	2-Fluorophenol		1.214	1.132	1.167	1.231	1.185	1.153	1.090	1.167	4.12
6)		Aniline		2.143	2.087	2.149	2.168	2.121	2.080	2.027	2.110	2.32
7)	S	Phenol-d6		1.602	1.516	1.588	1.626	1.590	1.559	1.517	1.571	2.69
8)		2-Chlorophenol		1.272	1.247	1.312	1.334	1.311	1.285	1.254	1.288	2.52
9)		Benzaldehyde		1.173	1.061	1.015	0.916	0.809			0.995	13.95
10)	C	Phenol		1.647	1.588	1.649	1.678	1.650	1.615	1.567	1.628	2.42
11)		bis(2-Chloroet...		1.406	1.327	1.359	1.360	1.327	1.285	1.253	1.331	3.81
12)		1,3-Dichlorobe...		1.507	1.421	1.454	1.479	1.419	1.374	1.318	1.424	4.49
13)	C	1,4-Dichlorobe...		1.534	1.462	1.461	1.496	1.434	1.390	1.333	1.444	4.62
14)		1,2-Dichlorobe...		1.496	1.415	1.424	1.440	1.386	1.345	1.283	1.399	4.94
15)		Benzyl Alcohol		1.139	1.068	1.135	1.139	1.137	1.127	1.114	1.122	2.29
16)		2,2'-oxybis(1-...		1.981	1.864	1.888	1.837	1.785	1.729	1.674	1.822	5.64
17)		2-Methylphenol		1.194	1.152	1.210	1.208	1.194	1.171	1.146	1.182	2.19
18)		Hexachloroethane		0.479	0.468	0.485	0.506	0.495	0.480	0.467	0.483	2.93
19)	P	n-Nitroso-di-n...	0.854	1.090	1.050	1.084	1.023	1.017	0.998	0.978	1.012	7.40
20)		3+4-Methylphenols		1.531	1.497	1.574	1.582	1.587	1.561	1.559	1.556	2.05
21)	I	Naphthalene-d8	----------ISTD----------									
22)		Acetophenone		0.519	0.502	0.520	0.532	0.524	0.510	0.485	0.513	3.08
23)	S	Nitrobenzene-d5		0.231	0.255	0.297	0.330	0.340	0.337	0.331	0.303	14.54
24)		Nitrobenzene		0.267	0.285	0.324	0.351	0.356	0.353	0.345	0.326	11.09
25)		Isophorone		0.730	0.700	0.727	0.718	0.726	0.716	0.712	0.719	1.46
26)	C	2-Nitrophenol		0.057	0.064	0.085	0.106	0.122	0.130		0.094	32.19#
27)		2,4-Dimethylph...		0.291	0.292	0.312	0.321	0.323	0.319	0.312	0.310	4.29
28)		bis(2-Chloroet...		0.436	0.416	0.437	0.439	0.443	0.434	0.426	0.433	2.11
29)	C	2,4-Dichloroph...		0.247	0.260	0.282	0.298	0.303	0.303	0.305	0.285	8.26
30)		1,2,4-Trichlor...		0.325	0.311	0.324	0.336	0.335	0.329	0.320	0.326	2.64
31)		Naphthalene		1.084	1.044	1.078	1.108	1.103	1.075	1.035	1.075	2.56
32)		Benzoic acid			0.077	0.106	0.131	0.155	0.166	0.196	0.138	31.08
33)		4-Chloroaniline		0.475	0.456	0.476	0.482	0.486	0.478	0.477	0.476	1.98
34)	C	Hexachlorobuta...		0.189	0.183	0.189	0.198	0.194	0.189	0.184	0.189	2.76
35)		Caprolactam		0.085	0.081	0.091	0.091	0.094	0.097	0.110	0.093	9.99
36)	C	4-Chloro-3-met...		0.283	0.281	0.315	0.314	0.325	0.323	0.334	0.311	6.68
37)		2-Methylnaphth...		0.770	0.744	0.769	0.772	0.778	0.762	0.755	0.764	1.48
38)		1-Methylnaphth...		0.731	0.701	0.727	0.717	0.728	0.715	0.707	0.718	1.57

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.594	0.591	0.604	0.652	0.653	0.627	0.590	0.616	4.55
41)	P	Hexachlorocycl...		0.218	0.252	0.302	0.325	0.325	0.317	0.290	15.30
42)	S	2,4,6-Tribromo...	0.167	0.172	0.199	0.213	0.226	0.227		0.201	13.18
43)	C	2,4,6-Trichlor...	0.289	0.310	0.351	0.381	0.401	0.396	0.395	0.360	12.51
44)		2,4,5-Trichlor...	0.337	0.369	0.415	0.453	0.474	0.467	0.465	0.426	12.70
45)	S	2-Fluorobiphenyl	1.472	1.448	1.468	1.532	1.524	1.454	1.302	1.457	5.22
46)		1,1'-Biphenyl	1.616	1.566	1.596	1.677	1.672	1.614	1.503	1.606	3.76
47)		2-Chloronaphth...	1.202	1.171	1.201	1.253	1.251	1.209	1.137	1.203	3.45
48)		2-Nitroaniline	0.125	0.152	0.213	0.263	0.295	0.305	0.332	0.241	33.07
49)		Acenaphthylene	1.931	1.901	1.972	2.038	2.042	1.989	1.903	1.968	3.00
50)		Dimethylphthalate	1.492	1.429	1.487	1.499	1.518	1.477	1.506	1.487	1.93
51)		2,6-Dinitrotol...	0.125	0.165	0.233	0.264	0.287	0.291	0.315	0.240	29.36
52)	C	Acenaphthene	1.197	1.165	1.200	1.251	1.263	1.229	1.205	1.216	2.80
53)		3-Nitroaniline	0.154	0.194	0.260	0.301	0.323	0.328	0.366	0.275	27.92
54)	P	2,4-Dinitrophenol	0.033	0.038	0.051	0.065	0.078	0.087		0.058	37.60
55)		Dibenzofuran	1.905	1.832	1.863	1.902	1.911	1.840	1.797	1.864	2.34
56)	P	4-Nitrophenol		0.145	0.195	0.229	0.241	0.249		0.212	20.07
57)		2,4-Dinitrotol...	0.133	0.175	0.263	0.313	0.351	0.362		0.266	35.50
58)		Fluorene	1.523	1.445	1.503	1.509	1.513	1.456	1.420	1.482	2.71
59)		2,3,4,6-Tetrac...	0.273	0.284	0.318	0.337	0.348	0.352	0.377	0.327	11.49
60)		Diethylphthalate	1.471	1.383	1.460	1.450	1.458	1.427	1.516	1.452	2.79
61)		4-Chlorophenyl...	0.745	0.705	0.732	0.736	0.744	0.723	0.714	0.729	2.06
62)		4-Nitroaniline	0.168	0.198	0.267	0.311	0.323	0.323		0.265	25.44
63)		Azobenzene	1.474	1.388	1.432	1.420	1.417	1.372	1.373	1.411	2.58
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.027	0.040	0.053	0.065	0.072	0.090	0.058	39.19
66)	c	n-Nitrosodiphe...	0.634	0.631	0.663	0.675	0.686	0.672	0.604	0.652	4.54
67)		4-Bromophenyl-...	0.214	0.210	0.220	0.226	0.233	0.233	0.216	0.222	4.15
68)		Hexachlorobenzene	0.235	0.227	0.237	0.243	0.250	0.248	0.235	0.239	3.44
69)		Atrazine	0.174	0.171	0.189	0.199	0.194	0.191	0.189	0.187	5.42
70)	C	Pentachlorophenol		0.099	0.127	0.143	0.151	0.153	0.163	0.139	16.51
71)		Phenanthrene	1.134	1.075	1.111	1.151	1.145	1.121	1.053	1.113	3.29
72)		Anthracene	1.115	1.085	1.132	1.181	1.167	1.151	1.075	1.129	3.56
73)		Carbazole	1.018	0.962	1.001	1.066	1.042	1.014	1.002	1.015	3.25
74)		Di-n-butylphth...	1.055	0.996	1.116	1.186	1.186	1.165	1.204	1.130	6.94
75)	C	Fluoranthene	1.200	1.090	1.134	1.255	1.206	1.174	1.224	1.183	4.75
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.546	0.523	0.502	0.528	0.458	0.476	0.488	0.503	6.22
78)		Pyrene	1.598	1.534	1.636	1.482	1.539	1.498	1.418	1.529	4.75
79)	S	Terphenyl-d14	1.183	1.124	1.204	1.112	1.126	1.093	0.940	1.112	7.67
80)		Butylbenzylpht...	0.404	0.407	0.487	0.527	0.545	0.552		0.487	13.72
81)		Benzo(a)anthra...	1.403	1.336	1.388	1.431	1.430	1.410	1.355	1.393	2.62
82)		3,3'-Dichlorob...	0.392	0.390	0.439	0.482	0.487	0.486	0.466	0.449	9.51
83)		Chrysene	1.337	1.294	1.343	1.376	1.366	1.338	1.275	1.333	2.74
84)		Bis(2-ethylhex...	0.691	0.677	0.751	0.814	0.821	0.820	0.881	0.779	9.65
85)	c	Di-n-octyl pht...	1.022	1.041	1.144	1.362	1.374	1.380	1.472	1.256	14.56

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.332	1.396	1.481	1.589	1.607	1.584	1.324	1.473	8.39
88)		Benzo(b)fluora...	1.203	1.148	1.199	1.268	1.267	1.244	1.283	1.230	3.96
89)		Benzo(k)fluora...	1.250	1.198	1.250	1.263	1.266	1.243	1.314	1.255	2.75
90)	C	Benzo(a)pyrene	1.154	1.118	1.177	1.240	1.242	1.219	1.204	1.194	3.86
91)		Dibenzo(a,h)an...	1.101	1.171	1.240	1.331	1.355	1.335	1.118	1.236	8.70
92)		Benzo(g,h,i)pe...	1.097	1.162	1.219	1.297	1.319	1.293	1.056	1.206	8.63

(#) = Out of Range

Response Factor Report MSBNA_P

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Wed Feb 01 03:43:48 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BP013669.D 5 =BP013670.D 10 =BP013671.D 20 =BP013672.D 40 =BP013673.D 50 =BP013674.D 60 =BP013675.D 80 =BP013676.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------									
2)		1,4-Dioxane		0.540	0.526	0.508	0.501	0.486	0.470	0.433	0.495	7.29
3)		Pyridine		1.486	1.425	1.438	1.500	1.456	1.353	1.317	1.425	4.73
4)		n-Nitrosodimet...		0.524	0.509	0.519	0.526	0.518	0.497	0.485	0.511	3.02
5)	S	2-Fluorophenol		1.265	1.187	1.186	1.213	1.160	1.117	1.060	1.170	5.68
6)		Aniline		2.056	2.015	2.068	2.094	2.105	1.949	1.937	2.032	3.32
7)	S	Phenol-d6		1.648	1.553	1.571	1.610	1.589	1.488	1.452	1.559	4.39
8)		2-Chlorophenol		1.283	1.244	1.252	1.271	1.250	1.181	1.141	1.232	4.17
9)		Benzaldehyde		1.148	1.020	0.949	0.840	0.747	0.668		0.895	19.92
10)	C	Phenol		1.684	1.624	1.644	1.685	1.679	1.554	1.528	1.628	3.94
11)		bis(2-Chloroet...		1.389	1.317	1.310	1.328	1.316	1.236	1.210	1.301	4.60
12)		1,3-Dichlorobe...		1.501	1.431	1.411	1.420	1.373	1.314	1.263	1.387	5.70
13)	C	1,4-Dichlorobe...		1.503	1.432	1.439	1.437	1.399	1.338	1.279	1.404	5.28
14)		1,2-Dichlorobe...		1.461	1.362	1.370	1.383	1.353	1.270	1.205	1.343	6.16
15)		Benzyl Alcohol		1.054	1.042	1.087	1.151	1.194	1.101	1.097	1.104	4.82
16)		2,2'-oxybis(1-...		1.631	1.535	1.545	1.557	1.547	1.428	1.390	1.519	5.41
17)		2-Methylphenol		1.152	1.112	1.159	1.188	1.203	1.098	1.075	1.141	4.18
18)		Hexachloroethane		0.485	0.461	0.460	0.467	0.471	0.458	0.439	0.463	3.02
19)	P	n-Nitroso-di-n...	0.859	0.984	0.973	1.003	1.033	1.073	0.957	0.942	0.978	6.54
20)		3+4-Methylphenols		1.528	1.513	1.576	1.621	1.660	1.502	1.496	1.557	4.11
21)	I	Naphthalene-d8	----------ISTD----------									
22)		Acetophenone		0.530	0.508	0.529	0.531	0.540	0.522	0.492	0.522	3.13
23)	S	Nitrobenzene-d5		0.290	0.302	0.339	0.360	0.383	0.377	0.357	0.344	10.38
24)		Nitrobenzene		0.331	0.337	0.372	0.387	0.409	0.400	0.374	0.373	7.94
25)		Isophorone		0.746	0.730	0.764	0.778	0.814	0.767	0.736	0.762	3.78
26)	C	2-Nitrophenol		0.121	0.129	0.147	0.163	0.180	0.176	0.176	0.156	15.31
27)		2,4-Dimethylph...		0.296	0.296	0.308	0.317	0.324	0.311	0.300	0.308	3.47
28)		bis(2-Chloroet...		0.465	0.450	0.461	0.456	0.477	0.457	0.431	0.457	3.11
29)	C	2,4-Dichloroph...		0.318	0.319	0.334	0.341	0.356	0.347	0.328	0.335	4.28
30)		1,2,4-Trichlor...		0.382	0.367	0.373	0.372	0.380	0.374	0.353	0.371	2.56
31)		Naphthalene		1.097	1.040	1.066	1.060	1.077	1.033	0.989	1.052	3.33
32)		Benzoic acid			0.170	0.207	0.232	0.260	0.250	0.253	0.229	15.14
33)		4-Chloroaniline		0.450	0.445	0.464	0.472	0.492	0.464	0.447	0.462	3.59
34)	C	Hexachlorobuta...		0.242	0.232	0.234	0.233	0.240	0.241	0.228	0.236	2.17
35)		Caprolactam		0.103	0.099	0.107	0.112	0.123	0.113	0.113	0.110	7.07
36)	C	4-Chloro-3-met...		0.328	0.324	0.352	0.358	0.387	0.361	0.355	0.352	5.97
37)		2-Methylnaphth...		0.808	0.762	0.801	0.792	0.824	0.788	0.759	0.791	2.98
38)		1-Methylnaphth...		0.757	0.723	0.753	0.743	0.775	0.738	0.710	0.743	2.94

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.659	0.652	0.685	0.695	0.702	0.705	0.681	0.683	3.03
41)	P	Hexachlorocycl...		0.240	0.274	0.311	0.335	0.353	0.357	0.312	14.91
42)	S	2,4,6-Tribromo...	0.273	0.279	0.295	0.306	0.323	0.313	0.311	0.300	6.16
43)	C	2,4,6-Trichlor...	0.409	0.410	0.450	0.466	0.478	0.473	0.462	0.450	6.43
44)		2,4,5-Trichlor...	0.480	0.476	0.527	0.543	0.562	0.553	0.543	0.526	6.60
45)	S	2-Fluorobiphenyl	1.473	1.429	1.477	1.458	1.438	1.414	1.316	1.429	3.85
46)		1,1'-Biphenyl	1.545	1.486	1.551	1.539	1.535	1.509	1.430	1.513	2.88
47)		2-Chloronaphth...	1.181	1.143	1.198	1.191	1.188	1.173	1.115	1.170	2.56
48)		2-Nitroaniline	0.164	0.179	0.227	0.267	0.303	0.300	0.309	0.250	24.21
49)		Acenaphthylene	1.892	1.815	1.924	1.922	1.938	1.901	1.815	1.887	2.71
50)		Dimethylphthalate	1.558	1.482	1.571	1.570	1.609	1.542	1.496	1.547	2.87
51)		2,6-Dinitrotol...	0.167	0.208	0.274	0.306	0.332	0.324	0.325	0.276	23.48
52)	C	Acenaphthene	1.225	1.184	1.210	1.225	1.246	1.231	1.181	1.215	2.01
53)		3-Nitroaniline	0.204	0.247	0.297	0.327	0.352	0.343	0.340	0.302	18.60
54)	P	2,4-Dinitrophenol		0.102	0.131	0.169	0.201	0.197	0.210	0.168	25.88
55)		Dibenzofuran	1.959	1.911	1.935	1.903	1.926	1.884	1.789	1.901	2.88
56)	P	4-Nitrophenol		0.211	0.249	0.276	0.300	0.287	0.286	0.268	12.20
57)		2,4-Dinitrotol...	0.214	0.262	0.342	0.400	0.446	0.436	0.441	0.363	25.76
58)		Fluorene	1.549	1.492	1.547	1.505	1.506	1.463	1.384	1.492	3.78
59)		2,3,4,6-Tetrac...	0.430	0.428	0.453	0.466	0.489	0.472	0.465	0.458	4.85
60)		Diethylphthalate	1.499	1.450	1.496	1.494	1.544	1.473	1.425	1.483	2.59
61)		4-Chlorophenyl...	0.844	0.807	0.812	0.813	0.831	0.807	0.776	0.813	2.65
62)		4-Nitroaniline	0.195	0.236	0.298	0.329	0.352	0.343	0.344	0.299	20.47
63)		Azobenzene	1.344	1.335	1.411	1.395	1.421	1.372	1.311	1.370	3.03
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.069	0.088	0.107	0.120	0.119	0.124	0.104	20.90
66)	c	n-Nitrosodiphe...	0.597	0.602	0.591	0.584	0.581	0.575	0.543	0.582	3.37
67)		4-Bromophenyl-...	0.224	0.221	0.230	0.230	0.238	0.234	0.228	0.229	2.52
68)		Hexachlorobenzene	0.259	0.247	0.252	0.251	0.259	0.257	0.250	0.254	1.90
69)		Atrazine	0.184	0.188	0.195	0.201	0.194	0.187	0.178	0.189	4.12
70)	C	Pentachlorophenol	0.162	0.168	0.185	0.195	0.203	0.200	0.198	0.187	8.87
71)		Phenanthrene	1.125	1.080	1.097	1.075	1.071	1.058	0.998	1.072	3.64
72)		Anthracene	1.102	1.080	1.101	1.101	1.095	1.080	1.017	1.082	2.80
73)		Carbazole	0.990	1.002	1.006	0.999	0.994	0.972	0.917	0.983	3.17
74)		Di-n-butylphth...	1.044	1.055	1.085	1.097	1.117	1.091	1.039	1.075	2.74
75)	C	Fluoranthene	1.358	1.328	1.355	1.346	1.356	1.337	1.262	1.335	2.53
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.446	0.468	0.411	0.471	0.421	0.392	0.415	0.432	6.98
78)		Pyrene	1.361	1.313	1.355	1.378	1.373	1.355	1.284	1.346	2.55
79)	S	Terphenyl-d14	1.050	1.020	1.043	1.034	1.021	0.995	0.887	1.007	5.55
80)		Butylbenzylpht...	0.321	0.321	0.347	0.378	0.403	0.398	0.403	0.367	10.08
81)		Benzo(a)anthra...	1.414	1.353	1.399	1.417	1.421	1.394	1.326	1.389	2.60
82)		3,3'-Dichlorob...	0.398	0.405	0.447	0.463	0.465	0.452	0.443	0.439	6.10
83)		Chrysene	1.370	1.311	1.336	1.342	1.334	1.324	1.247	1.324	2.90
84)		Bis(2-ethylhex...	0.584	0.576	0.608	0.643	0.666	0.653	0.647	0.625	5.71
85)	c	Di-n-octyl pht...	1.069	1.047	1.108	1.173	1.220	1.198	1.180	1.142	5.88

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.562	1.482	1.517	1.530	1.549	1.531	1.476	1.521	2.11
88)		Benzo(b)fluora...	1.187	1.140	1.231	1.201	1.262	1.228	1.165	1.202	3.47
89)		Benzo(k)fluora...	1.243	1.138	1.216	1.248	1.208	1.200	1.174	1.204	3.19
90)	C	Benzo(a)pyrene	1.194	1.153	1.199	1.207	1.223	1.208	1.168	1.193	2.06
91)		Dibenzo(a,h)an...	1.290	1.236	1.263	1.274	1.288	1.271	1.215	1.263	2.18
92)		Benzo(g,h,i)pe...	1.297	1.221	1.249	1.258	1.274	1.258	1.221	1.254	2.19

(#) = Out of Range

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_F Calibration Date/Time: 01/20/2023 16:40

Lab File ID: BF132164.D Init. Calib. Date(s): 01/19/2023 01/19/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:21 15:11

GC Column: DB-UI ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.145	1.115		-2.6	
Benzaldehyde	0.927	0.917		-1.1	
Phenol-d6	1.441	1.412		-2.0	
Phenol	1.500	1.494		-0.4	20.0
bis(2-Chloroethyl)ether	1.270	1.244		-2.0	
2-Chlorophenol	1.203	1.195		-0.7	
2-Methylphenol	1.054	1.045		-0.9	
2,2-oxybis(1-Chloropropane)	1.846	1.776		-3.8	
Acetophenone	0.481	0.460		-4.4	
3+4-Methylphenols	1.329	1.328		-0.1	
n-Nitroso-di-n-propylamine	0.883	0.833	0.050	-5.7	
Nitrobenzene-d5	0.376	0.393		4.5	
Hexachloroethane	0.482	0.488		1.2	
Nitrobenzene	0.399	0.408		2.3	
Isophorone	0.737	0.726		-1.5	
2-Nitrophenol	0.127	0.175		37.8	20.0
2,4-Dimethylphenol	0.319	0.319		0.0	
bis(2-Chloroethoxy)methane	0.442	0.434		-1.8	
2,4-Dichlorophenol	0.303	0.311		2.6	20.0
Naphthalene	1.027	1.008		-1.9	
4-Chloroaniline	0.440	0.445		1.1	
Hexachlorobutadiene	0.231	0.224		-3.0	20.0
Caprolactam	0.086	0.098		14.0	
4-Chloro-3-methylphenol	0.305	0.312		2.3	20.0
2-Methylnaphthalene	0.707	0.688		-2.7	
Hexachlorocyclopentadiene	0.380	0.382	0.050	0.5	
2,4,6-Trichlorophenol	0.432	0.453		4.9	20.0
2-Fluorobiphenyl	1.369	1.224		-10.6	
2,4,5-Trichlorophenol	0.505	0.523		3.6	
1,1-Biphenyl	1.578	1.498		-5.1	
2-Chloronaphthalene	1.220	1.186		-2.8	
2-Nitroaniline	0.351	0.417		18.8	
Dimethylphthalate	1.449	1.451		0.1	
Acenaphthylene	1.951	1.915		-1.8	
2,6-Dinitrotoluene	0.281	0.329		17.1	
3-Nitroaniline	0.300	0.354		18.0	
Acenaphthene	1.174	1.145		-2.5	20.0
2,4-Dinitrophenol	0.108	0.144	0.050	33.3	
4-Nitrophenol	0.218	0.262	0.050	20.2	
Dibenzofuran	1.814	1.750		-3.5	
2,4-Dinitrotoluene	0.337	0.414		22.8	

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_F Calibration Date/Time: 01/20/2023 16:40

Lab File ID: BF132164.D Init. Calib. Date(s): 01/19/2023 01/19/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:21 15:11

GC Column: DB-UI ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.420	1.458		2.7	
4-Chlorophenyl-phenylether	0.720	0.700		-2.8	
Fluorene	1.344	1.292		-3.9	
4-Nitroaniline	0.279	0.333		19.4	
4,6-Dinitro-2-methylphenol	0.087	0.107		23.0	
n-Nitrosodiphenylamine	0.641	0.597		-6.9	20.0
2,4,6-Tribromophenol	0.214	0.231		7.9	
4-Bromophenyl-phenylether	0.244	0.229		-6.1	
Hexachlorobenzene	0.242	0.229		-5.4	
Atrazine	0.198	0.203		2.5	
Pentachlorophenol	0.156	0.174		11.5	20.0
Phenanthrene	1.050	1.000		-4.8	
Anthracene	1.062	1.012		-4.7	
Carbazole	0.907	0.914		0.8	
Di-n-butylphthalate	1.010	1.056		4.6	
Fluoranthene	1.078	1.118		3.7	20.0
Pyrene	1.843	1.942		5.4	
Terphenyl-d14	1.194	1.203		0.8	
Butylbenzylphthalate	0.534	0.671		25.7	
3,3-Dichlorobenzidine	0.398	0.413		3.8	
Benzo(a)anthracene	1.429	1.449		1.4	
Chrysene	1.360	1.334		-1.9	
Bis(2-ethylhexyl)phthalate	0.705	0.824		16.9	
Di-n-octyl phthalate	1.083	1.018		-6.0	20.0
Benzo(b)fluoranthene	1.218	1.276		4.8	
Benzo(k)fluoranthene	1.242	1.197		-3.6	
Benzo(a)pyrene	1.171	1.185		1.2	20.0
Indeno(1,2,3-cd)pyrene	1.451	1.547		6.6	
Dibenzo(a,h)anthracene	1.184	1.248		5.4	
Benzo(g,h,i)perylene	1.246	1.338		7.4	
1,2,4,5-Tetrachlorobenzene	0.696	0.669		-3.9	
1,4-Dioxane	0.580	0.596		2.8	20.0
2,3,4,6-Tetrachlorophenol	0.384	0.414		7.8	

All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_G Calibration Date/Time: 01/20/2023 11:44

Lab File ID: BG056363.D Init. Calib. Date(s): 12/27/2022 12/27/2022

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:55 19:42

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.120	1.128		0.7	
Benzaldehyde	1.023	1.075		5.1	
Phenol-d6	1.720	1.621		-5.8	
Phenol	1.745	1.643		-5.8	20.0
bis(2-Chloroethyl)ether	1.182	1.148		-2.9	
2-Chlorophenol	1.115	1.174		5.3	
2-Methylphenol	1.280	1.277		-0.2	
2,2-oxybis(1-Chloropropane)	0.209	0.242		15.8	
Acetophenone	0.566	0.529		-6.5	
3+4-Methylphenols	1.800	1.743		-3.2	
n-Nitroso-di-n-propylamine	1.046	0.924	0.050	-11.7	
Nitrobenzene-d5	0.391	0.363		-7.2	
Hexachloroethane	0.414	0.435		5.1	
Nitrobenzene	0.387	0.355		-8.3	
Isophorone	0.823	0.721		-12.4	
2-Nitrophenol	0.198	0.207		4.5	20.0
2,4-Dimethylphenol	0.362	0.358		-1.1	
bis(2-Chloroethoxy)methane	0.428	0.411		-4.0	
2,4-Dichlorophenol	0.400	0.404		1.0	20.0
Naphthalene	1.053	1.086		3.1	
4-Chloroaniline	0.503	0.493		-2.0	
Hexachlorobutadiene	0.326	0.332		1.8	20.0
Caprolactam	0.135	0.123		-8.9	
4-Chloro-3-methylphenol	0.406	0.380		-6.4	20.0
2-Methylnaphthalene	0.889	0.881		-0.9	
Hexachlorocyclopentadiene	0.427	0.408	0.050	-4.4	
2,4,6-Trichlorophenol	0.496	0.499		0.6	20.0
2-Fluorobiphenyl	1.448	1.497		3.4	
2,4,5-Trichlorophenol	0.586	0.583		-0.5	
1,1-Biphenyl	1.432	1.484		3.6	
2-Chloronaphthalene	1.131	1.163		2.8	
2-Nitroaniline	0.241	0.239		-0.8	
Dimethylphthalate	1.615	1.581		-2.1	
Acenaphthylene	1.840	1.901		3.3	
2,6-Dinitrotoluene	0.344	0.348		1.2	
3-Nitroaniline	0.327	0.340		4.0	
Acenaphthene	1.197	1.227		2.5	20.0
2,4-Dinitrophenol	0.246	0.231	0.050	-6.1	
4-Nitrophenol	0.252	0.249	0.050	-1.2	
Dibenzofuran	1.980	1.989		0.5	
2,4-Dinitrotoluene	0.481	0.489		1.7	

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_G Calibration Date/Time: 01/20/2023 11:44

Lab File ID: BG056363.D Init. Calib. Date(s): 12/27/2022 12/27/2022

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:55 19:42

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.514	1.499		-1.0	
4-Chlorophenyl-phenylether	0.994	0.986		-0.8	
Fluorene	1.593	1.567		-1.6	
4-Nitroaniline	0.335	0.347		3.6	
4,6-Dinitro-2-methylphenol	0.135	0.145		7.4	
n-Nitrosodiphenylamine	0.555	0.591		6.5	20.0
2,4,6-Tribromophenol	0.253	0.271		7.1	
4-Bromophenyl-phenylether	0.255	0.270		5.9	
Hexachlorobenzene	0.238	0.261		9.2	
Atrazine	0.230	0.236		2.6	
Pentachlorophenol	0.183	0.167		-8.7	20.0
Phenanthrene	1.036	1.068		3.1	
Anthracene	1.069	1.099		2.8	
Carbazole	0.899	0.920		2.3	
Di-n-butylphthalate	0.896	0.973		8.6	
Fluoranthene	1.352	1.325		-2.0	20.0
Pyrene	1.410	1.469		4.2	
Terphenyl-d14	1.117	1.181		5.7	
Butylbenzylphthalate	0.404	0.441		9.2	
3,3-Dichlorobenzidine	0.506	0.515		1.8	
Benzo(a)anthracene	1.405	1.426		1.5	
Chrysene	1.316	1.357		3.1	
Bis(2-ethylhexyl)phthalate	0.583	0.616		5.7	
Di-n-octyl phthalate	0.984	1.036		5.3	20.0
Benzo(b)fluoranthene	1.271	1.308		2.9	
Benzo(k)fluoranthene	1.265	1.286		1.7	
Benzo(a)pyrene	1.239	1.267		2.3	20.0
Indeno(1,2,3-cd)pyrene	1.455	1.521		4.5	
Dibenzo(a,h)anthracene	1.219	1.272		4.3	
Benzo(g,h,i)perylene	1.183	1.237		4.6	
1,2,4,5-Tetrachlorobenzene	0.750	0.775		3.3	
1,4-Dioxane	0.512	0.458		-10.5	20.0
2,3,4,6-Tetrachlorophenol	0.551	0.526		-4.5	

All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_G Calibration Date/Time: 01/24/2023 14:59

Lab File ID: BG056403.D Init. Calib. Date(s): 12/27/2022 12/27/2022

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:55 19:42

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.120	1.109		-1.0	
Benzaldehyde	1.023	0.998		-2.4	
Phenol-d6	1.720	1.592		-7.4	
Phenol	1.745	1.627		-6.8	20.0
bis(2-Chloroethyl)ether	1.182	1.088		-8.0	
2-Chlorophenol	1.115	1.165		4.5	
2-Methylphenol	1.280	1.206		-5.8	
2,2-oxybis(1-Chloropropane)	0.209	0.240		14.8	
Acetophenone	0.566	0.540		-4.6	
3+4-Methylphenols	1.800	1.653		-8.2	
n-Nitroso-di-n-propylamine	1.046	0.896	0.050	-14.3	
Nitrobenzene-d5	0.391	0.362		-7.4	
Hexachloroethane	0.414	0.420		1.4	
Nitrobenzene	0.387	0.355		-8.3	
Isophorone	0.823	0.711		-13.6	
2-Nitrophenol	0.198	0.215		8.6	20.0
2,4-Dimethylphenol	0.362	0.347		-4.1	
bis(2-Chloroethoxy)methane	0.428	0.400		-6.5	
2,4-Dichlorophenol	0.400	0.407		1.8	20.0
Naphthalene	1.053	1.092		3.7	
4-Chloroaniline	0.503	0.492		-2.2	
Hexachlorobutadiene	0.326	0.326		0.0	20.0
Caprolactam	0.135	0.123		-8.9	
4-Chloro-3-methylphenol	0.406	0.377		-7.1	20.0
2-Methylnaphthalene	0.889	0.882		-0.8	
Hexachlorocyclopentadiene	0.427	0.441	0.050	3.3	
2,4,6-Trichlorophenol	0.496	0.497		0.2	20.0
2-Fluorobiphenyl	1.448	1.481		2.3	
2,4,5-Trichlorophenol	0.586	0.577		-1.5	
1,1-Biphenyl	1.432	1.499		4.7	
2-Chloronaphthalene	1.131	1.160		2.6	
2-Nitroaniline	0.241	0.246		2.1	
Dimethylphthalate	1.615	1.571		-2.7	
Acenaphthylene	1.840	1.893		2.9	
2,6-Dinitrotoluene	0.344	0.342		-0.6	
3-Nitroaniline	0.327	0.339		3.7	
Acenaphthene	1.197	1.224		2.3	20.0
2,4-Dinitrophenol	0.246	0.220	0.050	-10.6	
4-Nitrophenol	0.252	0.237	0.050	-6.0	
Dibenzofuran	1.980	1.963		-0.9	
2,4-Dinitrotoluene	0.481	0.496		3.1	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_G Calibration Date/Time: 01/24/2023 14:59

Lab File ID: BG056403.D Init. Calib. Date(s): 12/27/2022 12/27/2022

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:55 19:42

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.514	1.472		-2.8	
4-Chlorophenyl-phenylether	0.994	0.959		-3.5	
Fluorene	1.593	1.570		-1.4	
4-Nitroaniline	0.335	0.352		5.1	
4,6-Dinitro-2-methylphenol	0.135	0.140		3.7	
n-Nitrosodiphenylamine	0.555	0.580		4.5	20.0
2,4,6-Tribromophenol	0.253	0.269		6.3	
4-Bromophenyl-phenylether	0.255	0.264		3.5	
Hexachlorobenzene	0.238	0.255		7.1	
Atrazine	0.230	0.232		0.9	
Pentachlorophenol	0.183	0.179		-2.2	20.0
Phenanthrene	1.036	1.059		2.2	
Anthracene	1.069	1.091		2.1	
Carbazole	0.899	0.925		2.9	
Di-n-butylphthalate	0.896	0.972		8.5	
Fluoranthene	1.352	1.316		-2.7	20.0
Pyrene	1.410	1.440		2.1	
Terphenyl-d14	1.117	1.165		4.3	
Butylbenzylphthalate	0.404	0.431		6.7	
3,3-Dichlorobenzidine	0.506	0.514		1.6	
Benzo(a)anthracene	1.405	1.426		1.5	
Chrysene	1.316	1.343		2.1	
Bis(2-ethylhexyl)phthalate	0.583	0.614		5.3	
Di-n-octyl phthalate	0.984	1.024		4.1	20.0
Benzo(b)fluoranthene	1.271	1.288		1.3	
Benzo(k)fluoranthene	1.265	1.285		1.6	
Benzo(a)pyrene	1.239	1.268		2.3	20.0
Indeno(1,2,3-cd)pyrene	1.455	1.513		4.0	
Dibenzo(a,h)anthracene	1.219	1.270		4.2	
Benzo(g,h,i)perylene	1.183	1.201		1.5	
1,2,4,5-Tetrachlorobenzene	0.750	0.768		2.4	
1,4-Dioxane	0.512	0.448		-12.5	20.0
2,3,4,6-Tetrachlorophenol	0.551	0.513		-6.9	

All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 09:53

Lab File ID: BP013562.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.167	1.219		4.5	
Benzaldehyde	0.995	0.927		-6.8	
Phenol-d6	1.571	1.646		4.8	
Phenol	1.628	1.701		4.5	20.0
bis(2-Chloroethyl)ether	1.331	1.374		3.2	
2-Chlorophenol	1.288	1.368		6.2	
2-Methylphenol	1.182	1.237		4.7	
2,2-oxybis(1-Chloropropane)	1.822	1.854		1.8	
Acetophenone	0.513	0.525		2.3	
3+4-Methylphenols	1.556	1.667		7.1	
n-Nitroso-di-n-propylamine	1.012	1.069	0.050	5.6	
Nitrobenzene-d5	0.303	0.350		15.5	
Hexachloroethane	0.483	0.515		6.6	
Nitrobenzene	0.326	0.367		12.6	
Isophorone	0.719	0.734		2.1	
2-Nitrophenol	0.094	0.137		45.7	20.0
2,4-Dimethylphenol	0.310	0.328		5.8	
bis(2-Chloroethoxy)methane	0.433	0.453		4.6	
2,4-Dichlorophenol	0.285	0.313		9.8	20.0
Naphthalene	1.075	1.106		2.9	
4-Chloroaniline	0.476	0.496		4.2	
Hexachlorobutadiene	0.189	0.195		3.2	20.0
Caprolactam	0.093	0.108		16.1	
4-Chloro-3-methylphenol	0.311	0.343		10.3	20.0
2-Methylnaphthalene	0.764	0.801		4.8	
Hexachlorocyclopentadiene	0.290	0.314	0.050	8.3	
2,4,6-Trichlorophenol	0.360	0.398		10.6	20.0
2-Fluorobiphenyl	1.457	1.460		0.2	
2,4,5-Trichlorophenol	0.426	0.479		12.4	
1,1-Biphenyl	1.606	1.621		0.9	
2-Chloronaphthalene	1.203	1.208		0.4	
2-Nitroaniline	0.241	0.333		38.2	
Dimethylphthalate	1.487	1.591		7.0	
Acenaphthylene	1.968	2.011		2.2	
2,6-Dinitrotoluene	0.240	0.324		35.0	
3-Nitroaniline	0.275	0.365		32.7	
Acenaphthene	1.216	1.264		3.9	20.0
2,4-Dinitrophenol	0.058	0.106	0.050	82.8	
4-Nitrophenol	0.212	0.283	0.050	33.5	
Dibenzofuran	1.864	1.911		2.5	
2,4-Dinitrotoluene	0.266	0.423		59.0	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 09:53

Lab File ID: BP013562.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.452	1.590		9.5	
4-Chlorophenyl-phenylether	0.729	0.759		4.1	
Fluorene	1.482	1.533		3.4	
4-Nitroaniline	0.265	0.372		40.4	
4,6-Dinitro-2-methylphenol	0.058	0.080		37.9	
n-Nitrosodiphenylamine	0.652	0.650		-0.3	20.0
2,4,6-Tribromophenol	0.201	0.225		11.9	
4-Bromophenyl-phenylether	0.222	0.207		-6.8	
Hexachlorobenzene	0.239	0.241		0.8	
Atrazine	0.187	0.211		12.8	
Pentachlorophenol	0.139	0.158		13.7	20.0
Phenanthrene	1.113	1.138		2.2	
Anthracene	1.129	1.148		1.7	
Carbazole	1.015	1.060		4.4	
Di-n-butylphthalate	1.130	1.253		10.9	
Fluoranthene	1.183	1.258		6.3	20.0
Pyrene	1.529	1.627		6.4	
Terphenyl-d14	1.112	1.205		8.4	
Butylbenzylphthalate	0.487	0.596		22.4	
3,3-Dichlorobenzidine	0.449	0.453		0.9	
Benzo(a)anthracene	1.393	1.436		3.1	
Chrysene	1.333	1.354		1.6	
Bis(2-ethylhexyl)phthalate	0.779	0.834		7.1	
Di-n-octyl phthalate	1.256	1.234		-1.8	20.0
Benzo(b)fluoranthene	1.230	1.312		6.7	
Benzo(k)fluoranthene	1.255	1.399		11.5	
Benzo(a)pyrene	1.194	1.252		4.9	20.0
Indeno(1,2,3-cd)pyrene	1.473	1.497		1.6	
Dibenzo(a,h)anthracene	1.236	1.268		2.6	
Benzo(g,h,i)perylene	1.206	1.225		1.6	
1,2,4,5-Tetrachlorobenzene	0.616	0.623		1.1	
1,4-Dioxane	0.471	0.491		4.2	20.0
2,3,4,6-Tetrachlorophenol	0.327	0.375		14.7	

All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 15:13

Lab File ID: BP013571.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.167	1.147		-1.7	
Benzaldehyde	0.995	0.888		-10.8	
Phenol-d6	1.571	1.597		1.7	
Phenol	1.628	1.651		1.4	20.0
bis(2-Chloroethyl)ether	1.331	1.329		-0.2	
2-Chlorophenol	1.288	1.323		2.7	
2-Methylphenol	1.182	1.208		2.2	
2,2-oxybis(1-Chloropropane)	1.822	1.794		-1.5	
Acetophenone	0.513	0.490		-4.5	
3+4-Methylphenols	1.556	1.656		6.4	
n-Nitroso-di-n-propylamine	1.012	1.063	0.050	5.0	
Nitrobenzene-d5	0.303	0.333		9.9	
Hexachloroethane	0.483	0.491		1.7	
Nitrobenzene	0.326	0.344		5.5	
Isophorone	0.719	0.697		-3.1	
2-Nitrophenol	0.094	0.142		51.1	20.0
2,4-Dimethylphenol	0.310	0.311		0.3	
bis(2-Chloroethoxy)methane	0.433	0.428		-1.2	
2,4-Dichlorophenol	0.285	0.299		4.9	20.0
Naphthalene	1.075	1.033		-3.9	
4-Chloroaniline	0.476	0.475		-0.2	
Hexachlorobutadiene	0.189	0.179		-5.3	20.0
Caprolactam	0.093	0.109		17.2	
4-Chloro-3-methylphenol	0.311	0.339		9.0	20.0
2-Methylnaphthalene	0.764	0.764		0.0	
Hexachlorocyclopentadiene	0.290	0.295	0.050	1.7	
2,4,6-Trichlorophenol	0.360	0.382		6.1	20.0
2-Fluorobiphenyl	1.457	1.331		-8.6	
2,4,5-Trichlorophenol	0.426	0.453		6.3	
1,1-Biphenyl	1.606	1.480		-7.8	
2-Chloronaphthalene	1.203	1.104		-8.2	
2-Nitroaniline	0.241	0.326		35.3	
Dimethylphthalate	1.487	1.504		1.1	
Acenaphthylene	1.968	1.875		-4.7	
2,6-Dinitrotoluene	0.240	0.313		30.4	
3-Nitroaniline	0.275	0.361		31.3	
Acenaphthene	1.216	1.183		-2.7	20.0
2,4-Dinitrophenol	0.058	0.118	0.050	103.4	
4-Nitrophenol	0.212	0.288	0.050	35.8	
Dibenzofuran	1.864	1.797		-3.6	
2,4-Dinitrotoluene	0.266	0.421		58.3	

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 15:13

Lab File ID: BP013571.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.452	1.521		4.8	
4-Chlorophenyl-phenylether	0.729	0.712		-2.3	
Fluorene	1.482	1.443		-2.6	
4-Nitroaniline	0.265	0.376		41.9	
4,6-Dinitro-2-methylphenol	0.058	0.084		44.8	
n-Nitrosodiphenylamine	0.652	0.591		-9.4	20.0
2,4,6-Tribromophenol	0.201	0.241		19.9	
4-Bromophenyl-phenylether	0.222	0.200		-9.9	
Hexachlorobenzene	0.239	0.222		-7.1	
Atrazine	0.187	0.197		5.3	
Pentachlorophenol	0.139	0.160		15.1	20.0
Phenanthrene	1.113	1.061		-4.7	
Anthracene	1.129	1.078		-4.5	
Carbazole	1.015	1.015		0.0	
Di-n-butylphthalate	1.130	1.228		8.7	
Fluoranthene	1.183	1.251		5.7	20.0
Pyrene	1.529	1.345		-12.0	
Terphenyl-d14	1.112	1.000		-10.1	
Butylbenzylphthalate	0.487	0.567		16.4	
3,3-Dichlorobenzidine	0.449	0.464		3.3	
Benzo(a)anthracene	1.393	1.340		-3.8	
Chrysene	1.333	1.268		-4.9	
Bis(2-ethylhexyl)phthalate	0.779	0.839		7.7	
Di-n-octyl phthalate	1.256	1.423		13.3	20.0
Benzo(b)fluoranthene	1.230	1.204		-2.1	
Benzo(k)fluoranthene	1.255	1.230		-2.0	
Benzo(a)pyrene	1.194	1.155		-3.3	20.0
Indeno(1,2,3-cd)pyrene	1.473	1.333		-9.5	
Dibenzo(a,h)anthracene	1.236	1.129		-8.7	
Benzo(g,h,i)perylene	1.206	1.048		-13.1	
1,2,4,5-Tetrachlorobenzene	0.616	0.561		-8.9	
1,4-Dioxane	0.471	0.449		-4.7	20.0
2,3,4,6-Tetrachlorophenol	0.327	0.373		14.1	

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH
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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-PAH	8270E		01/20/23	01/24/23	
			SVOC-TCL BNA -20			01/20/23	01/24/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1232-10	**DUP01**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	

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Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-17								
O1232-03	WC-17	SOIL	Benzo(a)anthracene	95.400	J	94.9	190	ug/Kg
O1232-03	WC-17	SOIL	Chrysene	120.000	J	93.5	190	ug/Kg
			Total Svoc :	**215.40**				
			Total Concentration:	**215.40**				

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013584.D	1	01/20/23 12:30	01/24/23 22:44	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	80.8	U	80.8	190	ug/Kg
208-96-8	Acenaphthylene	75.1	U	75.1	190	ug/Kg
83-32-9	Acenaphthene	86.2	U	86.2	190	ug/Kg
86-73-7	Fluorene	86.1	U	86.1	190	ug/Kg
85-01-8	Phenanthrene	91.4	U	91.4	190	ug/Kg
120-12-7	Anthracene	91.8	U	91.8	190	ug/Kg
206-44-0	Fluoranthene	87.2	U	87.2	190	ug/Kg
129-00-0	Pyrene	81.1	U	81.1	190	ug/Kg
56-55-3	Benzo(a)anthracene	95.4	J	94.9	190	ug/Kg
218-01-9	Chrysene	120	J	93.5	190	ug/Kg
205-99-2	Benzo(b)fluoranthene	75.4	U	75.4	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	80.4	U	80.4	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.0	U	74.0	190	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	110	U	110	190	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	110	U	110	190	ug/Kg
191-24-2	Benzo(g,h,i)perylene	110	U	110	190	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	68.4		27 - 109	68%	SPK: 100
321-60-8	2-Fluorobiphenyl	62.4		30 - 103	62%	SPK: 100
1718-51-0	Terphenyl-d14	65.2		21 - 107	65%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	386000	8.158			
1146-65-2	Naphthalene-d8	1520000	10.987			
15067-26-2	Acenaphthene-d10	828000	14.793			
1517-22-2	Phenanthrene-d10	1520000	17.545			
1719-03-5	Chrysene-d12	1000000	21.616			
1520-96-3	Perylene-d12	1340000	24.204			

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	91.4
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013584.D	1	01/20/23 12:30	01/24/23 22:44	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

QC SUMMARY

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Surrogate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
O1232-03	WC-17	Nitrobenzene-d5	100	68.4	68		27	109
		2-Fluorobiphenyl	100	62.4	62		30	103
		Terphenyl-d14	100	65.2	65		21	107
O1233-02MS	B-P34AMS	Nitrobenzene-d5	100	81.4	81		27	109
		2-Fluorobiphenyl	100	65.7	66		30	103
		Terphenyl-d14	100	73.6	74		21	107
O1233-02MSD	B-P34AMSD	Nitrobenzene-d5	100	82.3	82		27	109
		2-Fluorobiphenyl	100	66.1	66		30	103
		Terphenyl-d14	100	74.4	74		21	107
PB150378BL	PB150378BL	Nitrobenzene-d5	100	78.9	79		27	109
		2-Fluorobiphenyl	100	67.6	68		30	103
		Terphenyl-d14	100	70.3	70		21	107
PB150378BS	PB150378BS	Nitrobenzene-d5	100	90.3	90		27	109
		2-Fluorobiphenyl	100	85.2	85		30	103
		Terphenyl-d14	100	103	103		21	107

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: O1233-02MS		**Client Sample ID: B-P34AMS**						**DataFile: BF132171.D**			
Naphthalene	2000	0	1600	ug/Kg	80				72	110	
Acenaphthylene	2000	0	1600	ug/Kg	80				79	118	
Acenaphthene	2000	0	1800	ug/Kg	90				70	121	
Fluorene	2000	0	1600	ug/Kg	80				68	116	
Phenanthrene	2000	0	1500	ug/Kg	75				72	113	
Anthracene	2000	0	1500	ug/Kg	75				62	124	
Fluoranthene	2000	0	1700	ug/Kg	85				59	125	
Pyrene	2000	0	1600	ug/Kg	80				52	128	
Benzo(a)anthracene	2000	0	1700	ug/Kg	85				71	114	
Chrysene	2000	0	1600	ug/Kg	80				57	121	
Benzo(b)fluoranthene	2000	0	1800	ug/Kg	90				67	121	
Benzo(k)fluoranthene	2000	0	1700	ug/Kg	85				74	114	
Benzo(a)pyrene	2000	0	1600	ug/Kg	80				70	142	
Indeno(1,2,3-cd)pyrene	2000	0	1500	ug/Kg	75				61	125	
Dibenz(a,h)anthracene	2000	0	1700	ug/Kg	85				67	130	
Benzo(g,h,i)perylene	2000	0	1500	ug/Kg	75				53	140	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: SW8270E

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: O1233-02MSD		**Client Sample ID: B-P34AMSD**						**DataFile: BF132172.D**			
Naphthalene	1900	0	1600	ug/Kg	84		5		72	110	20
Acenaphthylene	1900	0	1600	ug/Kg	84		5		79	118	20
Acenaphthene	1900	0	1800	ug/Kg	95		5		70	121	20
Fluorene	1900	0	1600	ug/Kg	84		5		68	116	20
Phenanthrene	1900	0	1500	ug/Kg	79		5		72	113	20
Anthracene	1900	0	1500	ug/Kg	79		5		62	124	20
Fluoranthene	1900	0	1700	ug/Kg	89		5		59	125	20
Pyrene	1900	0	1600	ug/Kg	84		5		52	128	20
Benzo(a)anthracene	1900	0	1600	ug/Kg	84		1		71	114	20
Chrysene	1900	0	1600	ug/Kg	84		5		57	121	20
Benzo(b)fluoranthene	1900	0	1800	ug/Kg	95		5		67	121	20
Benzo(k)fluoranthene	1900	0	1700	ug/Kg	89		5		74	114	20
Benzo(a)pyrene	1900	0	1600	ug/Kg	84		5		70	142	20
Indeno(1,2,3-cd)pyrene	1900	0	1500	ug/Kg	79		5		61	125	20
Dibenz(a,h)anthracene	1900	0	1600	ug/Kg	84		1		67	130	20
Benzo(g,h,i)perylene	1900	0	1500	ug/Kg	79		5		53	140	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8270E **DataFile:** BP013684.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB150378BS	Naphthalene	1700	1400	ug/Kg	82				62	100	
	Acenaphthylene	1700	1400	ug/Kg	82				63	101	
	Acenaphthene	1700	1600	ug/Kg	94				57	104	
	Fluorene	1700	1400	ug/Kg	82				61	101	
	Phenanthrene	1700	1400	ug/Kg	82				59	103	
	Anthracene	1700	1400	ug/Kg	82				61	105	
	Fluoranthene	1700	1400	ug/Kg	82				57	107	
	Pyrene	1700	1600	ug/Kg	94				59	103	
	Benzo(a)anthracene	1700	1500	ug/Kg	88				60	102	
	Chrysene	1700	1400	ug/Kg	82				59	101	
	Benzo(b)fluoranthene	1700	1700	ug/Kg	100				62	109	
	Benzo(k)fluoranthene	1700	1600	ug/Kg	94				62	109	
	Benzo(a)pyrene	1700	1400	ug/Kg	82				63	103	
	Indeno(1,2,3-cd)pyrene	1700	1300	ug/Kg	76				63	101	
	Dibenz(a,h)anthracene	1700	1300	ug/Kg	76				61	112	
	Benzo(g,h,i)perylene	1700	1200	ug/Kg	71				57	116	

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150378BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013572.D Lab Sample ID: PB150378BL

Instrument ID: BNA_P Date Extracted: 01/20/2023

Matrix: (soil/water) SOIL Date Analyzed: 01/24/2023

Level: (low/med) LOW Time Analyzed: 15:50

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
WC-17	O1232-03	BP013584.D	01/24/2023
PB150378BS	PB150378BS	BP013684.D	01/31/2023
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BF132139.D DFTPP Injection Date: 01/19/2023

Instrument ID: BNA_F DFTPP Injection Time: 10:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	40.6
68	Less than 2.0% of mass 69	0.7 (1.8) 1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	48.4
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	28.2
365	Greater than 1% of mass 198	3.9
441	Present, but less than mass 443	12.5
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	16 (19.3) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BF132140.D	01/19/2023	11:21
SSTDICC005	SSTDICC005	BF132141.D	01/19/2023	11:53
SSTDICC010	SSTDICC010	BF132142.D	01/19/2023	12:26
SSTDICC020	SSTDICC020	BF132143.D	01/19/2023	12:59
SSTDICCC040	SSTDICCC040	BF132144.D	01/19/2023	13:32
SSTDICC050	SSTDICC050	BF132145.D	01/19/2023	14:05
SSTDICC060	SSTDICC060	BF132146.D	01/19/2023	14:38
SSTDICC080	SSTDICC080	BF132147.D	01/19/2023	15:11

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BF132163.D DFTPP Injection Date: 01/20/2023

Instrument ID: BNA_F DFTPP Injection Time: 16:08

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.5
68	Less than 2.0% of mass 69	0.7 (1.9) 1
69	Mass 69 relative abundance	36
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	46.9
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	28.3
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.9
442	Greater than 50% of mass 198	100.0
443	15.0 - 24.0% of mass 442	17.6 (19.7) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF132164.D	01/20/2023	16:40
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023	20:35
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023	21:08

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013544.D DFTPP Injection Date: 01/23/2023

Instrument ID: BNA_P DFTPP Injection Time: 10:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.4
68	Less than 2.0% of mass 69	0.6 (1.7) 1
69	Mass 69 relative abundance	34.2
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	47.0
197	Less than 2.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	26.6
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.2
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.9 (19.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BP013545.D	01/23/2023	11:25
SSTDICC005	SSTDICC005	BP013546.D	01/23/2023	12:00
SSTDICC010	SSTDICC010	BP013547.D	01/23/2023	12:34
SSTDICC020	SSTDICC020	BP013548.D	01/23/2023	13:08
SSTDICCC040	SSTDICCC040	BP013549.D	01/23/2023	13:42
SSTDICC050	SSTDICC050	BP013550.D	01/23/2023	14:17
SSTDICC060	SSTDICC060	BP013551.D	01/23/2023	14:51
SSTDICC080	SSTDICC080	BP013552.D	01/23/2023	16:01

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013570.D DFTPP Injection Date: 01/24/2023

Instrument ID: BNA_P DFTPP Injection Time: 14:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.9
68	Less than 2.0% of mass 69	0.5 (1.7) 1
69	Mass 69 relative abundance	32.2
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	46.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	26.4
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.9
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BP013571.D	01/24/2023	15:13
PB150378BL	PB150378BL	BP013572.D	01/24/2023	15:50
WC-17	O1232-03	BP013584.D	01/24/2023	22:44

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1232 SDG NO.: O1232

Lab File ID: BP013668.D DFTPP Injection Date: 01/31/2023

Instrument ID: BNA_P DFTPP Injection Time: 10:47

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.0
68	Less than 2.0% of mass 69	0.5 (1.8) 1
69	Mass 69 relative abundance	29.4
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	37.3
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	29.7
365	Greater than 1% of mass 198	4.0
441	Present, but less than mass 443	16.4
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	19.5 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BP013669.D	01/31/2023	11:21
SSTDICC005	SSTDICC005	BP013670.D	01/31/2023	11:55
SSTDICC010	SSTDICC010	BP013671.D	01/31/2023	12:30
SSTDICC020	SSTDICC020	BP013672.D	01/31/2023	13:04
SSTDICCC040	SSTDICCC040	BP013673.D	01/31/2023	13:38
SSTDICC050	SSTDICC050	BP013674.D	01/31/2023	14:12
SSTDICC060	SSTDICC060	BP013675.D	01/31/2023	14:47
SSTDICC080	SSTDICC080	BP013676.D	01/31/2023	15:56
PB150378BS	PB150378BS	BP013684.D	01/31/2023	21:04

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BF132164.D Time Analyzed: 16:40

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	175584	7.09	590884	8.38	314145	10.14
	UPPER LIMIT	351168	7.59	1181770	8.878	628290	10.642
	LOWER LIMIT	87792	6.59	295442	7.878	157073	9.642
	EPA SAMPLE NO.						
01	B-P34AMS	184212	7.09	674454	8.38	369043	10.14
02	B-P34AMSD	185010	7.09	669898	8.38	363370	10.14

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/20/2023

Lab File ID: BF132164.D Time Analyzed: 16:40

Instrument ID: BNA_F GC Column: DB-UI ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	631542	11.642	364265	14.307	316916	15.901
	UPPER LIMIT	1263080	12.142	728530	14.807	633832	16.401
	LOWER LIMIT	315771	11.142	182133	13.807	158458	15.401
	EPA SAMPLE NO.						
01	B-P34AMS	748390	11.64	455426	14.31	405760	15.90
02	B-P34AMSD	736982	11.64	439968	14.31	406965	15.90

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	306718	8.163	1319960	10.99	845480	14.80
	UPPER LIMIT	613436	8.663	2639920	11.493	1690960	15.298
	LOWER LIMIT	153359	7.663	659980	10.493	422740	14.298
	EPA SAMPLE NO.						
01	WC-17	385930	8.16	1523350	10.99	828227	14.79
02	PB150378BL	291029	8.16	1295640	10.99	837908	14.80

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/24/2023

Lab File ID: BP013571.D Time Analyzed: 15:13

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	1830850	17.551	1775330	21.627	1903850	24.215
	UPPER LIMIT	3661700	18.051	3550660	22.127	3807700	24.715
	LOWER LIMIT	915425	17.051	887665	21.127	951925	23.715
	EPA SAMPLE NO.						
01	WC-17	1519830	17.55	1004640	21.62	1335170	24.20
02	PB150378BL	1910080	17.55	1883140	21.63	2131870	24.22

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	222064	8.14	832306	10.97	549003	14.78
	UPPER LIMIT	444128	8.64	1664610	11.469	1098010	15.281
	LOWER LIMIT	111032	7.64	416153	10.469	274502	14.281
	EPA SAMPLE NO.						
01	PB150378BS	297815	8.14	1192600	10.97	801024	14.78

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

EPA Sample No.: SSTDICCC040 Date Analyzed: 01/31/2023

Lab File ID: BP013673.D Time Analyzed: 13:38

Instrument ID: BNA_P GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	1258360	17.533	1280890	21.61	1494510	24.186
	UPPER LIMIT	2516720	18.033	2561780	22.11	2989020	24.686
	LOWER LIMIT	629180	17.033	640445	21.11	747255	23.686
	EPA SAMPLE NO.						
01	PB150378BS	1851080	17.53	1639740	21.61	1453640	24.18

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BL	SDG No.:	O1232
Lab Sample ID:	PB150378BL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	73.9	U	73.9	170	ug/Kg
208-96-8	Acenaphthylene	68.7	U	68.7	170	ug/Kg
83-32-9	Acenaphthene	78.9	U	78.9	170	ug/Kg
86-73-7	Fluorene	78.8	U	78.8	170	ug/Kg
85-01-8	Phenanthrene	83.6	U	83.6	170	ug/Kg
120-12-7	Anthracene	84.0	U	84.0	170	ug/Kg
206-44-0	Fluoranthene	79.8	U	79.8	170	ug/Kg
129-00-0	Pyrene	74.2	U	74.2	170	ug/Kg
56-55-3	Benzo(a)anthracene	86.8	U	86.8	170	ug/Kg
218-01-9	Chrysene	85.5	U	85.5	170	ug/Kg
205-99-2	Benzo(b)fluoranthene	69.0	U	69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	73.6	U	73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	67.7	U	67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	100	U	100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	100	U	100	170	ug/Kg
191-24-2	Benzo(g,h,i)perylene	96.9	U	96.9	170	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	78.9		27 - 109	79%	SPK: 100
321-60-8	2-Fluorobiphenyl	67.6		30 - 103	68%	SPK: 100
1718-51-0	Terphenyl-d14	70.3		21 - 107	70%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	291000	8.163			
1146-65-2	Naphthalene-d8	1300000	10.993			
15067-26-2	Acenaphthene-d10	838000	14.798			
1517-22-2	Phenanthrene-d10	1910000	17.551			
1719-03-5	Chrysene-d12	1880000	21.627			
1520-96-3	Perylene-d12	2130000	24.216			

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BL	SDG No.:	O1232
Lab Sample ID:	PB150378BL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013572.D	1	01/20/23 12:30	01/24/23 15:50	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BS	SDG No.:	O1232
Lab Sample ID:	PB150378BS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	1400		73.9	170	ug/Kg
208-96-8	Acenaphthylene	1400		68.7	170	ug/Kg
83-32-9	Acenaphthene	1600		78.8	170	ug/Kg
86-73-7	Fluorene	1400		78.7	170	ug/Kg
85-01-8	Phenanthrene	1400		83.5	170	ug/Kg
120-12-7	Anthracene	1400		83.9	170	ug/Kg
206-44-0	Fluoranthene	1400		79.7	170	ug/Kg
129-00-0	Pyrene	1600		74.2	170	ug/Kg
56-55-3	Benzo(a)anthracene	1500		86.7	170	ug/Kg
218-01-9	Chrysene	1400		85.4	170	ug/Kg
205-99-2	Benzo(b)fluoranthene	1700		69.0	170	ug/Kg
207-08-9	Benzo(k)fluoranthene	1600		73.6	170	ug/Kg
50-32-8	Benzo(a)pyrene	1400		67.7	170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1300		100	170	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1300		100	170	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1200		96.8	170	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	90.3		27 - 109	90%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.2		30 - 103	85%	SPK: 100
1718-51-0	Terphenyl-d14	103		21 - 107	103%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	298000	8.14			
1146-65-2	Naphthalene-d8	1190000	10.969			
15067-26-2	Acenaphthene-d10	801000	14.775			
1517-22-2	Phenanthrene-d10	1850000	17.528			
1719-03-5	Chrysene-d12	1640000	21.61			
1520-96-3	Perylene-d12	1450000	24.18			

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150378BS	SDG No.:	O1232
Lab Sample ID:	PB150378BS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	100
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BP013684.D	1	01/20/23 12:30	01/31/23 21:04	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	1600		86.5	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.3	200	ug/Kg
206-44-0	Fluoranthene	1700		93.4	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
56-55-3	Benzo(a)anthracene	1700		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.8	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1700		120	200	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	81.4		27 - 109	81%	SPK: 100
321-60-8	2-Fluorobiphenyl	65.7		30 - 103	66%	SPK: 100
1718-51-0	Terphenyl-d14	73.6		21 - 107	74%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	184000	7.09			
1146-65-2	Naphthalene-d8	674000	8.378			
15067-26-2	Acenaphthene-d10	369000	10.142			
1517-22-2	Phenanthrene-d10	748000	11.642			
1719-03-5	Chrysene-d12	455000	14.307			
1520-96-3	Perylene-d12	406000	15.901			

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.05 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132171.D	1	01/20/23 12:30	01/20/23 20:35	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	1600		86.4	200	ug/Kg
208-96-8	Acenaphthylene	1600		80.4	200	ug/Kg
83-32-9	Acenaphthene	1800		92.3	200	ug/Kg
86-73-7	Fluorene	1600		92.2	200	ug/Kg
85-01-8	Phenanthrene	1500		97.8	200	ug/Kg
120-12-7	Anthracene	1500		98.2	200	ug/Kg
206-44-0	Fluoranthene	1700		93.3	200	ug/Kg
129-00-0	Pyrene	1600		86.8	200	ug/Kg
56-55-3	Benzo(a)anthracene	1600		100	200	ug/Kg
218-01-9	Chrysene	1600		100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		80.7	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	1700		86.1	200	ug/Kg
50-32-8	Benzo(a)pyrene	1600		79.2	200	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1500		120	200	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1600		120	200	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1500		110	200	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	82.3		27 - 109	82%	SPK: 100
321-60-8	2-Fluorobiphenyl	66.1		30 - 103	66%	SPK: 100
1718-51-0	Terphenyl-d14	74.4		21 - 107	74%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	185000	7.089			
1146-65-2	Naphthalene-d8	670000	8.378			
15067-26-2	Acenaphthene-d10	363000	10.142			
1517-22-2	Phenanthrene-d10	737000	11.642			
1719-03-5	Chrysene-d12	440000	14.307			
1520-96-3	Perylene-d12	407000	15.901			

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-PAH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF132172.D	1	01/20/23 12:30	01/20/23 21:08	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
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J = Estimated Value
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CALIBRATION SUMMARY

Response Factor Report BNA_F

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Fri Jan 20 00:50:42 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BF132140.D 5 =BF132141.D 10 =BF132142.D 20 =BF132143.D 40 =BF132144.D 50 =BF132145.D 60 =BF132146.D 80 =BF1321
47.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------	ISTD	----------							
2)		1,4-Dioxane		0.624	0.591	0.586	0.580	0.553	0.575	0.553	0.580	4.24
3)		Pyridine		1.663	1.539	1.599	1.567	1.496	1.554	1.480	1.557	3.98
4)		n-Nitrosodimet...		0.731	0.705	0.733	0.730	0.724	0.761	0.742	0.732	2.31
5)	S	2-Fluorophenol		1.301	1.246	1.204	1.116	1.063	1.077	1.009	1.145	9.35
6)		Aniline		2.241	2.090	2.044	1.937	1.865	1.940	1.857	1.996	6.91
7)	S	Phenol-d6		1.696	1.541	1.516	1.404	1.325	1.352	1.254	1.441	10.54
8)		2-Chlorophenol		1.351	1.306	1.286	1.183	1.129	1.136	1.034	1.203	9.50
9)		Benzaldehyde			1.086	1.022	0.903	0.814	0.812		0.927	13.33
10)	C	Phenol		1.733	1.636	1.580	1.468	1.375	1.408	1.303	1.500	10.29
11)		bis(2-Chloroet...		1.461	1.341	1.325	1.236	1.178	1.219	1.131	1.270	8.87
12)		1,3-Dichlorobe...		1.556	1.458	1.406	1.312	1.242	1.269	1.174	1.345	9.97
13)	C	1,4-Dichlorobe...		1.544	1.451	1.419	1.314	1.238	1.266	1.163	1.342	9.99
14)		1,2-Dichlorobe...		1.495	1.391	1.326	1.200	1.128	1.134	1.014	1.241	13.62
15)		Benzyl Alcohol		1.128	1.103	1.125	1.106	1.090	1.105	1.060	1.102	2.07
16)		2,2'-oxybis(1-...		2.119	1.959	1.937	1.815	1.731	1.743	1.617	1.846	9.20
17)		2-Methylphenol		1.172	1.098	1.104	1.042	0.990	1.019	0.955	1.054	7.08
18)		Hexachloroethane		0.503	0.486	0.495	0.489	0.466	0.485	0.449	0.482	3.82
19)	P	n-Nitroso-di-n...	0.922	1.015	0.971	0.921	0.847	0.797	0.814	0.776	0.883	9.86
20)		3+4-Methylphenols		1.509	1.435	1.426	1.317	1.235	1.258	1.119	1.328	10.25
21)	I	Naphthalene-d8	----------	ISTD	----------							
22)		Acetophenone		0.579	0.528	0.504	0.462	0.431	0.442	0.419	0.481	12.18
23)	S	Nitrobenzene-d5		0.363	0.366	0.383	0.383	0.371	0.388	0.381	0.376	2.54
24)		Nitrobenzene		0.397	0.392	0.410	0.406	0.388	0.406	0.391	0.399	2.20
25)		Isophorone		0.767	0.740	0.738	0.719	0.711	0.739	0.743	0.737	2.45
26)	C	2-Nitrophenol		0.099	0.105	0.128	0.148	0.154			0.127	19.49
27)		2,4-Dimethylph...		0.334	0.330	0.324	0.322	0.308	0.313	0.300	0.319	3.82
28)		bis(2-Chloroet...		0.497	0.471	0.461	0.430	0.407	0.421	0.406	0.442	7.97
29)	C	2,4-Dichloroph...		0.303	0.298	0.313	0.309	0.294	0.305	0.296	0.303	2.28
30)		1,2,4-Trichlor...		0.388	0.360	0.355	0.338	0.320	0.328	0.316	0.344	7.49
31)		Naphthalene		1.185	1.119	1.075	0.998	0.942	0.965	0.907	1.027	9.89
32)		Benzoic acid			0.118	0.151	0.188	0.200	0.228	0.235	0.187	24.10
33)		4-Chloroaniline		0.496	0.474	0.458	0.437	0.411	0.410	0.390	0.440	8.72
34)	C	Hexachlorobuta...		0.252	0.234	0.234	0.227	0.220	0.230	0.220	0.231	4.75
35)		Caprolactam		0.075	0.081	0.086	0.090	0.089	0.090	0.089	0.086	6.65
36)	C	4-Chloro-3-met...		0.299	0.305	0.314	0.309	0.305	0.302	0.298	0.305	1.80
37)		2-Methylnaphth...		0.828	0.783	0.739	0.684	0.643	0.655	0.619	0.707	11.04
38)		1-Methylnaphth...		0.774	0.719	0.690	0.638	0.599	0.609	0.577	0.658	10.93

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.789	0.737	0.719	0.684	0.641	0.667	0.634	0.696	8.04
41)	P	Hexachlorocycl...		0.306	0.342	0.390	0.389	0.422	0.428	0.380	12.43
42)	S	2,4,6-Tribromo...	0.197	0.207	0.222	0.221	0.217	0.219	0.212	0.214	4.25
43)	C	2,4,6-Trichlor...	0.392	0.414	0.445	0.448	0.437	0.451	0.436	0.432	4.95
44)		2,4,5-Trichlor...	0.475	0.487	0.519	0.523	0.504	0.524	0.504	0.505	3.69
45)	S	2-Fluorobiphenyl	1.669	1.529	1.407	1.250	1.162	1.197		1.369	14.76
46)		1,1'-Biphenyl	1.813	1.710	1.657	1.537	1.450	1.490	1.388	1.578	9.70
47)		2-Chloronaphth...	1.372	1.294	1.270	1.195	1.131	1.167	1.110	1.220	7.81
48)		2-Nitroaniline	0.245	0.288	0.354	0.380	0.391	0.405	0.395	0.351	17.42
49)		Acenaphthylene	2.180	2.078	2.033	1.912	1.834	1.851	1.771	1.951	7.63
50)		Dimethylphthalate	1.562	1.520	1.519	1.435	1.369	1.396	1.338	1.449	5.95
51)		2,6-Dinitrotol...	0.224	0.253	0.286	0.301	0.300	0.307	0.296	0.281	10.95
52)	C	Acenaphthene	1.315	1.269	1.214	1.141	1.085	1.123	1.070	1.174	8.01
53)		3-Nitroaniline	0.256	0.289	0.318	0.322	0.319	0.307	0.291	0.300	7.88
54)	P	2,4-Dinitrophenol		0.078	0.097	0.111	0.124	0.131		0.108	19.86
55)		Dibenzofuran	2.079	1.971	1.883	1.771	1.692	1.707	1.594	1.814	9.44
56)	P	4-Nitrophenol	0.172	0.191	0.221	0.232	0.242	0.239	0.233	0.218	12.18
57)		2,4-Dinitrotol...	0.266	0.281	0.340	0.355	0.372	0.379	0.366	0.337	13.46
58)		Fluorene	1.619	1.504	1.416	1.282	1.219	1.221	1.148	1.344	12.87
59)		2,3,4,6-Tetrac...	0.344	0.366	0.400	0.405	0.393	0.399	0.382	0.384	5.77
60)		Diethylphthalate	1.495	1.493	1.485	1.423	1.389	1.362	1.296	1.420	5.37
61)		4-Chlorophenyl...	0.838	0.783	0.750	0.704	0.664	0.673	0.625	0.720	10.37
62)		4-Nitroaniline	0.258	0.275	0.293	0.282	0.290	0.283	0.276	0.279	4.12
63)		Azobenzene	1.594	1.515	1.498	1.401	1.349	1.354	1.268	1.426	8.00
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.058	0.072	0.085	0.094	0.103	0.109	0.087	22.26
66)	c	n-Nitrosodiphe...	0.705	0.681	0.655	0.614	0.598	0.628	0.601	0.641	6.46
67)		4-Bromophenyl-...	0.260	0.253	0.247	0.237	0.230	0.244	0.236	0.244	4.25
68)		Hexachlorobenzene	0.260	0.248	0.243	0.235	0.229	0.242	0.237	0.242	4.22
69)		Atrazine	0.204	0.202	0.203	0.197	0.190	0.198	0.190	0.198	2.96
70)	C	Pentachlorophenol	0.123	0.136	0.156	0.162	0.167	0.174	0.172	0.156	12.45
71)		Phenanthrene	1.231	1.134	1.083	0.997	0.960	1.003	0.939	1.050	10.02
72)		Anthracene	1.244	1.150	1.104	1.007	0.965	1.006	0.956	1.062	10.15
73)		Carbazole	1.046	0.997	0.952	0.865	0.829	0.852	0.808	0.907	10.07
74)		Di-n-butylphth...	1.021	1.052	1.071	0.990	0.977	1.001	0.955	1.010	4.07
75)	C	Fluoranthene	1.297	1.190	1.123	1.008	0.979	1.002	0.949	1.078	11.96
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.607	0.635	0.615	0.682	0.569	0.574	0.521	0.600	8.60
78)		Pyrene	1.905	1.890	1.961	1.847	1.820	1.833	1.646	1.843	5.41
79)	S	Terphenyl-d14	1.378	1.298	1.274	1.157	1.116	1.127	1.007	1.194	10.71
80)		Butylbenzylpht...	0.360	0.428	0.535	0.582	0.598	0.624	0.612	0.534	19.03
81)		Benzo(a)anthra...	1.454	1.419	1.446	1.403	1.402	1.471	1.406	1.429	1.95
82)		3,3'-Dichlorob...	0.310	0.345	0.403	0.422	0.418	0.456	0.430	0.398	12.91
83)		Chrysene	1.457	1.365	1.351	1.331	1.310	1.380	1.325	1.360	3.62
84)		Bis(2-ethylhex...	0.472	0.547	0.691	0.768	0.788	0.841	0.830	0.705	20.44
85)	c	Di-n-octyl pht...		0.595	0.816	1.093	1.187	1.360	1.445	1.083	30.01#

Method Path : Z:\svoasrv\HPCHEM1\BNA_F\Methods\
Method File : 8270-BF011923.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.093	1.197	1.461	1.579	1.556	1.661	1.613	1.451	15.17
88)		Benzo(b)fluora...	1.288	1.234	1.181	1.230	1.164	1.212	1.214	1.218	3.28
89)		Benzo(k)fluora...	1.336	1.302	1.303	1.211	1.157	1.208	1.177	1.242	5.66
90)	C	Benzo(a)pyrene	1.124	1.102	1.157	1.195	1.167	1.243	1.212	1.171	4.23
91)		Dibenzo(a,h)an...	0.926	1.009	1.215	1.294	1.249	1.323	1.268	1.184	12.94
92)		Benzo(g,h,i)pe...	0.925	1.038	1.267	1.354	1.328	1.422	1.385	1.246	15.21

(#) = Out of Range

Response Factor Report MSBNA_P

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Tue Jan 24 04:44:15 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BP013545.D 5 =BP013546.D 10 =BP013547.D 20 =BP013548.D 40 =BP013549.D 50 =BP013550.D 60 =BP013551.D 80 =BP0135
52.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------									
2)		1,4-Dioxane		0.496	0.484	0.477	0.495	0.475	0.451	0.417	0.471	5.98
3)		Pyridine		1.435	1.372	1.356	1.479	1.425	1.385	1.327	1.397	3.73
4)		n-Nitrosodimet...		0.665	0.639	0.646	0.662	0.634	0.607	0.569	0.632	5.34
5)	S	2-Fluorophenol		1.214	1.132	1.167	1.231	1.185	1.153	1.090	1.167	4.12
6)		Aniline		2.143	2.087	2.149	2.168	2.121	2.080	2.027	2.110	2.32
7)	S	Phenol-d6		1.602	1.516	1.588	1.626	1.590	1.559	1.517	1.571	2.69
8)		2-Chlorophenol		1.272	1.247	1.312	1.334	1.311	1.285	1.254	1.288	2.52
9)		Benzaldehyde		1.173	1.061	1.015	0.916	0.809			0.995	13.95
10)	C	Phenol		1.647	1.588	1.649	1.678	1.650	1.615	1.567	1.628	2.42
11)		bis(2-Chloroet...		1.406	1.327	1.359	1.360	1.327	1.285	1.253	1.331	3.81
12)		1,3-Dichlorobe...		1.507	1.421	1.454	1.479	1.419	1.374	1.318	1.424	4.49
13)	C	1,4-Dichlorobe...		1.534	1.462	1.461	1.496	1.434	1.390	1.333	1.444	4.62
14)		1,2-Dichlorobe...		1.496	1.415	1.424	1.440	1.386	1.345	1.283	1.399	4.94
15)		Benzyl Alcohol		1.139	1.068	1.135	1.139	1.137	1.127	1.114	1.122	2.29
16)		2,2'-oxybis(1-...		1.981	1.864	1.888	1.837	1.785	1.729	1.674	1.822	5.64
17)		2-Methylphenol		1.194	1.152	1.210	1.208	1.194	1.171	1.146	1.182	2.19
18)		Hexachloroethane		0.479	0.468	0.485	0.506	0.495	0.480	0.467	0.483	2.93
19)	P	n-Nitroso-di-n...	0.854	1.090	1.050	1.084	1.023	1.017	0.998	0.978	1.012	7.40
20)		3+4-Methylphenols		1.531	1.497	1.574	1.582	1.587	1.561	1.559	1.556	2.05
21)	I	Naphthalene-d8	----------ISTD----------									
22)		Acetophenone		0.519	0.502	0.520	0.532	0.524	0.510	0.485	0.513	3.08
23)	S	Nitrobenzene-d5		0.231	0.255	0.297	0.330	0.340	0.337	0.331	0.303	14.54
24)		Nitrobenzene		0.267	0.285	0.324	0.351	0.356	0.353	0.345	0.326	11.09
25)		Isophorone		0.730	0.700	0.727	0.718	0.726	0.716	0.712	0.719	1.46
26)	C	2-Nitrophenol		0.057	0.064	0.085	0.106	0.122	0.130		0.094	32.19#
27)		2,4-Dimethylph...		0.291	0.292	0.312	0.321	0.323	0.319	0.312	0.310	4.29
28)		bis(2-Chloroet...		0.436	0.416	0.437	0.439	0.443	0.434	0.426	0.433	2.11
29)	C	2,4-Dichloroph...		0.247	0.260	0.282	0.298	0.303	0.303	0.305	0.285	8.26
30)		1,2,4-Trichlor...		0.325	0.311	0.324	0.336	0.335	0.329	0.320	0.326	2.64
31)		Naphthalene		1.084	1.044	1.078	1.108	1.103	1.075	1.035	1.075	2.56
32)		Benzoic acid			0.077	0.106	0.131	0.155	0.166	0.196	0.138	31.08
33)		4-Chloroaniline		0.475	0.456	0.476	0.482	0.486	0.478	0.477	0.476	1.98
34)	C	Hexachlorobuta...		0.189	0.183	0.189	0.198	0.194	0.189	0.184	0.189	2.76
35)		Caprolactam		0.085	0.081	0.091	0.091	0.094	0.097	0.110	0.093	9.99
36)	C	4-Chloro-3-met...		0.283	0.281	0.315	0.314	0.325	0.323	0.334	0.311	6.68
37)		2-Methylnaphth...		0.770	0.744	0.769	0.772	0.778	0.762	0.755	0.764	1.48
38)		1-Methylnaphth...		0.731	0.701	0.727	0.717	0.728	0.715	0.707	0.718	1.57

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.594	0.591	0.604	0.652	0.653	0.627	0.590	0.616	4.55
41)	P	Hexachlorocycl...		0.218	0.252	0.302	0.325	0.325	0.317	0.290	15.30
42)	S	2,4,6-Tribromo...	0.167	0.172	0.199	0.213	0.226	0.227		0.201	13.18
43)	C	2,4,6-Trichlor...	0.289	0.310	0.351	0.381	0.401	0.396	0.395	0.360	12.51
44)		2,4,5-Trichlor...	0.337	0.369	0.415	0.453	0.474	0.467	0.465	0.426	12.70
45)	S	2-Fluorobiphenyl	1.472	1.448	1.468	1.532	1.524	1.454	1.302	1.457	5.22
46)		1,1'-Biphenyl	1.616	1.566	1.596	1.677	1.672	1.614	1.503	1.606	3.76
47)		2-Chloronaphth...	1.202	1.171	1.201	1.253	1.251	1.209	1.137	1.203	3.45
48)		2-Nitroaniline	0.125	0.152	0.213	0.263	0.295	0.305	0.332	0.241	33.07
49)		Acenaphthylene	1.931	1.901	1.972	2.038	2.042	1.989	1.903	1.968	3.00
50)		Dimethylphthalate	1.492	1.429	1.487	1.499	1.518	1.477	1.506	1.487	1.93
51)		2,6-Dinitrotol...	0.125	0.165	0.233	0.264	0.287	0.291	0.315	0.240	29.36
52)	C	Acenaphthene	1.197	1.165	1.200	1.251	1.263	1.229	1.205	1.216	2.80
53)		3-Nitroaniline	0.154	0.194	0.260	0.301	0.323	0.328	0.366	0.275	27.92
54)	P	2,4-Dinitrophenol	0.033	0.038	0.051	0.065	0.078	0.087		0.058	37.60
55)		Dibenzofuran	1.905	1.832	1.863	1.902	1.911	1.840	1.797	1.864	2.34
56)	P	4-Nitrophenol		0.145	0.195	0.229	0.241	0.249		0.212	20.07
57)		2,4-Dinitrotol...	0.133	0.175	0.263	0.313	0.351	0.362		0.266	35.50
58)		Fluorene	1.523	1.445	1.503	1.509	1.513	1.456	1.420	1.482	2.71
59)		2,3,4,6-Tetrac...	0.273	0.284	0.318	0.337	0.348	0.352	0.377	0.327	11.49
60)		Diethylphthalate	1.471	1.383	1.460	1.450	1.458	1.427	1.516	1.452	2.79
61)		4-Chlorophenyl...	0.745	0.705	0.732	0.736	0.744	0.723	0.714	0.729	2.06
62)		4-Nitroaniline	0.168	0.198	0.267	0.311	0.323	0.323		0.265	25.44
63)		Azobenzene	1.474	1.388	1.432	1.420	1.417	1.372	1.373	1.411	2.58
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.027	0.040	0.053	0.065	0.072	0.090	0.058	39.19
66)	c	n-Nitrosodiphe...	0.634	0.631	0.663	0.675	0.686	0.672	0.604	0.652	4.54
67)		4-Bromophenyl-...	0.214	0.210	0.220	0.226	0.233	0.233	0.216	0.222	4.15
68)		Hexachlorobenzene	0.235	0.227	0.237	0.243	0.250	0.248	0.235	0.239	3.44
69)		Atrazine	0.174	0.171	0.189	0.199	0.194	0.191	0.189	0.187	5.42
70)	C	Pentachlorophenol		0.099	0.127	0.143	0.151	0.153	0.163	0.139	16.51
71)		Phenanthrene	1.134	1.075	1.111	1.151	1.145	1.121	1.053	1.113	3.29
72)		Anthracene	1.115	1.085	1.132	1.181	1.167	1.151	1.075	1.129	3.56
73)		Carbazole	1.018	0.962	1.001	1.066	1.042	1.014	1.002	1.015	3.25
74)		Di-n-butylphth...	1.055	0.996	1.116	1.186	1.186	1.165	1.204	1.130	6.94
75)	C	Fluoranthene	1.200	1.090	1.134	1.255	1.206	1.174	1.224	1.183	4.75
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.546	0.523	0.502	0.528	0.458	0.476	0.488	0.503	6.22
78)		Pyrene	1.598	1.534	1.636	1.482	1.539	1.498	1.418	1.529	4.75
79)	S	Terphenyl-d14	1.183	1.124	1.204	1.112	1.126	1.093	0.940	1.112	7.67
80)		Butylbenzylpht...	0.404	0.407	0.487	0.527	0.545	0.552		0.487	13.72
81)		Benzo(a)anthra...	1.403	1.336	1.388	1.431	1.430	1.410	1.355	1.393	2.62
82)		3,3'-Dichlorob...	0.392	0.390	0.439	0.482	0.487	0.486	0.466	0.449	9.51
83)		Chrysene	1.337	1.294	1.343	1.376	1.366	1.338	1.275	1.333	2.74
84)		Bis(2-ethylhex...	0.691	0.677	0.751	0.814	0.821	0.820	0.881	0.779	9.65
85)	c	Di-n-octyl pht...	1.022	1.041	1.144	1.362	1.374	1.380	1.472	1.256	14.56

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP012323.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.332	1.396	1.481	1.589	1.607	1.584	1.324	1.473	8.39
88)		Benzo(b)fluora...	1.203	1.148	1.199	1.268	1.267	1.244	1.283	1.230	3.96
89)		Benzo(k)fluora...	1.250	1.198	1.250	1.263	1.266	1.243	1.314	1.255	2.75
90)	C	Benzo(a)pyrene	1.154	1.118	1.177	1.240	1.242	1.219	1.204	1.194	3.86
91)		Dibenzo(a,h)an...	1.101	1.171	1.240	1.331	1.355	1.335	1.118	1.236	8.70
92)		Benzo(g,h,i)pe...	1.097	1.162	1.219	1.297	1.319	1.293	1.056	1.206	8.63

(#) = Out of Range

Response Factor Report MSBNA_P

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Wed Feb 01 03:43:48 2023
Response Via : Initial Calibration

Calibration Files
2.5 =BP013669.D 5 =BP013670.D 10 =BP013671.D 20 =BP013672.D 40 =BP013673.D 50 =BP013674.D 60 =BP013675.D 80 =BP013676.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------									
2)		1,4-Dioxane		0.540	0.526	0.508	0.501	0.486	0.470	0.433	0.495	7.29
3)		Pyridine		1.486	1.425	1.438	1.500	1.456	1.353	1.317	1.425	4.73
4)		n-Nitrosodimet...		0.524	0.509	0.519	0.526	0.518	0.497	0.485	0.511	3.02
5)	S	2-Fluorophenol		1.265	1.187	1.186	1.213	1.160	1.117	1.060	1.170	5.68
6)		Aniline		2.056	2.015	2.068	2.094	2.105	1.949	1.937	2.032	3.32
7)	S	Phenol-d6		1.648	1.553	1.571	1.610	1.589	1.488	1.452	1.559	4.39
8)		2-Chlorophenol		1.283	1.244	1.252	1.271	1.250	1.181	1.141	1.232	4.17
9)		Benzaldehyde		1.148	1.020	0.949	0.840	0.747	0.668		0.895	19.92
10)	C	Phenol		1.684	1.624	1.644	1.685	1.679	1.554	1.528	1.628	3.94
11)		bis(2-Chloroet...		1.389	1.317	1.310	1.328	1.316	1.236	1.210	1.301	4.60
12)		1,3-Dichlorobe...		1.501	1.431	1.411	1.420	1.373	1.314	1.263	1.387	5.70
13)	C	1,4-Dichlorobe...		1.503	1.432	1.439	1.437	1.399	1.338	1.279	1.404	5.28
14)		1,2-Dichlorobe...		1.461	1.362	1.370	1.383	1.353	1.270	1.205	1.343	6.16
15)		Benzyl Alcohol		1.054	1.042	1.087	1.151	1.194	1.101	1.097	1.104	4.82
16)		2,2'-oxybis(1-...		1.631	1.535	1.545	1.557	1.547	1.428	1.390	1.519	5.41
17)		2-Methylphenol		1.152	1.112	1.159	1.188	1.203	1.098	1.075	1.141	4.18
18)		Hexachloroethane		0.485	0.461	0.460	0.467	0.471	0.458	0.439	0.463	3.02
19)	P	n-Nitroso-di-n...	0.859	0.984	0.973	1.003	1.033	1.073	0.957	0.942	0.978	6.54
20)		3+4-Methylphenols		1.528	1.513	1.576	1.621	1.660	1.502	1.496	1.557	4.11
21)	I	Naphthalene-d8	----------ISTD----------									
22)		Acetophenone		0.530	0.508	0.529	0.531	0.540	0.522	0.492	0.522	3.13
23)	S	Nitrobenzene-d5		0.290	0.302	0.339	0.360	0.383	0.377	0.357	0.344	10.38
24)		Nitrobenzene		0.331	0.337	0.372	0.387	0.409	0.400	0.374	0.373	7.94
25)		Isophorone		0.746	0.730	0.764	0.778	0.814	0.767	0.736	0.762	3.78
26)	C	2-Nitrophenol		0.121	0.129	0.147	0.163	0.180	0.176	0.176	0.156	15.31
27)		2,4-Dimethylph...		0.296	0.296	0.308	0.317	0.324	0.311	0.300	0.308	3.47
28)		bis(2-Chloroet...		0.465	0.450	0.461	0.456	0.477	0.457	0.431	0.457	3.11
29)	C	2,4-Dichloroph...		0.318	0.319	0.334	0.341	0.356	0.347	0.328	0.335	4.28
30)		1,2,4-Trichlor...		0.382	0.367	0.373	0.372	0.380	0.374	0.353	0.371	2.56
31)		Naphthalene		1.097	1.040	1.066	1.060	1.077	1.033	0.989	1.052	3.33
32)		Benzoic acid			0.170	0.207	0.232	0.260	0.250	0.253	0.229	15.14
33)		4-Chloroaniline		0.450	0.445	0.464	0.472	0.492	0.464	0.447	0.462	3.59
34)	C	Hexachlorobuta...		0.242	0.232	0.234	0.233	0.240	0.241	0.228	0.236	2.17
35)		Caprolactam		0.103	0.099	0.107	0.112	0.123	0.113	0.113	0.110	7.07
36)	C	4-Chloro-3-met...		0.328	0.324	0.352	0.358	0.387	0.361	0.355	0.352	5.97
37)		2-Methylnaphth...		0.808	0.762	0.801	0.792	0.824	0.788	0.759	0.791	2.98
38)		1-Methylnaphth...		0.757	0.723	0.753	0.743	0.775	0.738	0.710	0.743	2.94

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.659	0.652	0.685	0.695	0.702	0.705	0.681	0.683	3.03
41)	P	Hexachlorocycl...		0.240	0.274	0.311	0.335	0.353	0.357	0.312	14.91
42)	S	2,4,6-Tribromo...	0.273	0.279	0.295	0.306	0.323	0.313	0.311	0.300	6.16
43)	C	2,4,6-Trichlor...	0.409	0.410	0.450	0.466	0.478	0.473	0.462	0.450	6.43
44)		2,4,5-Trichlor...	0.480	0.476	0.527	0.543	0.562	0.553	0.543	0.526	6.60
45)	S	2-Fluorobiphenyl	1.473	1.429	1.477	1.458	1.438	1.414	1.316	1.429	3.85
46)		1,1'-Biphenyl	1.545	1.486	1.551	1.539	1.535	1.509	1.430	1.513	2.88
47)		2-Chloronaphth...	1.181	1.143	1.198	1.191	1.188	1.173	1.115	1.170	2.56
48)		2-Nitroaniline	0.164	0.179	0.227	0.267	0.303	0.300	0.309	0.250	24.21
49)		Acenaphthylene	1.892	1.815	1.924	1.922	1.938	1.901	1.815	1.887	2.71
50)		Dimethylphthalate	1.558	1.482	1.571	1.570	1.609	1.542	1.496	1.547	2.87
51)		2,6-Dinitrotol...	0.167	0.208	0.274	0.306	0.332	0.324	0.325	0.276	23.48
52)	C	Acenaphthene	1.225	1.184	1.210	1.225	1.246	1.231	1.181	1.215	2.01
53)		3-Nitroaniline	0.204	0.247	0.297	0.327	0.352	0.343	0.340	0.302	18.60
54)	P	2,4-Dinitrophenol		0.102	0.131	0.169	0.201	0.197	0.210	0.168	25.88
55)		Dibenzofuran	1.959	1.911	1.935	1.903	1.926	1.884	1.789	1.901	2.88
56)	P	4-Nitrophenol		0.211	0.249	0.276	0.300	0.287	0.286	0.268	12.20
57)		2,4-Dinitrotol...	0.214	0.262	0.342	0.400	0.446	0.436	0.441	0.363	25.76
58)		Fluorene	1.549	1.492	1.547	1.505	1.506	1.463	1.384	1.492	3.78
59)		2,3,4,6-Tetrac...	0.430	0.428	0.453	0.466	0.489	0.472	0.465	0.458	4.85
60)		Diethylphthalate	1.499	1.450	1.496	1.494	1.544	1.473	1.425	1.483	2.59
61)		4-Chlorophenyl...	0.844	0.807	0.812	0.813	0.831	0.807	0.776	0.813	2.65
62)		4-Nitroaniline	0.195	0.236	0.298	0.329	0.352	0.343	0.344	0.299	20.47
63)		Azobenzene	1.344	1.335	1.411	1.395	1.421	1.372	1.311	1.370	3.03
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.069	0.088	0.107	0.120	0.119	0.124	0.104	20.90
66)	c	n-Nitrosodiphe...	0.597	0.602	0.591	0.584	0.581	0.575	0.543	0.582	3.37
67)		4-Bromophenyl-...	0.224	0.221	0.230	0.230	0.238	0.234	0.228	0.229	2.52
68)		Hexachlorobenzene	0.259	0.247	0.252	0.251	0.259	0.257	0.250	0.254	1.90
69)		Atrazine	0.184	0.188	0.195	0.201	0.194	0.187	0.178	0.189	4.12
70)	C	Pentachlorophenol	0.162	0.168	0.185	0.195	0.203	0.200	0.198	0.187	8.87
71)		Phenanthrene	1.125	1.080	1.097	1.075	1.071	1.058	0.998	1.072	3.64
72)		Anthracene	1.102	1.080	1.101	1.101	1.095	1.080	1.017	1.082	2.80
73)		Carbazole	0.990	1.002	1.006	0.999	0.994	0.972	0.917	0.983	3.17
74)		Di-n-butylphth...	1.044	1.055	1.085	1.097	1.117	1.091	1.039	1.075	2.74
75)	C	Fluoranthene	1.358	1.328	1.355	1.346	1.356	1.337	1.262	1.335	2.53
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.446	0.468	0.411	0.471	0.421	0.392	0.415	0.432	6.98
78)		Pyrene	1.361	1.313	1.355	1.378	1.373	1.355	1.284	1.346	2.55
79)	S	Terphenyl-d14	1.050	1.020	1.043	1.034	1.021	0.995	0.887	1.007	5.55
80)		Butylbenzylpht...	0.321	0.321	0.347	0.378	0.403	0.398	0.403	0.367	10.08
81)		Benzo(a)anthra...	1.414	1.353	1.399	1.417	1.421	1.394	1.326	1.389	2.60
82)		3,3'-Dichlorob...	0.398	0.405	0.447	0.463	0.465	0.452	0.443	0.439	6.10
83)		Chrysene	1.370	1.311	1.336	1.342	1.334	1.324	1.247	1.324	2.90
84)		Bis(2-ethylhex...	0.584	0.576	0.608	0.643	0.666	0.653	0.647	0.625	5.71
85)	c	Di-n-octyl pht...	1.069	1.047	1.108	1.173	1.220	1.198	1.180	1.142	5.88

Method Path : Z:\svoasrv\HPCHEM1\BNA_P\Methods\
Method File : 8270E-BP013123.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.562	1.482	1.517	1.530	1.549	1.531	1.476	1.521	2.11
88)		Benzo(b)fluora...	1.187	1.140	1.231	1.201	1.262	1.228	1.165	1.202	3.47
89)		Benzo(k)fluora...	1.243	1.138	1.216	1.248	1.208	1.200	1.174	1.204	3.19
90)	C	Benzo(a)pyrene	1.194	1.153	1.199	1.207	1.223	1.208	1.168	1.193	2.06
91)		Dibenzo(a,h)an...	1.290	1.236	1.263	1.274	1.288	1.271	1.215	1.263	2.18
92)		Benzo(g,h,i)pe...	1.297	1.221	1.249	1.258	1.274	1.258	1.221	1.254	2.19

(#) = Out of Range

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_F Calibration Date/Time: 01/20/2023 16:40

Lab File ID: BF132164.D Init. Calib. Date(s): 01/19/2023 01/19/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:21 15:11

GC Column: DB-UI ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.145	1.115		-2.6	
Phenol-d6	1.441	1.412		-2.0	
Nitrobenzene-d5	0.376	0.393		4.5	
Naphthalene	1.027	1.008		-1.9	
2-Fluorobiphenyl	1.369	1.224		-10.6	
Acenaphthylene	1.951	1.915		-1.8	
Acenaphthene	1.174	1.145		-2.5	20.0
Fluorene	1.344	1.292		-3.9	
2,4,6-Tribromophenol	0.214	0.231		7.9	
Phenanthrene	1.050	1.000		-4.8	
Anthracene	1.062	1.012		-4.7	
Fluoranthene	1.078	1.118		3.7	20.0
Pyrene	1.843	1.942		5.4	
Terphenyl-d14	1.194	1.203		0.8	
Benzo(a)anthracene	1.429	1.449		1.4	
Chrysene	1.360	1.334		-1.9	
Benzo(b)fluoranthene	1.218	1.276		4.8	
Benzo(k)fluoranthene	1.242	1.197		-3.6	
Benzo(a)pyrene	1.171	1.185		1.2	20.0
Indeno(1,2,3-cd)pyrene	1.451	1.547		6.6	
Dibenzo(a,h)anthracene	1.184	1.248		5.4	
Benzo(g,h,i)perylene	1.246	1.338		7.4	

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Instrument ID: BNA_P Calibration Date/Time: 01/24/2023 15:13

Lab File ID: BP013571.D Init. Calib. Date(s): 01/23/2023 01/23/2023

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 11:25 16:01

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.167	1.147		-1.7	
Phenol-d6	1.571	1.597		1.7	
Nitrobenzene-d5	0.303	0.333		9.9	
Naphthalene	1.075	1.033		-3.9	
2-Fluorobiphenyl	1.457	1.331		-8.6	
Acenaphthylene	1.968	1.875		-4.7	
Acenaphthene	1.216	1.183		-2.7	20.0
Fluorene	1.482	1.443		-2.6	
2,4,6-Tribromophenol	0.201	0.241		19.9	
Phenanthrene	1.113	1.061		-4.7	
Anthracene	1.129	1.078		-4.5	
Fluoranthene	1.183	1.251		5.7	20.0
Pyrene	1.529	1.345		-12.0	
Terphenyl-d14	1.112	1.000		-10.1	
Benzo(a)anthracene	1.393	1.340		-3.8	
Chrysene	1.333	1.268		-4.9	
Benzo(b)fluoranthene	1.230	1.204		-2.1	
Benzo(k)fluoranthene	1.255	1.230		-2.0	
Benzo(a)pyrene	1.194	1.155		-3.3	20.0
Indeno(1,2,3-cd)pyrene	1.473	1.333		-9.5	
Dibenzo(a,h)anthracene	1.236	1.129		-8.7	
Benzo(g,h,i)perylene	1.206	1.048		-13.1	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/20/23	
			Gasoline Range Organics	8015D			01/20/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/23/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-10	**DUP01**	**SOIL**			**01/18/23**			**01/19/23**
			Pesticide-TCL	8081B		01/20/23	01/20/23	

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Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Rc

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P-19A								
O1232-06	B-P-19A	SOIL	4,4-DDE	1.10	J	0.18	1.90	ug/kg
O1232-06	B-P-19A	SOIL	4,4-DDT	0.22	J	0.20	1.90	ug/kg
			Total Concentration:	**1.320**				
Client ID : B-P-19B								
O1232-07	B-P-19B	SOIL	4,4-DDE	0.88	J	0.18	1.90	ug/kg
			Total Concentration:	**0.880**				
Client ID : B-P-35A								
O1232-08	B-P-35A	SOIL	4,4-DDE	1.10	J	0.18	1.90	ug/kg
O1232-08	B-P-35A	SOIL	4,4-DDT	1.90		0.20	1.90	ug/kg
O1232-08	B-P-35A	SOIL	alpha-Chlordane	0.65	JP	0.14	1.90	ug/kg
O1232-08	B-P-35A	SOIL	gamma-Chlordane	0.43	J	0.15	1.90	ug/kg
			Total Concentration:	**4.080**				

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.4 Decanted:
Sample Wt/Vol:	30.04 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080431.D	1	01/20/23 10:35	01/20/23 21:09	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.21	U	0.21	1.90	ug/kg
319-85-7	beta-BHC	0.38	U	0.38	1.90	ug/kg
319-86-8	delta-BHC	0.45	U	0.45	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	1.90	ug/kg
76-44-8	Heptachlor	0.21	U	0.21	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.27	U	0.27	1.90	ug/kg
959-98-8	Endosulfan I	0.16	U	0.16	1.90	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	1.90	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.35	U	0.35	1.90	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.20	U	0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.22	U	0.22	1.90	ug/kg
53494-70-5	Endrin ketone	0.27	U	0.27	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.39	U	0.39	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.15	U	0.15	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.16	U	0.16	1.90	ug/kg
8001-35-2	Toxaphene	6.60	U	6.60	36.9	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	19.2		12 - 143	96%	SPK: 20
877-09-8	Tetrachloro-m-xylene	19.4		10 - 159	97%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.4 Decanted:
Sample Wt/Vol:	30.04 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080431.D	1	01/20/23 10:35	01/20/23 21:09	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	86.9 Decanted:
Sample Wt/Vol:	30.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080432.D	1	01/20/23 10:35	01/20/23 21:23	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.22	U	0.22	2.00	ug/kg
319-85-7	beta-BHC	0.39	U	0.39	2.00	ug/kg
319-86-8	delta-BHC	0.46	U	0.46	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	2.00	ug/kg
76-44-8	Heptachlor	0.22	U	0.22	2.00	ug/kg
309-00-2	Aldrin	0.20	U	0.20	2.00	ug/kg
1024-57-3	Heptachlor epoxide	0.28	U	0.28	2.00	ug/kg
959-98-8	Endosulfan I	0.16	U	0.16	2.00	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	2.00	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	2.00	ug/kg
72-20-8	Endrin	0.20	U	0.20	2.00	ug/kg
33213-65-9	Endosulfan II	0.36	U	0.36	2.00	ug/kg
72-54-8	4,4-DDD	0.22	U	0.22	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	0.21	U	0.21	2.00	ug/kg
50-29-3	4,4-DDT	0.21	U	0.21	2.00	ug/kg
72-43-5	Methoxychlor	0.23	U	0.23	2.00	ug/kg
53494-70-5	Endrin ketone	0.28	U	0.28	2.00	ug/kg
7421-93-4	Endrin aldehyde	0.40	U	0.40	2.00	ug/kg
5103-71-9	alpha-Chlordane	0.15	U	0.15	2.00	ug/kg
5103-74-2	gamma-Chlordane	0.16	U	0.16	2.00	ug/kg
8001-35-2	Toxaphene	6.80	U	6.80	37.9	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	19.8		12 - 143	99%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.2		10 - 159	101%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	86.9 Decanted:
Sample Wt/Vol:	30.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080432.D	1	01/20/23 10:35	01/20/23 21:23	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	87.5 Decanted:
Sample Wt/Vol:	30.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080433.D	1	01/20/23 10:35	01/20/23 21:37	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.22	U	0.22	1.90	ug/kg
319-85-7	beta-BHC	0.39	U	0.39	1.90	ug/kg
319-86-8	delta-BHC	0.46	U	0.46	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	1.90	ug/kg
76-44-8	Heptachlor	0.22	U	0.22	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.27	U	0.27	1.90	ug/kg
959-98-8	Endosulfan I	0.16	U	0.16	1.90	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	1.90	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.35	U	0.35	1.90	ug/kg
72-54-8	4,4-DDD	0.22	U	0.22	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.21	U	0.21	1.90	ug/kg
50-29-3	4,4-DDT	0.21	U	0.21	1.90	ug/kg
72-43-5	Methoxychlor	0.23	U	0.23	1.90	ug/kg
53494-70-5	Endrin ketone	0.27	U	0.27	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.40	U	0.40	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.15	U	0.15	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.16	U	0.16	1.90	ug/kg
8001-35-2	Toxaphene	6.80	U	6.80	37.6	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	19.5		12 - 143	97%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.6		10 - 159	103%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	87.5 Decanted:
Sample Wt/Vol:	30.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080433.D	1	01/20/23 10:35	01/20/23 21:37	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080434.D	1	01/20/23 10:35	01/20/23 21:51	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.21	U	0.21	1.90	ug/kg
319-85-7	beta-BHC	0.37	U	0.37	1.90	ug/kg
319-86-8	delta-BHC	0.44	U	0.44	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.16	U	0.16	1.90	ug/kg
76-44-8	Heptachlor	0.21	U	0.21	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.26	U	0.26	1.90	ug/kg
959-98-8	Endosulfan I	0.15	U	0.15	1.90	ug/kg
60-57-1	Dieldrin	0.16	U	0.16	1.90	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.34	U	0.34	1.90	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.20	U	0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.22	U	0.22	1.90	ug/kg
53494-70-5	Endrin ketone	0.26	U	0.26	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.38	U	0.38	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.14	U	0.14	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.15	U	0.15	1.90	ug/kg
8001-35-2	Toxaphene	6.50	U	6.50	36.1	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	13.4		12 - 143	67%	SPK: 20
877-09-8	Tetrachloro-m-xylene	10.7		10 - 159	53%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080434.D	1	01/20/23 10:35	01/20/23 21:51	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	88.2 Decanted:
Sample Wt/Vol:	30.07 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080435.D	1	01/20/23 10:35	01/20/23 22:05	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.21	U	0.21	1.90	ug/kg
319-85-7	beta-BHC	0.38	U	0.38	1.90	ug/kg
319-86-8	delta-BHC	0.45	U	0.45	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	1.90	ug/kg
76-44-8	Heptachlor	0.21	U	0.21	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.27	U	0.27	1.90	ug/kg
959-98-8	Endosulfan I	0.16	U	0.16	1.90	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	1.90	ug/kg
72-55-9	4,4-DDE	1.10	J	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.35	U	0.35	1.90	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.22	J	0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.23	U	0.23	1.90	ug/kg
53494-70-5	Endrin ketone	0.27	U	0.27	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.40	U	0.40	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.15	U	0.15	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.16	U	0.16	1.90	ug/kg
8001-35-2	Toxaphene	6.70	U	6.70	37.3	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	10.5		12 - 143	53%	SPK: 20
877-09-8	Tetrachloro-m-xylene	9.88		10 - 159	49%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	88.2 Decanted:
Sample Wt/Vol:	30.07 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080435.D	1	01/20/23 10:35	01/20/23 22:05	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	88 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080459.D	1	01/20/23 10:35	01/23/23 10:53	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.22	U	0.22	1.90	ug/kg
319-85-7	beta-BHC	0.39	U	0.39	1.90	ug/kg
319-86-8	delta-BHC	0.45	U	0.45	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	1.90	ug/kg
76-44-8	Heptachlor	0.22	U	0.22	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.27	U	0.27	1.90	ug/kg
959-98-8	Endosulfan I	0.16	U	0.16	1.90	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	1.90	ug/kg
72-55-9	4,4-DDE	0.88	J	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.35	U	0.35	1.90	ug/kg
72-54-8	4,4-DDD	0.22	U	0.22	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.20	U	0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.23	U	0.23	1.90	ug/kg
53494-70-5	Endrin ketone	0.27	U	0.27	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.40	U	0.40	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.15	U	0.15	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.16	U	0.16	1.90	ug/kg
8001-35-2	Toxaphene	6.70	U	6.70	37.4	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	11.8		12 - 143	59%	SPK: 20
877-09-8	Tetrachloro-m-xylene	11.0		10 - 159	55%	SPK: 20

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	88 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080459.D	1	01/20/23 10:35	01/23/23 10:53	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	91.3 Decanted:
Sample Wt/Vol:	30.05 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080437.D	1	01/20/23 10:35	01/20/23 22:33	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.21	U	0.21	1.90	ug/kg
319-85-7	beta-BHC	0.37	U	0.37	1.90	ug/kg
319-86-8	delta-BHC	0.44	U	0.44	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.16	U	0.16	1.90	ug/kg
76-44-8	Heptachlor	0.21	U	0.21	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.26	U	0.26	1.90	ug/kg
959-98-8	Endosulfan I	0.15	U	0.15	1.90	ug/kg
60-57-1	Dieldrin	0.16	U	0.16	1.90	ug/kg
72-55-9	4,4-DDE	1.10	J	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.34	U	0.34	1.90	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	1.90		0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.22	U	0.22	1.90	ug/kg
53494-70-5	Endrin ketone	0.26	U	0.26	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.38	U	0.38	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.65	JP	0.14	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.43	J	0.15	1.90	ug/kg
8001-35-2	Toxaphene	6.50	U	6.50	36.1	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.6		12 - 143	93%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.5		10 - 159	103%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	91.3 Decanted:
Sample Wt/Vol:	30.05 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080437.D	1	01/20/23 10:35	01/20/23 22:33	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	93.3 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080438.D	1	01/20/23 10:35	01/20/23 22:47	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.20	U	0.20	1.80	ug/kg
319-85-7	beta-BHC	0.36	U	0.36	1.80	ug/kg
319-86-8	delta-BHC	0.43	U	0.43	1.80	ug/kg
58-89-9	gamma-BHC (Lindane)	0.16	U	0.16	1.80	ug/kg
76-44-8	Heptachlor	0.20	U	0.20	1.80	ug/kg
309-00-2	Aldrin	0.18	U	0.18	1.80	ug/kg
1024-57-3	Heptachlor epoxide	0.26	U	0.26	1.80	ug/kg
959-98-8	Endosulfan I	0.15	U	0.15	1.80	ug/kg
60-57-1	Dieldrin	0.16	U	0.16	1.80	ug/kg
72-55-9	4,4-DDE	0.17	U	0.17	1.80	ug/kg
72-20-8	Endrin	0.18	U	0.18	1.80	ug/kg
33213-65-9	Endosulfan II	0.33	U	0.33	1.80	ug/kg
72-54-8	4,4-DDD	0.20	U	0.20	1.80	ug/kg
1031-07-8	Endosulfan Sulfate	0.19	U	0.19	1.80	ug/kg
50-29-3	4,4-DDT	0.19	U	0.19	1.80	ug/kg
72-43-5	Methoxychlor	0.21	U	0.21	1.80	ug/kg
53494-70-5	Endrin ketone	0.26	U	0.26	1.80	ug/kg
7421-93-4	Endrin aldehyde	0.37	U	0.37	1.80	ug/kg
5103-71-9	alpha-Chlordane	0.14	U	0.14	1.80	ug/kg
5103-74-2	gamma-Chlordane	0.15	U	0.15	1.80	ug/kg
8001-35-2	Toxaphene	6.30	U	6.30	35.3	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	17.7		12 - 143	88%	SPK: 20
877-09-8	Tetrachloro-m-xylene	19.2		10 - 159	96%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	93.3 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080438.D	1	01/20/23 10:35	01/20/23 22:47	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.1 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080439.D	1	01/20/23 10:35	01/20/23 23:00	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.21	U	0.21	1.90	ug/kg
319-85-7	beta-BHC	0.38	U	0.38	1.90	ug/kg
319-86-8	delta-BHC	0.44	U	0.44	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.17	U	0.17	1.90	ug/kg
76-44-8	Heptachlor	0.21	U	0.21	1.90	ug/kg
309-00-2	Aldrin	0.19	U	0.19	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.27	U	0.27	1.90	ug/kg
959-98-8	Endosulfan I	0.15	U	0.15	1.90	ug/kg
60-57-1	Dieldrin	0.17	U	0.17	1.90	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.34	U	0.34	1.90	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.20	U	0.20	1.90	ug/kg
72-43-5	Methoxychlor	0.22	U	0.22	1.90	ug/kg
53494-70-5	Endrin ketone	0.27	U	0.27	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.39	U	0.39	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.14	U	0.14	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.15	U	0.15	1.90	ug/kg
8001-35-2	Toxaphene	6.60	U	6.60	36.5	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	12.8		12 - 143	64%	SPK: 20
877-09-8	Tetrachloro-m-xylene	10.8		10 - 159	54%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.1 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080439.D	1	01/20/23 10:35	01/20/23 23:00	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

QC SUMMARY

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8081B

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PL080405.D	PIBLK-PL080405.D	Decachlorobiphenyl	1	20	23.3	116		27	142
		Tetrachloro-m-xylene	1	20	23.0	115		60	145
		Decachlorobiphenyl	2	20	20.9	104		27	142
		Tetrachloro-m-xylene	2	20	21.7	109		60	145
I.BLK-PL080426.D	PIBLK-PL080426.D	Decachlorobiphenyl	1	20	21.8	109		27	142
		Tetrachloro-m-xylene	1	20	20.5	102		60	145
		Decachlorobiphenyl	2	20	21.7	108		27	142
		Tetrachloro-m-xylene	2	20	20.8	104		60	145
PB150373BL	PB150373BL	Decachlorobiphenyl	1	20	18.6	93		12	143
		Tetrachloro-m-xylene	1	20	16.7	83		10	159
		Decachlorobiphenyl	2	20	18.2	91		12	143
		Tetrachloro-m-xylene	2	20	16.6	83		10	159
PB150373BS	PB150373BS	Decachlorobiphenyl	1	20	20.2	101		12	143
		Tetrachloro-m-xylene	1	20	18.3	91		10	159
		Decachlorobiphenyl	2	20	20.0	100		12	143
		Tetrachloro-m-xylene	2	20	18.4	92		10	159
O1232-01	B-P-17A	Decachlorobiphenyl	1	20	19.2	96		12	143
		Tetrachloro-m-xylene	1	20	18.9	94		10	159
		Decachlorobiphenyl	2	20	18.8	94		12	143
		Tetrachloro-m-xylene	2	20	19.4	97		10	159
O1232-02	B-P-17B	Decachlorobiphenyl	1	20	19.8	99		12	143
		Tetrachloro-m-xylene	1	20	20.2	101		10	159
		Decachlorobiphenyl	2	20	19.3	96		12	143
		Tetrachloro-m-xylene	2	20	20.1	101		10	159
O1232-04	B-P-18A	Decachlorobiphenyl	1	20	19.5	97		12	143
		Tetrachloro-m-xylene	1	20	20.6	103		10	159
		Decachlorobiphenyl	2	20	19.0	95		12	143
		Tetrachloro-m-xylene	2	20	20.5	102		10	159
O1232-05	B-P-18B	Decachlorobiphenyl	1	20	13.4	67		12	143
		Tetrachloro-m-xylene	1	20	10.7	53		10	159
		Decachlorobiphenyl	2	20	13.2	66		12	143
		Tetrachloro-m-xylene	2	20	9.57	48		10	159
O1232-06	B-P-19A	Decachlorobiphenyl	1	20	10.5	53		12	143
		Tetrachloro-m-xylene	1	20	9.88	49		10	159
		Decachlorobiphenyl	2	20	10.4	52		12	143
		Tetrachloro-m-xylene	2	20	9.38	47		10	159
O1232-08	B-P-35A	Decachlorobiphenyl	1	20	18.5	92		12	143
		Tetrachloro-m-xylene	1	20	20.0	100		10	159
		Decachlorobiphenyl	2	20	18.6	93		12	143
		Tetrachloro-m-xylene	2	20	20.5	103		10	159
O1232-09	B-P-35B	Decachlorobiphenyl	1	20	17.7	88		12	143
		Tetrachloro-m-xylene	1	20	19.2	96		10	159
		Decachlorobiphenyl	2	20	17.4	87		12	143

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8081B

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
O1232-09	B-P-35B	Tetrachloro-m-xylene	2	20	18.5	93		10	159
O1232-10	DUP01	Decachlorobiphenyl	1	20	12.8	64		12	143
		Tetrachloro-m-xylene	1	20	10.8	54		10	159
		Decachlorobiphenyl	2	20	11.1	55		12	143
		Tetrachloro-m-xylene	2	20	10.1	51		10	159
I.BLK-PL080440.D	PIBLK-PL080440.D	Decachlorobiphenyl	1	20	21.8	109		27	142
		Tetrachloro-m-xylene	1	20	20.8	104		60	145
		Decachlorobiphenyl	2	20	20.9	104		27	142
		Tetrachloro-m-xylene	2	20	20.7	104		60	145
O1233-02MS	B-P34AMS	Decachlorobiphenyl	1	20	15.5	77		12	143
		Tetrachloro-m-xylene	1	20	16.9	85		10	159
		Decachlorobiphenyl	2	20	15.1	75		12	143
		Tetrachloro-m-xylene	2	20	16.8	84		10	159
O1233-02MSD	B-P34AMSD	Decachlorobiphenyl	1	20	15.7	78		12	143
		Tetrachloro-m-xylene	1	20	17.1	85		10	159
		Decachlorobiphenyl	2	20	15.2	76		12	143
		Tetrachloro-m-xylene	2	20	17.1	85		10	159
I.BLK-PL080453.D	PIBLK-PL080453.D	Decachlorobiphenyl	1	20	21.2	106		27	142
		Tetrachloro-m-xylene	1	20	20.5	103		60	145
		Decachlorobiphenyl	2	20	21.3	106		27	142
		Tetrachloro-m-xylene	2	20	20.3	102		60	145
I.BLK-PL080456.D	PIBLK-PL080456.D	Decachlorobiphenyl	1	20	19.5	98		27	142
		Tetrachloro-m-xylene	1	20	22.9	114		60	145
		Decachlorobiphenyl	2	20	17.2	86		27	142
		Tetrachloro-m-xylene	2	20	20.8	104		60	145
O1232-07	B-P-19B	Decachlorobiphenyl	1	20	11.8	59		12	143
		Tetrachloro-m-xylene	1	20	11.0	55		10	159
		Decachlorobiphenyl	2	20	11.2	56		12	143
		Tetrachloro-m-xylene	2	20	10.2	51		10	159
I.BLK-PL080461.D	PIBLK-PL080461.D	Decachlorobiphenyl	1	20	19.1	96		27	142
		Tetrachloro-m-xylene	1	20	19.9	100		60	145
		Decachlorobiphenyl	2	20	17.9	89		27	142
		Tetrachloro-m-xylene	2	20	19.4	97		60	145

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8081B **DataFile :** PL080443.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Client Sample ID:	**B-P34AMS**											
O1233-02MS	alpha-BHC	19.47	0	18.2	ug/kg	93				67	130	
	beta-BHC	19.47	0	17.7	ug/kg	91				63	134	
	delta-BHC	19.47	0	18.7	ug/kg	96				48	144	
	gamma-BHC (Lindane)	19.47	0	18.5	ug/kg	95				70	131	
	Heptachlor	19.47	0	18.4	ug/kg	95				65	131	
	Aldrin	19.47	0	19.0	ug/kg	98				67	134	
	Heptachlor epoxide	19.47	0	18.3	ug/kg	94				55	162	
	Endosulfan I	19.47	0	18.2	ug/kg	93				67	133	
	Dieldrin	19.47	0	19.2	ug/kg	99				47	161	
	4,4'-DDE	19.47	0	18.6	ug/kg	96				45	175	
	Endrin	19.47	0	19.7	ug/kg	101				47	158	
	Endosulfan II	19.47	0	20.8	ug/kg	107				57	149	
	4,4'-DDD	19.47	0	18.3	ug/kg	94				65	145	
	Endosulfan sulfate	19.47	0	18.6	ug/kg	96				62	139	
	4,4'-DDT	19.47	0	19.8	ug/kg	102				46	168	
	Methoxychlor	19.47	0	18.8	ug/kg	97				57	145	
	Endrin ketone	19.47	0	18.4	ug/kg	95				60	129	
	Endrin aldehyde	19.47	0	19.8	ug/kg	102				49	146	
	alpha-Chlordane	19.47	0	18.5	ug/kg	95				42	175	
	gamma-Chlordane	19.47	0	18.3	ug/kg	94				44	175	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8081B **DataFile :** PL080444.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Client Sample ID:	**B-P34AMSD**											
O1233-02MSD	alpha-BHC	19.49	0	18.4	ug/kg	94		1		67	130	20
	beta-BHC	19.49	0	17.9	ug/kg	92		1		63	134	20
	delta-BHC	19.49	0	19.0	ug/kg	97		1		48	144	20
	gamma-BHC (Lindane)	19.49	0	18.8	ug/kg	96		1		70	131	20
	Heptachlor	19.49	0	18.6	ug/kg	95		0		65	131	20
	Aldrin	19.49	0	19.3	ug/kg	99		1		67	134	20
	Heptachlor epoxide	19.49	0	18.5	ug/kg	95		1		55	162	20
	Endosulfan I	19.49	0	18.4	ug/kg	94		1		67	133	20
	Dieldrin	19.49	0	19.4	ug/kg	100		1		47	161	20
	4,4'-DDE	19.49	0	18.9	ug/kg	97		1		45	175	20
	Endrin	19.49	0	19.9	ug/kg	102		1		47	158	20
	Endosulfan II	19.49	0	21.1	ug/kg	108		1		57	149	20
	4,4'-DDD	19.49	0	18.6	ug/kg	95		1		65	145	20
	Endosulfan sulfate	19.49	0	18.8	ug/kg	96		0		62	139	20
	4,4'-DDT	19.49	0	20.0	ug/kg	103		1		46	168	20
	Methoxychlor	19.49	0	19.0	ug/kg	97		0		57	145	20
	Endrin ketone	19.49	0	18.6	ug/kg	95		0		60	129	20
	Endrin aldehyde	19.49	0	20.1	ug/kg	103		1		49	146	20
	alpha-Chlordane	19.49	0	18.7	ug/kg	96		1		42	175	20
	gamma-Chlordane	19.49	0	18.8	ug/kg	96		2		44	175	20

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8081B **Datafile :** PL080430.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB150373BS	alpha-BHC	16.66	15.1	ug/kg	91				84	123	
	beta-BHC	16.66	14.3	ug/kg	86				82	123	
	delta-BHC	16.66	15.2	ug/kg	91				83	126	
	gamma-BHC (Lindane)	16.66	15.1	ug/kg	91				83	125	
	Heptachlor	16.66	15.2	ug/kg	91				83	122	
	Aldrin	16.66	15.5	ug/kg	93				82	124	
	Heptachlor epoxide	16.66	15.3	ug/kg	92				83	120	
	Endosulfan I	16.66	15.0	ug/kg	90				81	124	
	Dieldrin	16.66	15.9	ug/kg	95				85	121	
	4,4'-DDE	16.66	15.3	ug/kg	92				81	123	
	Endrin	16.66	16.5	ug/kg	99				76	130	
	Endosulfan II	16.66	17.4	ug/kg	104				80	125	
	4,4'-DDD	16.66	15.2	ug/kg	91				80	131	
	Endosulfan sulfate	16.66	15.6	ug/kg	94				81	122	
	4,4'-DDT	16.66	15.0	ug/kg	90				70	129	
	Methoxychlor	16.66	15.5	ug/kg	93				78	129	
	Endrin ketone	16.66	15.5	ug/kg	93				77	132	
	Endrin aldehyde	16.66	16.4	ug/kg	98				79	124	
	alpha-Chlordane	16.66	15.3	ug/kg	92				84	120	
	gamma-Chlordane	16.66	15.0	ug/kg	90				83	122	

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150373BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab Sample ID: PB150373BL Lab File ID: PL080429.D

Matrix: (soil/water) Solid Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N Date Extracted: 01/20/2023

Date Analyzed (1): 01/20/2023 Date Analyzed (2): 01/20/2023

Time Analyzed (1): 20:42 Time Analyzed (2): 20:42

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column (1): ZB-MR2 ID: 0.32 (mm) GC Column (2): ZB-MR1 ID: 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB150373BS	PB150373BS	PL080430.D	01/20/2023	01/20/2023
B-P-17A	O1232-01	PL080431.D	01/20/2023	01/20/2023
B-P-17B	O1232-02	PL080432.D	01/20/2023	01/20/2023
B-P-18A	O1232-04	PL080433.D	01/20/2023	01/20/2023
B-P-18B	O1232-05	PL080434.D	01/20/2023	01/20/2023
B-P-19A	O1232-06	PL080435.D	01/20/2023	01/20/2023
B-P-35A	O1232-08	PL080437.D	01/20/2023	01/20/2023
B-P-35B	O1232-09	PL080438.D	01/20/2023	01/20/2023
DUP01	O1232-10	PL080439.D	01/20/2023	01/20/2023
B-P34AMS	O1233-02MS	PL080443.D	01/21/2023	01/21/2023
B-P34AMSD	O1233-02MSD	PL080444.D	01/21/2023	01/21/2023
B-P-19B	O1232-07	PL080459.D	01/23/2023	01/23/2023

COMMENTS:

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150373BL	SDG No.:	O1232
Lab Sample ID:	PB150373BL	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	100 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080429.D	1	01/20/23 10:35	01/20/23 20:42	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.19	U	0.19	1.70	ug/kg
319-85-7	beta-BHC	0.34	U	0.34	1.70	ug/kg
319-86-8	delta-BHC	0.40	U	0.40	1.70	ug/kg
58-89-9	gamma-BHC (Lindane)	0.15	U	0.15	1.70	ug/kg
76-44-8	Heptachlor	0.19	U	0.19	1.70	ug/kg
309-00-2	Aldrin	0.17	U	0.17	1.70	ug/kg
1024-57-3	Heptachlor epoxide	0.24	U	0.24	1.70	ug/kg
959-98-8	Endosulfan I	0.14	U	0.14	1.70	ug/kg
60-57-1	Dieldrin	0.15	U	0.15	1.70	ug/kg
72-55-9	4,4-DDE	0.16	U	0.16	1.70	ug/kg
72-20-8	Endrin	0.17	U	0.17	1.70	ug/kg
33213-65-9	Endosulfan II	0.31	U	0.31	1.70	ug/kg
72-54-8	4,4-DDD	0.19	U	0.19	1.70	ug/kg
1031-07-8	Endosulfan Sulfate	0.18	U	0.18	1.70	ug/kg
50-29-3	4,4-DDT	0.18	U	0.18	1.70	ug/kg
72-43-5	Methoxychlor	0.20	U	0.20	1.70	ug/kg
53494-70-5	Endrin ketone	0.24	U	0.24	1.70	ug/kg
7421-93-4	Endrin aldehyde	0.35	U	0.35	1.70	ug/kg
5103-71-9	alpha-Chlordane	0.13	U	0.13	1.70	ug/kg
5103-74-2	gamma-Chlordane	0.14	U	0.14	1.70	ug/kg
8001-35-2	Toxaphene	5.90	U	5.90	33.0	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.6		12 - 143	93%	SPK: 20
877-09-8	Tetrachloro-m-xylene	16.7		10 - 159	83%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150373BL	SDG No.:	O1232
Lab Sample ID:	PB150373BL	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	100 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080429.D	1	01/20/23 10:35	01/20/23 20:42	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080405.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080405.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080405.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	23.3		27 - 142	116%	SPK: 20
877-09-8	Tetrachloro-m-xylene	23.0		60 - 145	115%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080405.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080405.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080405.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080426.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080426.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080426.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.8		27 - 142	109%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.8		60 - 145	104%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080426.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080426.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080426.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080440.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080440.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080440.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.8		27 - 142	109%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.8		60 - 145	104%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PL080440.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080440.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080440.D	1		01/20/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/21/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/21/23
Client Sample ID:	PIBLK-PL080453.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080453.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080453.D	1		01/21/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.3		27 - 142	106%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.5		60 - 145	103%	SPK: 20

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/21/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/21/23
Client Sample ID:	PIBLK-PL080453.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080453.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080453.D	1		01/21/23	pl012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-PL080456.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080456.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080456.D	1		01/23/23	pl012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	19.5		27 - 142	98%	SPK: 20
877-09-8	Tetrachloro-m-xylene	22.9		60 - 145	114%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-PL080456.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080456.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080456.D	1		01/23/23	pl012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-PL080461.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080461.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080461.D	1		01/23/23	pl012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
319-84-6	alpha-BHC	0.0057	U	0.0057	0.050	ug/L
319-85-7	beta-BHC	0.0080	U	0.0080	0.050	ug/L
319-86-8	delta-BHC	0.013	U	0.013	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0052	U	0.0052	0.050	ug/L
76-44-8	Heptachlor	0.0060	U	0.0060	0.050	ug/L
309-00-2	Aldrin	0.0061	U	0.0061	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.0067	U	0.0067	0.050	ug/L
959-98-8	Endosulfan I	0.0045	U	0.0045	0.050	ug/L
60-57-1	Dieldrin	0.0045	U	0.0045	0.050	ug/L
72-55-9	4,4-DDE	0.0048	U	0.0048	0.050	ug/L
72-20-8	Endrin	0.0048	U	0.0048	0.050	ug/L
33213-65-9	Endosulfan II	0.0068	U	0.0068	0.050	ug/L
72-54-8	4,4-DDD	0.0048	U	0.0048	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0050	U	0.0050	0.050	ug/L
50-29-3	4,4-DDT	0.0060	U	0.0060	0.050	ug/L
72-43-5	Methoxychlor	0.0060	U	0.0060	0.050	ug/L
53494-70-5	Endrin ketone	0.0068	U	0.0068	0.050	ug/L
7421-93-4	Endrin aldehyde	0.010	U	0.010	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0045	U	0.0045	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0044	U	0.0044	0.050	ug/L
8001-35-2	Toxaphene	0.17	U	0.17	1.00	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	19.1		27 - 142	96%	SPK: 20
877-09-8	Tetrachloro-m-xylene	19.9		60 - 145	100%	SPK: 20

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-PL080461.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PL080461.D	Matrix:	WATER
Analytical Method:	SW8081	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080461.D	1		01/23/23	pl012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150373BS	SDG No.:	O1232
Lab Sample ID:	PB150373BS	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	100 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080430.D	1	01/20/23 10:35	01/20/23 20:55	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	15.1		0.19	1.70	ug/kg
319-85-7	beta-BHC	14.3		0.34	1.70	ug/kg
319-86-8	delta-BHC	15.2		0.40	1.70	ug/kg
58-89-9	gamma-BHC (Lindane)	15.1		0.15	1.70	ug/kg
76-44-8	Heptachlor	15.2		0.19	1.70	ug/kg
309-00-2	Aldrin	15.5		0.17	1.70	ug/kg
1024-57-3	Heptachlor epoxide	15.3		0.24	1.70	ug/kg
959-98-8	Endosulfan I	15.0		0.14	1.70	ug/kg
60-57-1	Dieldrin	15.9		0.15	1.70	ug/kg
72-55-9	4,4-DDE	15.3		0.16	1.70	ug/kg
72-20-8	Endrin	16.5		0.17	1.70	ug/kg
33213-65-9	Endosulfan II	17.4		0.31	1.70	ug/kg
72-54-8	4,4-DDD	15.2		0.19	1.70	ug/kg
1031-07-8	Endosulfan Sulfate	15.6		0.18	1.70	ug/kg
50-29-3	4,4-DDT	15.0		0.18	1.70	ug/kg
72-43-5	Methoxychlor	15.5		0.20	1.70	ug/kg
53494-70-5	Endrin ketone	15.5		0.24	1.70	ug/kg
7421-93-4	Endrin aldehyde	16.4		0.35	1.70	ug/kg
5103-71-9	alpha-Chlordane	15.3		0.13	1.70	ug/kg
5103-74-2	gamma-Chlordane	15.0		0.14	1.70	ug/kg
8001-35-2	Toxaphene	5.90	U	5.90	33.0	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	20.2		12 - 143	101%	SPK: 20
877-09-8	Tetrachloro-m-xylene	18.4		10 - 159	92%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150373BS	SDG No.:	O1232
Lab Sample ID:	PB150373BS	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	100 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080430.D	1	01/20/23 10:35	01/20/23 20:55	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080443.D	1	01/20/23 10:35	01/21/23 00:38	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	18.2		0.22	2.00	ug/kg
319-85-7	beta-BHC	17.7		0.40	2.00	ug/kg
319-86-8	delta-BHC	18.7		0.47	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	18.5		0.18	2.00	ug/kg
76-44-8	Heptachlor	18.4		0.22	2.00	ug/kg
309-00-2	Aldrin	19.0		0.20	2.00	ug/kg
1024-57-3	Heptachlor epoxide	18.3		0.28	2.00	ug/kg
959-98-8	Endosulfan I	18.2		0.16	2.00	ug/kg
60-57-1	Dieldrin	19.2		0.18	2.00	ug/kg
72-55-9	4,4-DDE	18.6		0.19	2.00	ug/kg
72-20-8	Endrin	19.7		0.20	2.00	ug/kg
33213-65-9	Endosulfan II	20.8		0.36	2.00	ug/kg
72-54-8	4,4-DDD	18.3		0.22	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	18.6		0.21	2.00	ug/kg
50-29-3	4,4-DDT	19.8		0.21	2.00	ug/kg
72-43-5	Methoxychlor	18.8		0.23	2.00	ug/kg
53494-70-5	Endrin ketone	18.4		0.28	2.00	ug/kg
7421-93-4	Endrin aldehyde	19.8		0.41	2.00	ug/kg
5103-71-9	alpha-Chlordane	18.5		0.15	2.00	ug/kg
5103-74-2	gamma-Chlordane	18.3		0.16	2.00	ug/kg
8001-35-2	Toxaphene	6.90	U	6.90	38.6	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	15.5		12 - 143	77%	SPK: 20
877-09-8	Tetrachloro-m-xylene	16.9		10 - 159	85%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMS	SDG No.:	O1232
Lab Sample ID:	O1233-02MS	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080443.D	1	01/20/23 10:35	01/21/23 00:38	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 Decanted:
Sample Wt/Vol:	30.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080444.D	1	01/20/23 10:35	01/21/23 00:51	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	18.4		0.22	2.00	ug/kg
319-85-7	beta-BHC	17.9		0.40	2.00	ug/kg
319-86-8	delta-BHC	19.0		0.47	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	18.8		0.18	2.00	ug/kg
76-44-8	Heptachlor	18.6		0.22	2.00	ug/kg
309-00-2	Aldrin	19.3		0.20	2.00	ug/kg
1024-57-3	Heptachlor epoxide	18.5		0.28	2.00	ug/kg
959-98-8	Endosulfan I	18.4		0.16	2.00	ug/kg
60-57-1	Dieldrin	19.4		0.18	2.00	ug/kg
72-55-9	4,4-DDE	18.9		0.19	2.00	ug/kg
72-20-8	Endrin	19.9		0.20	2.00	ug/kg
33213-65-9	Endosulfan II	21.1		0.36	2.00	ug/kg
72-54-8	4,4-DDD	18.6		0.22	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	18.8		0.21	2.00	ug/kg
50-29-3	4,4-DDT	20.0		0.21	2.00	ug/kg
72-43-5	Methoxychlor	19.0		0.23	2.00	ug/kg
53494-70-5	Endrin ketone	18.6		0.28	2.00	ug/kg
7421-93-4	Endrin aldehyde	20.1		0.41	2.00	ug/kg
5103-71-9	alpha-Chlordane	18.7		0.15	2.00	ug/kg
5103-74-2	gamma-Chlordane	18.8		0.16	2.00	ug/kg
8001-35-2	Toxaphene	6.90	U	6.90	38.6	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	15.7		12 - 143	78%	SPK: 20
877-09-8	Tetrachloro-m-xylene	17.1		10 - 159	85%	SPK: 20

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34AMSD	SDG No.:	O1232
Lab Sample ID:	O1233-02MSD	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 Decanted:
Sample Wt/Vol:	30.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	Pesticide-TCL
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL080444.D	1	01/20/23 10:35	01/21/23 00:51	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Calibration Date(s):** 01/20/2023 01/20/2023

Calibration Times: 14:41 15:36

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 100 = PL080408.D RT 075 = PL080409.D

RT 050 = PL080410.D RT 025 = PL080411.D RT 005 = PL080412.D

COMPOUND	RT 100	RT 075	RT 050	RT 025	RT 005	MEAN RT	RT WINDOW FROM	RT WINDOW TO
4,4'-DDD	6.50	6.50	6.50	6.50	6.50	6.50	6.40	6.60
4,4'-DDE	5.99	5.99	5.99	5.99	5.99	5.99	5.89	6.09
4,4'-DDT	6.82	6.82	6.82	6.82	6.82	6.82	6.72	6.92
Aldrin	5.05	5.05	5.05	5.05	5.05	5.05	4.95	5.15
alpha-BHC	3.80	3.80	3.80	3.80	3.80	3.80	3.70	3.90
alpha-Chlordane	5.81	5.81	5.81	5.81	5.81	5.81	5.71	5.91
beta-BHC	4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43
Decachlorobiphenyl	8.79	8.79	8.79	8.79	8.79	8.79	8.69	8.89
delta-BHC	4.57	4.57	4.57	4.57	4.57	4.57	4.47	4.67
Dieldrin	6.13	6.13	6.13	6.13	6.13	6.13	6.03	6.23
Endosulfan I	5.86	5.86	5.86	5.86	5.86	5.86	5.76	5.96
Endosulfan II	6.58	6.58	6.58	6.58	6.58	6.58	6.48	6.68
Endosulfan sulfate	6.94	6.94	6.94	6.94	6.94	6.94	6.84	7.04
Endrin	6.36	6.36	6.36	6.36	6.36	6.36	6.26	6.46
Endrin aldehyde	6.71	6.71	6.71	6.71	6.71	6.71	6.61	6.81
Endrin ketone	7.42	7.42	7.42	7.42	7.42	7.42	7.32	7.52
gamma-BHC (Lindane)	4.13	4.13	4.13	4.13	4.13	4.13	4.03	4.23
gamma-Chlordane	5.73	5.73	5.73	5.73	5.73	5.73	5.63	5.83
Heptachlor	4.71	4.71	4.71	4.71	4.71	4.71	4.61	4.81
Heptachlor epoxide	5.48	5.48	5.48	5.48	5.48	5.48	5.38	5.58
Methoxychlor	7.30	7.29	7.29	7.29	7.29	7.29	7.19	7.39
Tetrachloro-m-xylene	3.35	3.35	3.35	3.35	3.35	3.35	3.25	3.45

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Calibration Date(s):** 01/20/2023 01/20/2023

Calibration Times: 14:41 15:36

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 100 = PL080408.D RT 075 = PL080409.D

RT 050 = PL080410.D RT 025 = PL080411.D RT 005 = PL080412.D

COMPOUND	RT 100	RT 075	RT 050	RT 025	RT 005	MEAN RT	RT WINDOW FROM	RT WINDOW TO
4,4'-DDD	5.71	5.71	5.71	5.71	5.70	5.71	5.61	5.81
4,4'-DDE	5.15	5.15	5.15	5.15	5.15	5.15	5.05	5.25
4,4'-DDT	5.96	5.96	5.96	5.96	5.96	5.96	5.86	6.06
Aldrin	4.14	4.14	4.14	4.14	4.14	4.14	4.04	4.24
alpha-BHC	3.19	3.19	3.19	3.19	3.19	3.19	3.09	3.29
alpha-Chlordane	4.96	4.96	4.96	4.96	4.96	4.96	4.86	5.06
beta-BHC	3.82	3.82	3.82	3.82	3.82	3.82	3.72	3.92
Decachlorobiphenyl	7.84	7.84	7.84	7.84	7.84	7.84	7.74	7.94
delta-BHC	4.05	4.05	4.05	4.05	4.05	4.05	3.95	4.15
Dieldrin	5.28	5.28	5.28	5.28	5.28	5.28	5.18	5.38
Endosulfan I	5.01	5.01	5.01	5.01	5.01	5.01	4.91	5.11
Endosulfan II	5.85	5.85	5.85	5.85	5.85	5.85	5.75	5.95
Endosulfan sulfate	6.25	6.25	6.25	6.25	6.25	6.25	6.15	6.35
Endrin	5.55	5.55	5.55	5.55	5.55	5.55	5.45	5.65
Endrin aldehyde	6.03	6.03	6.03	6.03	6.03	6.03	5.93	6.13
Endrin ketone	6.76	6.76	6.76	6.76	6.76	6.76	6.66	6.86
gamma-BHC (Lindane)	3.52	3.52	3.52	3.52	3.52	3.52	3.42	3.62
gamma-Chlordane	4.90	4.89	4.90	4.89	4.89	4.89	4.79	4.99
Heptachlor	3.86	3.86	3.86	3.86	3.86	3.86	3.76	3.96
Heptachlor epoxide	4.64	4.64	4.64	4.64	4.64	4.64	4.54	4.74
Methoxychlor	6.54	6.54	6.54	6.54	6.54	6.54	6.44	6.64
Tetrachloro-m-xylene	2.69	2.69	2.69	2.69	2.69	2.69	2.59	2.79

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Calibration Date(s):** 01/20/2023 01/20/2023

Calibration Times: 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

LAB FILE ID: **CF 100 =** PL080408.D **CF 075 =** PL080409.D

CF 050 = PL080410.D **CF 025 =** PL080411.D **CF 005 =** PL080412.D

COMPOUND	CF 100	CF 075	CF 050	CF 025	CF 005	CF	% RSD
4,4'-DDD	1905610000	1862000000	1887350000	1782240000	1722740000	1831990000	4
4,4'-DDE	2372610000	2301620000	2301670000	2141800000	2019030000	2227350000	6
4,4'-DDT	2121650000	2069360000	2105420000	2030590000	2061320000	2077670000	2
Aldrin	2860500000	2790820000	2808060000	2638150000	2581390000	2735780000	4
alpha-BHC	3459050000	3348520000	3326130000	3010010000	2696430000	3168030000	10
alpha-Chlordane	2569670000	2528060000	2582020000	2479710000	2461870000	2524270000	2
beta-BHC	1294560000	1302560000	1356950000	1344950000	1526100000	1365020000	7
Decachlorobiphenyl	1672970000	1677850000	1760440000	1790370000	1852150000	1750750000	4
delta-BHC	3060650000	3002620000	3011640000	2759300000	2640780000	2895000000	6
Dieldrin	2493900000	2438180000	2465990000	2329280000	2239460000	2393360000	4
Endosulfan I	2387790000	2351460000	2408380000	2317780000	2341910000	2361460000	2
Endosulfan II	2093230000	2100820000	2170130000	2223780000	2873670000	2292330000	14
Endosulfan sulfate	2062490000	2046210000	2111090000	2059180000	2070610000	2069910000	1
Endrin	2204570000	2155500000	2194160000	2079990000	2179270000	2162700000	2
Endrin aldehyde	1635600000	1625400000	1687620000	1663640000	1704770000	1663410000	2
Endrin ketone	2216140000	2194410000	2263130000	2186320000	2171720000	2206340000	2
gamma-BHC (Lindane)	3150720000	3065120000	3082440000	2837110000	2563450000	2939770000	8
gamma-Chlordane	2594350000	2547200000	2592760000	2465730000	2428580000	2525720000	3
Heptachlor	3043160000	2998050000	3040850000	2897830000	2796200000	2955220000	4
Heptachlor epoxide	2583000000	2553540000	2617140000	2527330000	2654290000	2587060000	2
Methoxychlor	1070870000	1072560000	1121380000	1119940000	1131700000	1103290000	3
Tetrachloro-m-xylene	2180590000	2154690000	2203650000	2127540000	2057690000	2144830000	3

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Calibration Date(s):** 01/20/2023 01/20/2023

Calibration Times: 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

LAB FILE ID: **CF 100 =** PL080408.D **CF 075 =** PL080409.D

CF 050 = PL080410.D **CF 025 =** PL080411.D **CF 005 =** PL080412.D

COMPOUND	CF 100	CF 075	CF 050	CF 025	CF 005	CF	% RSD
4,4'-DDD	2062880000	1990630000	1979590000	1798820000	1564090000	1879200000	11
4,4'-DDE	2603080000	2510310000	2474640000	2228870000	1977270000	2358830000	11
4,4'-DDT	2281330000	2209920000	2184000000	2010350000	1821830000	2101490000	9
Aldrin	3198240000	3090160000	3084560000	2816020000	2558890000	2949570000	9
alpha-BHC	3512950000	3389760000	3354830000	2995570000	2648950000	3180410000	11
alpha-Chlordane	2975110000	2908520000	2947310000	2785580000	2706870000	2864680000	4
beta-BHC	1331220000	1320290000	1367170000	1324970000	1329490000	1334630000	1
Decachlorobiphenyl	2264360000	2256580000	2379210000	2418120000	2594410000	2382540000	6
delta-BHC	3173510000	3070820000	3053200000	2725940000	2398720000	2884440000	11
Dieldrin	2915090000	2817980000	2814250000	2585500000	2392010000	2704970000	8
Endosulfan I	2719000000	2661400000	2696990000	2535860000	2393420000	2601340000	5
Endosulfan II	2247480000	2196770000	2218270000	2027050000	1729060000	2083730000	10
Endosulfan sulfate	2371950000	2330180000	2387060000	2290720000	2248450000	2325670000	2
Endrin	2455220000	2388810000	2416400000	2249330000	2096050000	2321160000	6
Endrin aldehyde	1820760000	1800700000	1844580000	1803290000	1861220000	1826110000	1
Endrin ketone	2628620000	2575270000	2643990000	2517280000	2400980000	2553230000	4
gamma-BHC (Lindane)	3253830000	3149320000	3144020000	2848560000	2540790000	2987310000	10
gamma-Chlordane	2995300000	2918520000	2933430000	2741630000	2582290000	2834240000	6
Heptachlor	3367270000	3281190000	3309620000	3080600000	2873130000	3182360000	6
Heptachlor epoxide	2894640000	2832800000	2871620000	2708730000	2603910000	2782340000	4
Methoxychlor	1210100000	1199400000	1243480000	1222610000	1191730000	1213470000	2
Tetrachloro-m-xylene	2253200000	2223250000	2272190000	2174740000	2058890000	2196450000	4

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Date(s) Analyzed:** 01/20/2023 01/20/2023

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	500	1	6.03	5.93	6.13	16579700
		2	6.84	6.74	6.94	67395000
		3	6.93	6.83	7.03	48523600
		4	7.03	6.93	7.13	26898900
		5	7.35	7.25	7.45	37572200

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_L **Date(s) Analyzed:** 01/20/2023 01/20/2023

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	500	1	5.24	5.14	5.34	13842900
		2	5.88	5.78	5.98	16444600
		3	6.52	6.42	6.62	53738800
		4	6.65	6.55	6.75	73380200
		5	6.96	6.86	7.06	31164000

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 20:00 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.79	8.79	8.69	8.89	0.00
Tetrachloro-m-xylene	3.35	3.35	3.25	3.45	0.00
alpha-BHC	3.80	3.80	3.70	3.90	0.00
beta-BHC	4.33	4.33	4.23	4.43	0.01
delta-BHC	4.57	4.57	4.47	4.67	0.00
gamma-BHC (Lindane)	4.13	4.13	4.03	4.23	0.00
Heptachlor	4.71	4.71	4.61	4.81	0.00
Aldrin	5.05	5.05	4.95	5.15	0.00
Heptachlor epoxide	5.48	5.48	5.38	5.58	0.01
Endosulfan I	5.86	5.86	5.76	5.96	0.00
Dieldrin	6.13	6.13	6.03	6.23	0.00
4,4'-DDE	5.99	5.99	5.89	6.09	0.00
Endrin	6.36	6.36	6.26	6.46	0.00
Endosulfan II	6.58	6.58	6.48	6.68	0.00
4,4'-DDD	6.50	6.50	6.40	6.60	0.00
Endosulfan sulfate	6.94	6.94	6.84	7.04	0.00
4,4'-DDT	6.82	6.82	6.72	6.92	0.00
Methoxychlor	7.29	7.29	7.19	7.39	0.00
Endrin ketone	7.42	7.42	7.32	7.52	0.00
Endrin aldehyde	6.71	6.71	6.61	6.81	0.00
alpha-Chlordane	5.81	5.81	5.71	5.91	0.00
gamma-Chlordane	5.73	5.73	5.63	5.83	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 20:00 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.84	7.84	7.74	7.94	0.00
Tetrachloro-m-xylene	2.69	2.69	2.59	2.79	0.00
alpha-BHC	3.19	3.19	3.09	3.29	0.00
beta-BHC	3.82	3.82	3.72	3.92	0.00
delta-BHC	4.05	4.05	3.95	4.15	0.00
gamma-BHC (Lindane)	3.52	3.52	3.42	3.62	0.00
Heptachlor	3.86	3.86	3.76	3.96	0.00
Aldrin	4.14	4.14	4.04	4.24	0.00
Heptachlor epoxide	4.64	4.64	4.54	4.74	0.00
Endosulfan I	5.01	5.01	4.91	5.11	0.00
Dieldrin	5.28	5.28	5.18	5.38	0.00
4,4'-DDE	5.15	5.15	5.05	5.25	0.00
Endrin	5.55	5.55	5.45	5.65	0.00
Endosulfan II	5.85	5.85	5.75	5.95	0.01
4,4'-DDD	5.70	5.71	5.61	5.81	0.01
Endosulfan sulfate	6.25	6.25	6.15	6.35	0.00
4,4'-DDT	5.96	5.96	5.86	6.06	0.01
Methoxychlor	6.53	6.54	6.44	6.64	0.01
Endrin ketone	6.75	6.76	6.66	6.86	0.01
Endrin aldehyde	6.03	6.03	5.93	6.13	0.00
alpha-Chlordane	4.96	4.96	4.86	5.06	0.00
gamma-Chlordane	4.89	4.90	4.80	5.00	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL01 **Date Analyzed:** 01/20/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080428.D **Time Analyzed:** 20:00

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.501	6.404	6.604	48.270	50.000	-3.5
4,4'-DDE	5.987	5.889	6.089	49.010	50.000	-2.0
4,4'-DDT	6.815	6.716	6.916	47.330	50.000	-5.3
Aldrin	5.051	4.952	5.152	49.400	50.000	-1.2
alpha-BHC	3.800	3.701	3.901	50.520	50.000	1.0
alpha-Chlordane	5.810	5.711	5.911	48.940	50.000	-2.1
beta-BHC	4.325	4.225	4.425	48.490	50.000	-3.0
Decachlorobiphenyl	8.789	8.693	8.893	47.530	50.000	-4.9
delta-BHC	4.568	4.468	4.668	50.330	50.000	0.7
Dieldrin	6.132	6.033	6.233	49.250	50.000	-1.5
Endosulfan I	5.857	5.759	5.959	48.760	50.000	-2.5
Endosulfan II	6.577	6.480	6.680	42.260	50.000	-15.5
Endosulfan sulfate	6.941	6.843	7.043	48.650	50.000	-2.7
Endrin	6.359	6.261	6.461	48.680	50.000	-2.6
Endrin aldehyde	6.707	6.609	6.809	47.960	50.000	-4.1
Endrin ketone	7.421	7.324	7.524	48.690	50.000	-2.6
gamma-BHC (Lindane)	4.129	4.029	4.229	50.730	50.000	1.5
gamma-Chlordane	5.730	5.632	5.832	48.470	50.000	-3.1
Heptachlor	4.713	4.613	4.813	49.780	50.000	-0.4
Heptachlor epoxide	5.475	5.377	5.577	48.460	50.000	-3.1
Methoxychlor	7.292	7.194	7.394	48.170	50.000	-3.7
Tetrachloro-m-xylene	3.352	3.252	3.452	49.310	50.000	-1.4

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL01 **Date Analyzed:** 01/20/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080428.D **Time Analyzed:** 20:00

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.704	5.606	5.806	49.820	50.000	-0.4
4,4'-DDE	5.150	5.052	5.252	49.440	50.000	-1.1
4,4'-DDT	5.955	5.858	6.058	49.440	50.000	-1.1
Aldrin	4.140	4.041	4.241	50.500	50.000	1.0
alpha-BHC	3.191	3.091	3.291	51.440	50.000	2.9
alpha-Chlordane	4.957	4.859	5.059	49.040	50.000	-1.9
beta-BHC	3.815	3.716	3.916	49.090	50.000	-1.8
Decachlorobiphenyl	7.839	7.742	7.942	47.380	50.000	-5.2
delta-BHC	4.045	3.946	4.146	50.630	50.000	1.3
Dieldrin	5.277	5.179	5.379	49.990	50.000	0.0
Endosulfan I	5.012	4.913	5.113	49.610	50.000	-0.8
Endosulfan II	5.845	5.748	5.948	42.630	50.000	-14.7
Endosulfan sulfate	6.248	6.151	6.351	48.840	50.000	-2.3
Endrin	5.551	5.454	5.654	50.540	50.000	1.1
Endrin aldehyde	6.026	5.928	6.128	47.890	50.000	-4.2
Endrin ketone	6.754	6.656	6.856	49.490	50.000	-1.0
gamma-BHC (Lindane)	3.519	3.420	3.620	51.000	50.000	2.0
gamma-Chlordane	4.893	4.795	4.995	48.920	50.000	-2.2
Heptachlor	3.860	3.762	3.962	50.210	50.000	0.4
Heptachlor epoxide	4.642	4.544	4.744	49.890	50.000	-0.2
Methoxychlor	6.534	6.436	6.636	48.220	50.000	-3.6
Tetrachloro-m-xylene	2.690	2.590	2.790	50.300	50.000	0.6

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 23:28 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.79	8.79	8.69	8.89	0.00
Tetrachloro-m-xylene	3.35	3.35	3.25	3.45	0.00
alpha-BHC	3.80	3.80	3.70	3.90	0.00
beta-BHC	4.33	4.33	4.23	4.43	0.01
delta-BHC	4.57	4.57	4.47	4.67	0.00
gamma-BHC (Lindane)	4.13	4.13	4.03	4.23	0.00
Heptachlor	4.71	4.71	4.61	4.81	0.00
Aldrin	5.05	5.05	4.95	5.15	0.00
Heptachlor epoxide	5.48	5.48	5.38	5.58	0.00
Endosulfan I	5.86	5.86	5.76	5.96	0.00
Dieldrin	6.13	6.13	6.03	6.23	0.00
4,4'-DDE	5.99	5.99	5.89	6.09	0.00
Endrin	6.36	6.36	6.26	6.46	0.00
Endosulfan II	6.58	6.58	6.48	6.68	0.00
4,4'-DDD	6.50	6.50	6.40	6.60	0.00
Endosulfan sulfate	6.94	6.94	6.84	7.04	0.00
4,4'-DDT	6.81	6.82	6.72	6.92	0.01
Methoxychlor	7.29	7.29	7.19	7.39	0.00
Endrin ketone	7.42	7.42	7.32	7.52	0.00
Endrin aldehyde	6.71	6.71	6.61	6.81	0.00
alpha-Chlordane	5.81	5.81	5.71	5.91	0.00
gamma-Chlordane	5.73	5.73	5.63	5.83	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 23:28 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.84	7.84	7.74	7.94	0.00
Tetrachloro-m-xylene	2.69	2.69	2.59	2.79	0.00
alpha-BHC	3.19	3.19	3.09	3.29	0.00
beta-BHC	3.82	3.82	3.72	3.92	0.00
delta-BHC	4.05	4.05	3.95	4.15	0.00
gamma-BHC (Lindane)	3.52	3.52	3.42	3.62	0.00
Heptachlor	3.86	3.86	3.76	3.96	0.00
Aldrin	4.14	4.14	4.04	4.24	0.00
Heptachlor epoxide	4.64	4.64	4.54	4.74	0.00
Endosulfan I	5.01	5.01	4.91	5.11	0.00
Dieldrin	5.28	5.28	5.18	5.38	0.00
4,4'-DDE	5.15	5.15	5.05	5.25	0.00
Endrin	5.55	5.55	5.45	5.65	0.00
Endosulfan II	5.85	5.85	5.75	5.95	0.00
4,4'-DDD	5.70	5.71	5.61	5.81	0.01
Endosulfan sulfate	6.25	6.25	6.15	6.35	0.00
4,4'-DDT	5.96	5.96	5.86	6.06	0.00
Methoxychlor	6.53	6.54	6.44	6.64	0.01
Endrin ketone	6.75	6.76	6.66	6.86	0.01
Endrin aldehyde	6.03	6.03	5.93	6.13	0.00
alpha-Chlordane	4.96	4.96	4.86	5.06	0.00
gamma-Chlordane	4.89	4.90	4.80	5.00	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL02 **Date Analyzed:** 01/20/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080441.D **Time Analyzed:** 23:28

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.501	6.404	6.604	49.740	50.000	-0.5
4,4'-DDE	5.987	5.889	6.089	50.360	50.000	0.7
4,4'-DDT	6.814	6.716	6.916	48.460	50.000	-3.1
Aldrin	5.051	4.952	5.152	50.590	50.000	1.2
alpha-BHC	3.800	3.701	3.901	51.970	50.000	3.9
alpha-Chlordane	5.810	5.711	5.911	50.070	50.000	0.1
beta-BHC	4.325	4.225	4.425	49.540	50.000	-0.9
Decachlorobiphenyl	8.790	8.693	8.893	48.360	50.000	-3.3
delta-BHC	4.568	4.468	4.668	51.780	50.000	3.6
Dieldrin	6.132	6.033	6.233	50.140	50.000	0.3
Endosulfan I	5.857	5.759	5.959	49.840	50.000	-0.3
Endosulfan II	6.578	6.480	6.680	42.850	50.000	-14.3
Endosulfan sulfate	6.941	6.843	7.043	49.600	50.000	-0.8
Endrin	6.359	6.261	6.461	50.110	50.000	0.2
Endrin aldehyde	6.707	6.609	6.809	48.570	50.000	-2.9
Endrin ketone	7.421	7.324	7.524	49.160	50.000	-1.7
gamma-BHC (Lindane)	4.129	4.029	4.229	52.070	50.000	4.1
gamma-Chlordane	5.729	5.632	5.832	50.420	50.000	0.8
Heptachlor	4.713	4.613	4.813	51.320	50.000	2.6
Heptachlor epoxide	5.476	5.377	5.577	50.250	50.000	0.5
Methoxychlor	7.292	7.194	7.394	49.050	50.000	-1.9
Tetrachloro-m-xylene	3.352	3.252	3.452	50.350	50.000	0.7

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL02 **Date Analyzed:** 01/20/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080441.D **Time Analyzed:** 23:28

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.704	5.606	5.806	50.880	50.000	1.8
4,4'-DDE	5.150	5.052	5.252	50.190	50.000	0.4
4,4'-DDT	5.956	5.858	6.058	50.430	50.000	0.9
Aldrin	4.140	4.041	4.241	51.080	50.000	2.2
alpha-BHC	3.191	3.091	3.291	51.540	50.000	3.1
alpha-Chlordane	4.958	4.859	5.059	49.130	50.000	-1.7
beta-BHC	3.815	3.716	3.916	49.710	50.000	-0.6
Decachlorobiphenyl	7.838	7.742	7.942	47.060	50.000	-5.9
delta-BHC	4.045	3.946	4.146	51.450	50.000	2.9
Dieldrin	5.277	5.179	5.379	49.860	50.000	-0.3
Endosulfan I	5.012	4.913	5.113	49.140	50.000	-1.7
Endosulfan II	5.846	5.748	5.948	45.360	50.000	-9.3
Endosulfan sulfate	6.249	6.151	6.351	48.910	50.000	-2.2
Endrin	5.552	5.454	5.654	50.510	50.000	1.0
Endrin aldehyde	6.026	5.928	6.128	47.660	50.000	-4.7
Endrin ketone	6.754	6.656	6.856	49.070	50.000	-1.9
gamma-BHC (Lindane)	3.519	3.420	3.620	51.170	50.000	2.3
gamma-Chlordane	4.894	4.795	4.995	49.400	50.000	-1.2
Heptachlor	3.860	3.762	3.962	50.430	50.000	0.9
Heptachlor epoxide	4.643	4.544	4.744	49.840	50.000	-0.3
Methoxychlor	6.534	6.436	6.636	48.860	50.000	-2.3
Tetrachloro-m-xylene	2.690	2.590	2.790	50.670	50.000	1.3

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 03:10 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.79	8.79	8.69	8.89	0.00
Tetrachloro-m-xylene	3.35	3.35	3.25	3.45	0.00
alpha-BHC	3.80	3.80	3.70	3.90	0.00
beta-BHC	4.32	4.33	4.23	4.43	0.01
delta-BHC	4.57	4.57	4.47	4.67	0.00
gamma-BHC (Lindane)	4.13	4.13	4.03	4.23	0.00
Heptachlor	4.71	4.71	4.61	4.81	0.00
Aldrin	5.05	5.05	4.95	5.15	0.00
Heptachlor epoxide	5.48	5.48	5.38	5.58	0.01
Endosulfan I	5.86	5.86	5.76	5.96	0.00
Dieldrin	6.13	6.13	6.03	6.23	0.00
4,4'-DDE	5.99	5.99	5.89	6.09	0.00
Endrin	6.36	6.36	6.26	6.46	0.00
Endosulfan II	6.58	6.58	6.48	6.68	0.00
4,4'-DDD	6.50	6.50	6.40	6.60	0.00
Endosulfan sulfate	6.94	6.94	6.84	7.04	0.00
4,4'-DDT	6.81	6.82	6.72	6.92	0.01
Methoxychlor	7.29	7.29	7.19	7.39	0.00
Endrin ketone	7.42	7.42	7.32	7.52	0.00
Endrin aldehyde	6.71	6.71	6.61	6.81	0.00
alpha-Chlordane	5.81	5.81	5.71	5.91	0.00
gamma-Chlordane	5.73	5.73	5.63	5.83	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 03:10 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.84	7.84	7.74	7.94	0.00
Tetrachloro-m-xylene	2.69	2.69	2.59	2.79	0.00
alpha-BHC	3.19	3.19	3.09	3.29	0.00
beta-BHC	3.82	3.82	3.72	3.92	0.00
delta-BHC	4.05	4.05	3.95	4.15	0.00
gamma-BHC (Lindane)	3.52	3.52	3.42	3.62	0.00
Heptachlor	3.86	3.86	3.76	3.96	0.00
Aldrin	4.14	4.14	4.04	4.24	0.00
Heptachlor epoxide	4.64	4.64	4.54	4.74	0.00
Endosulfan I	5.01	5.01	4.91	5.11	0.00
Dieldrin	5.28	5.28	5.18	5.38	0.00
4,4'-DDE	5.15	5.15	5.05	5.25	0.00
Endrin	5.55	5.55	5.45	5.65	0.00
Endosulfan II	5.84	5.85	5.75	5.95	0.01
4,4'-DDD	5.70	5.71	5.61	5.81	0.01
Endosulfan sulfate	6.25	6.25	6.15	6.35	0.00
4,4'-DDT	5.96	5.96	5.86	6.06	0.01
Methoxychlor	6.53	6.54	6.44	6.64	0.01
Endrin ketone	6.75	6.76	6.66	6.86	0.01
Endrin aldehyde	6.03	6.03	5.93	6.13	0.00
alpha-Chlordane	4.96	4.96	4.86	5.06	0.00
gamma-Chlordane	4.89	4.90	4.80	5.00	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL03 **Date Analyzed:** 01/21/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080454.D **Time Analyzed:** 03:10

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.501	6.404	6.604	50.450	50.000	0.9
4,4'-DDE	5.987	5.889	6.089	50.250	50.000	0.5
4,4'-DDT	6.814	6.716	6.916	48.260	50.000	-3.5
Aldrin	5.050	4.952	5.152	50.390	50.000	0.8
alpha-BHC	3.799	3.701	3.901	51.560	50.000	3.1
alpha-Chlordane	5.809	5.711	5.911	50.040	50.000	0.1
beta-BHC	4.324	4.225	4.425	49.280	50.000	-1.4
Decachlorobiphenyl	8.789	8.693	8.893	48.200	50.000	-3.6
delta-BHC	4.567	4.468	4.668	51.820	50.000	3.6
Dieldrin	6.131	6.033	6.233	50.070	50.000	0.1
Endosulfan I	5.857	5.759	5.959	50.130	50.000	0.3
Endosulfan II	6.577	6.480	6.680	43.040	50.000	-13.9
Endosulfan sulfate	6.940	6.843	7.043	50.000	50.000	0.0
Endrin	6.358	6.261	6.461	53.860	50.000	7.7
Endrin aldehyde	6.706	6.609	6.809	48.530	50.000	-2.9
Endrin ketone	7.421	7.324	7.524	49.890	50.000	-0.2
gamma-BHC (Lindane)	4.128	4.029	4.229	51.830	50.000	3.7
gamma-Chlordane	5.728	5.632	5.832	50.570	50.000	1.1
Heptachlor	4.712	4.613	4.813	50.890	50.000	1.8
Heptachlor epoxide	5.475	5.377	5.577	51.910	50.000	3.8
Methoxychlor	7.292	7.194	7.394	48.720	50.000	-2.6
Tetrachloro-m-xylene	3.351	3.252	3.452	50.200	50.000	0.4

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL03 **Date Analyzed:** 01/21/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080454.D **Time Analyzed:** 03:10

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.703	5.606	5.806	51.750	50.000	3.5
4,4'-DDE	5.150	5.052	5.252	50.440	50.000	0.9
4,4'-DDT	5.955	5.858	6.058	50.090	50.000	0.2
Aldrin	4.139	4.041	4.241	52.640	50.000	5.3
alpha-BHC	3.190	3.091	3.291	51.070	50.000	2.1
alpha-Chlordane	4.957	4.859	5.059	48.930	50.000	-2.1
beta-BHC	3.815	3.716	3.916	49.760	50.000	-0.5
Decachlorobiphenyl	7.838	7.742	7.942	48.250	50.000	-3.5
delta-BHC	4.045	3.946	4.146	51.970	50.000	3.9
Dieldrin	5.276	5.179	5.379	50.620	50.000	1.2
Endosulfan I	5.011	4.913	5.113	47.620	50.000	-4.8
Endosulfan II	5.844	5.748	5.948	52.940	50.000	5.9
Endosulfan sulfate	6.248	6.151	6.351	49.390	50.000	-1.2
Endrin	5.551	5.454	5.654	50.690	50.000	1.4
Endrin aldehyde	6.026	5.928	6.128	47.950	50.000	-4.1
Endrin ketone	6.753	6.656	6.856	49.690	50.000	-0.6
gamma-BHC (Lindane)	3.519	3.420	3.620	50.960	50.000	1.9
gamma-Chlordane	4.893	4.795	4.995	49.060	50.000	-1.9
Heptachlor	3.860	3.762	3.962	49.840	50.000	-0.3
Heptachlor epoxide	4.642	4.544	4.744	49.640	50.000	-0.7
Methoxychlor	6.534	6.436	6.636	48.790	50.000	-2.4
Tetrachloro-m-xylene	2.689	2.590	2.790	49.770	50.000	-0.5

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/23/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 10:21 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.80	8.79	8.69	8.89	-0.01
Tetrachloro-m-xylene	3.36	3.35	3.25	3.45	-0.01
alpha-BHC	3.81	3.80	3.70	3.90	-0.01
beta-BHC	4.33	4.33	4.23	4.43	0.00
delta-BHC	4.58	4.57	4.47	4.67	-0.01
gamma-BHC (Lindane)	4.14	4.13	4.03	4.23	-0.01
Heptachlor	4.72	4.71	4.61	4.81	-0.01
Aldrin	5.06	5.05	4.95	5.15	-0.01
Heptachlor epoxide	5.48	5.48	5.38	5.58	0.00
Endosulfan I	5.87	5.86	5.76	5.96	-0.01
Dieldrin	6.14	6.13	6.03	6.23	-0.01
4,4'-DDE	6.00	5.99	5.89	6.09	-0.01
Endrin	6.37	6.36	6.26	6.46	-0.01
Endosulfan II	6.59	6.58	6.48	6.68	-0.01
4,4'-DDD	6.51	6.50	6.40	6.60	-0.01
Endosulfan sulfate	6.95	6.94	6.84	7.04	-0.01
4,4'-DDT	6.82	6.82	6.72	6.92	0.00
Methoxychlor	7.30	7.29	7.19	7.39	-0.01
Endrin ketone	7.43	7.42	7.32	7.52	-0.01
Endrin aldehyde	6.72	6.71	6.61	6.81	-0.01
alpha-Chlordane	5.82	5.81	5.71	5.91	-0.01
gamma-Chlordane	5.74	5.73	5.63	5.83	-0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/23/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 10:21 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.84	7.84	7.74	7.94	0.00
Tetrachloro-m-xylene	2.69	2.69	2.59	2.79	0.00
alpha-BHC	3.19	3.19	3.09	3.29	0.00
beta-BHC	3.82	3.82	3.72	3.92	0.00
delta-BHC	4.05	4.05	3.95	4.15	0.00
gamma-BHC (Lindane)	3.52	3.52	3.42	3.62	0.00
Heptachlor	3.86	3.86	3.76	3.96	0.00
Aldrin	4.14	4.14	4.04	4.24	0.00
Heptachlor epoxide	4.64	4.64	4.54	4.74	0.00
Endosulfan I	5.01	5.01	4.91	5.11	0.00
Dieldrin	5.28	5.28	5.18	5.38	0.00
4,4'-DDE	5.15	5.15	5.05	5.25	0.00
Endrin	5.55	5.55	5.45	5.65	0.00
Endosulfan II	5.85	5.85	5.75	5.95	0.00
4,4'-DDD	5.71	5.71	5.61	5.81	0.01
Endosulfan sulfate	6.25	6.25	6.15	6.35	0.00
4,4'-DDT	5.96	5.96	5.86	6.06	0.00
Methoxychlor	6.54	6.54	6.44	6.64	0.00
Endrin ketone	6.76	6.76	6.66	6.86	0.00
Endrin aldehyde	6.03	6.03	5.93	6.13	0.00
alpha-Chlordane	4.96	4.96	4.86	5.06	0.00
gamma-Chlordane	4.89	4.90	4.80	5.00	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL04 **Date Analyzed:** 01/23/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080458.D **Time Analyzed:** 10:21

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.510	6.404	6.604	48.410	50.000	-3.2
4,4'-DDE	5.996	5.889	6.089	48.250	50.000	-3.5
4,4'-DDT	6.823	6.716	6.916	45.650	50.000	-8.7
Aldrin	5.059	4.952	5.152	49.680	50.000	-0.6
alpha-BHC	3.808	3.701	3.901	53.660	50.000	7.3
alpha-Chlordane	5.818	5.711	5.911	48.510	50.000	-3.0
beta-BHC	4.333	4.225	4.425	48.430	50.000	-3.1
Decachlorobiphenyl	8.800	8.693	8.893	44.420	50.000	-11.2
delta-BHC	4.576	4.468	4.668	51.710	50.000	3.4
Dieldrin	6.141	6.033	6.233	48.520	50.000	-3.0
Endosulfan I	5.866	5.759	5.959	48.320	50.000	-3.4
Endosulfan II	6.586	6.480	6.680	41.880	50.000	-16.2
Endosulfan sulfate	6.950	6.843	7.043	47.120	50.000	-5.8
Endrin	6.367	6.261	6.461	46.290	50.000	-7.4
Endrin aldehyde	6.716	6.609	6.809	46.880	50.000	-6.2
Endrin ketone	7.430	7.324	7.524	48.430	50.000	-3.1
gamma-BHC (Lindane)	4.137	4.029	4.229	52.390	50.000	4.8
gamma-Chlordane	5.739	5.632	5.832	49.110	50.000	-1.8
Heptachlor	4.721	4.613	4.813	50.730	50.000	1.5
Heptachlor epoxide	5.484	5.377	5.577	49.040	50.000	-1.9
Methoxychlor	7.302	7.194	7.394	45.450	50.000	-9.1
Tetrachloro-m-xylene	3.359	3.252	3.452	51.670	50.000	3.3

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL04 **Date Analyzed:** 01/23/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080458.D **Time Analyzed:** 10:21

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.705	5.606	5.806	43.590	50.000	-12.8
4,4'-DDE	5.151	5.052	5.252	44.260	50.000	-11.5
4,4'-DDT	5.957	5.858	6.058	43.230	50.000	-13.5
Aldrin	4.140	4.041	4.241	46.980	50.000	-6.0
alpha-BHC	3.190	3.091	3.291	49.280	50.000	-1.4
alpha-Chlordane	4.958	4.859	5.059	44.240	50.000	-11.5
beta-BHC	3.815	3.716	3.916	47.360	50.000	-5.3
Decachlorobiphenyl	7.842	7.742	7.942	41.300	50.000	-17.4
delta-BHC	4.045	3.946	4.146	48.050	50.000	-3.9
Dieldrin	5.279	5.179	5.379	44.600	50.000	-10.8
Endosulfan I	5.013	4.913	5.113	44.620	50.000	-10.8
Endosulfan II	5.847	5.748	5.948	47.030	50.000	-5.9
Endosulfan sulfate	6.251	6.151	6.351	43.480	50.000	-13.0
Endrin	5.553	5.454	5.654	45.100	50.000	-9.8
Endrin aldehyde	6.027	5.928	6.128	43.080	50.000	-13.8
Endrin ketone	6.756	6.656	6.856	43.540	50.000	-12.9
gamma-BHC (Lindane)	3.519	3.420	3.620	48.810	50.000	-2.4
gamma-Chlordane	4.894	4.795	4.995	44.570	50.000	-10.9
Heptachlor	3.860	3.762	3.962	47.070	50.000	-5.9
Heptachlor epoxide	4.643	4.544	4.744	45.440	50.000	-9.1
Methoxychlor	6.536	6.436	6.636	42.310	50.000	-15.4
Tetrachloro-m-xylene	2.688	2.590	2.790	49.690	50.000	-0.6

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/23/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 11:34 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	8.79	8.79	8.69	8.89	0.00
Tetrachloro-m-xylene	3.35	3.35	3.25	3.45	0.00
alpha-BHC	3.80	3.80	3.70	3.90	0.00
beta-BHC	4.33	4.33	4.23	4.43	0.01
delta-BHC	4.57	4.57	4.47	4.67	0.00
gamma-BHC (Lindane)	4.13	4.13	4.03	4.23	0.00
Heptachlor	4.71	4.71	4.61	4.81	0.00
Aldrin	5.05	5.05	4.95	5.15	0.00
Heptachlor epoxide	5.48	5.48	5.38	5.58	0.00
Endosulfan I	5.86	5.86	5.76	5.96	0.00
Dieldrin	6.13	6.13	6.03	6.23	0.00
4,4'-DDE	5.99	5.99	5.89	6.09	0.00
Endrin	6.36	6.36	6.26	6.46	0.00
Endosulfan II	6.58	6.58	6.48	6.68	0.00
4,4'-DDD	6.50	6.50	6.40	6.60	0.00
Endosulfan sulfate	6.94	6.94	6.84	7.04	0.00
4,4'-DDT	6.82	6.82	6.72	6.92	0.00
Methoxychlor	7.29	7.29	7.19	7.39	0.00
Endrin ketone	7.42	7.42	7.32	7.52	0.00
Endrin aldehyde	6.71	6.71	6.61	6.81	0.00
alpha-Chlordane	5.81	5.81	5.71	5.91	0.00
gamma-Chlordane	5.73	5.73	5.63	5.83	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/23/2023 **Initial Calibration Date(s):** 01/20/2023 01/20/2023

Continuing Calib Time: 11:34 **Initial Calibration Time(s):** 14:41 15:36

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND	CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Decachlorobiphenyl	7.84	7.84	7.74	7.94	0.00
Tetrachloro-m-xylene	2.69	2.69	2.59	2.79	0.00
alpha-BHC	3.19	3.19	3.09	3.29	0.00
beta-BHC	3.82	3.82	3.72	3.92	0.00
delta-BHC	4.05	4.05	3.95	4.15	0.00
gamma-BHC (Lindane)	3.52	3.52	3.42	3.62	0.00
Heptachlor	3.86	3.86	3.76	3.96	0.00
Aldrin	4.14	4.14	4.04	4.24	0.00
Heptachlor epoxide	4.64	4.64	4.54	4.74	0.00
Endosulfan I	5.01	5.01	4.91	5.11	0.00
Dieldrin	5.28	5.28	5.18	5.38	0.00
4,4'-DDE	5.15	5.15	5.05	5.25	0.00
Endrin	5.55	5.55	5.45	5.65	0.00
Endosulfan II	5.85	5.85	5.75	5.95	0.00
4,4'-DDD	5.71	5.71	5.61	5.81	0.00
Endosulfan sulfate	6.25	6.25	6.15	6.35	0.00
4,4'-DDT	5.96	5.96	5.86	6.06	0.00
Methoxychlor	6.54	6.54	6.44	6.64	0.01
Endrin ketone	6.76	6.76	6.66	6.86	0.00
Endrin aldehyde	6.03	6.03	5.93	6.13	0.00
alpha-Chlordane	4.96	4.96	4.86	5.06	0.00
gamma-Chlordane	4.89	4.90	4.80	5.00	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL05 **Date Analyzed:** 01/23/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080462.D **Time Analyzed:** 11:34

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	6.503	6.404	6.604	51.120	50.000	2.2
4,4'-DDE	5.989	5.889	6.089	50.470	50.000	0.9
4,4'-DDT	6.816	6.716	6.916	47.550	50.000	-4.9
Aldrin	5.052	4.952	5.152	51.140	50.000	2.3
alpha-BHC	3.801	3.701	3.901	54.130	50.000	8.3
alpha-Chlordane	5.811	5.711	5.911	50.210	50.000	0.4
beta-BHC	4.325	4.225	4.425	50.480	50.000	1.0
Decachlorobiphenyl	8.792	8.693	8.893	47.040	50.000	-5.9
delta-BHC	4.569	4.468	4.668	53.450	50.000	6.9
Dieldrin	6.134	6.033	6.233	50.060	50.000	0.1
Endosulfan I	5.859	5.759	5.959	50.130	50.000	0.3
Endosulfan II	6.579	6.480	6.680	43.120	50.000	-13.8
Endosulfan sulfate	6.943	6.843	7.043	49.450	50.000	-1.1
Endrin	6.360	6.261	6.461	52.680	50.000	5.4
Endrin aldehyde	6.709	6.609	6.809	48.760	50.000	-2.5
Endrin ketone	7.423	7.324	7.524	49.330	50.000	-1.3
gamma-BHC (Lindane)	4.130	4.029	4.229	53.920	50.000	7.8
gamma-Chlordane	5.732	5.632	5.832	50.920	50.000	1.8
Heptachlor	4.714	4.613	4.813	51.490	50.000	3.0
Heptachlor epoxide	5.477	5.377	5.577	51.630	50.000	3.3
Methoxychlor	7.294	7.194	7.394	47.320	50.000	-5.4
Tetrachloro-m-xylene	3.353	3.252	3.452	52.660	50.000	5.3

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No.: CCAL05 **Date Analyzed:** 01/23/2023

Lab Sample No.: PSTDCCC050 **Data File :** PL080462.D **Time Analyzed:** 11:34

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
4,4'-DDD	5.706	5.606	5.806	49.600	50.000	-0.8
4,4'-DDE	5.152	5.052	5.252	48.320	50.000	-3.4
4,4'-DDT	5.957	5.858	6.058	47.030	50.000	-5.9
Aldrin	4.141	4.041	4.241	50.440	50.000	0.9
alpha-BHC	3.191	3.091	3.291	51.960	50.000	3.9
alpha-Chlordane	4.958	4.859	5.059	46.710	50.000	-6.6
beta-BHC	3.816	3.716	3.916	49.900	50.000	-0.2
Decachlorobiphenyl	7.840	7.742	7.942	44.330	50.000	-11.3
delta-BHC	4.046	3.946	4.146	51.630	50.000	3.3
Dieldrin	5.278	5.179	5.379	48.020	50.000	-4.0
Endosulfan I	5.013	4.913	5.113	46.210	50.000	-7.6
Endosulfan II	5.847	5.748	5.948	50.120	50.000	0.2
Endosulfan sulfate	6.251	6.151	6.351	46.500	50.000	-7.0
Endrin	5.553	5.454	5.654	47.760	50.000	-4.5
Endrin aldehyde	6.027	5.928	6.128	45.600	50.000	-8.8
Endrin ketone	6.755	6.656	6.856	46.520	50.000	-7.0
gamma-BHC (Lindane)	3.520	3.420	3.620	51.320	50.000	2.6
gamma-Chlordane	4.894	4.795	4.995	47.030	50.000	-5.9
Heptachlor	3.861	3.762	3.962	48.550	50.000	-2.9
Heptachlor epoxide	4.643	4.544	4.744	47.710	50.000	-4.6
Methoxychlor	6.535	6.436	6.636	45.610	50.000	-8.8
Tetrachloro-m-xylene	2.690	2.590	2.790	51.770	50.000	3.5

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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080406.D **Date Analyzed:** 01/20/2023

Lab Sample No.(PEM): PEM **Time Analyzed:** 09:30

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	8.792	8.690	8.890	21.460	20.000	7.3
Tetrachloro-m-xylene	3.353	3.300	3.400	21.770	20.000	8.9
alpha-BHC	3.801	3.750	3.850	9.970	10.000	-0.3
beta-BHC	4.325	4.270	4.380	11.340	10.000	13.4
gamma-BHC (Lindane)	4.130	4.080	4.180	10.430	10.000	4.3
Endrin	6.359	6.290	6.430	45.030	50.000	-9.9
4,4'-DDT	6.816	6.750	6.890	85.130	100.000	-14.9
Methoxychlor	7.294	7.220	7.360	208.720	250.000	-16.5

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080406.D **Date Analyzed:** 01/20/2023

Lab Sample No.(PEM): PEM **Time Analyzed:** 09:30

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	7.840	7.740	7.940	19.940	20.000	-0.3
Tetrachloro-m-xylene	2.691	2.640	2.740	21.040	20.000	5.2
alpha-BHC	3.192	3.140	3.240	9.280	10.000	-7.2
beta-BHC	3.817	3.770	3.870	11.130	10.000	11.3
gamma-BHC (Lindane)	3.520	3.470	3.570	9.560	10.000	-4.4
Endrin	5.553	5.480	5.620	44.960	50.000	-10.1
4,4'-DDT	5.957	5.890	6.030	92.760	100.000	-7.2
Methoxychlor	6.535	6.460	6.610	206.490	250.000	-17.4

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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080427.D **Date Analyzed:** 01/20/2023

Lab Sample No.(PEM): PEM **Time Analyzed:** 19:46

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	8.790	8.690	8.890	19.820	20.000	-0.9
Tetrachloro-m-xylene	3.351	3.300	3.400	19.090	20.000	-4.6
alpha-BHC	3.799	3.750	3.850	8.770	10.000	-12.3
beta-BHC	4.324	4.270	4.370	10.600	10.000	6.0
gamma-BHC (Lindane)	4.128	4.080	4.180	9.260	10.000	-7.4
Endrin	6.358	6.290	6.430	44.080	50.000	-11.8
4,4'-DDT	6.815	6.740	6.890	91.710	100.000	-8.3
Methoxychlor	7.292	7.220	7.360	230.100	250.000	-8.0

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080427.D **Date Analyzed:** 01/20/2023

Lab Sample No.(PEM): PEM **Time Analyzed:** 19:46

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	7.839	7.740	7.940	19.650	20.000	-1.8
Tetrachloro-m-xylene	2.689	2.640	2.740	19.380	20.000	-3.1
alpha-BHC	3.190	3.140	3.240	8.910	10.000	-10.9
beta-BHC	3.815	3.760	3.870	10.100	10.000	1.0
gamma-BHC (Lindane)	3.519	3.470	3.570	9.010	10.000	-9.9
Endrin	5.551	5.480	5.620	46.440	50.000	-7.1
4,4'-DDT	5.956	5.890	6.030	101.350	100.000	1.4
Methoxychlor	6.534	6.460	6.600	231.440	250.000	-7.4

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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

GC Column: ZB-MR2 ID: 0.32 (mm) Initi. Calib. Date(s): 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080457.D Date Analyzed: 01/23/2023

Lab Sample No.(PEM): PEM Time Analyzed: 09:38

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	8.796	8.700	8.900	18.840	20.000	-5.8
Tetrachloro-m-xylene	3.354	3.300	3.400	21.610	20.000	8.1
alpha-BHC	3.803	3.750	3.850	9.940	10.000	-0.6
beta-BHC	4.328	4.280	4.380	10.950	10.000	9.5
gamma-BHC (Lindane)	4.132	4.080	4.180	10.390	10.000	3.9
Endrin	6.363	6.290	6.430	43.890	50.000	-12.2
4,4'-DDT	6.819	6.750	6.890	90.170	100.000	-9.8
Methoxychlor	7.297	7.230	7.370	222.910	250.000	-10.8

GC Column: ZB-MR1 ID: 0.32 (mm) Initi. Calib. Date(s): 01/20/2023 01/20/2023

Client Sample No. (PEM): PEM - PL080457.D Date Analyzed: 01/23/2023

Lab Sample No.(PEM): PEM Time Analyzed: 09:38

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Decachlorobiphenyl	7.841	7.740	7.940	16.350	20.000	-18.3
Tetrachloro-m-xylene	2.691	2.640	2.740	20.120	20.000	0.6
alpha-BHC	3.192	3.140	3.240	8.870	10.000	-11.3
beta-BHC	3.817	3.770	3.870	10.540	10.000	5.4
gamma-BHC (Lindane)	3.521	3.470	3.570	9.040	10.000	-9.6
Endrin	5.554	5.480	5.620	41.800	50.000	-16.4
4,4'-DDT	5.959	5.890	6.030	90.470	100.000	-9.5
Methoxychlor	6.537	6.470	6.610	201.590	250.000	-19.4

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Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CE **Instrument ID:** ECD_L

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 01/20/2023 01/20/2023

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	01/20/2023	09:16	PL080405.D	8.79	3.35
PEM	PEM	01/20/2023	09:30	PL080406.D	8.79	3.35
RESCHK	RESCHK	01/20/2023	14:27	PL080407.D	8.79	3.35
PSTDICC100	PSTDICC100	01/20/2023	14:41	PL080408.D	8.79	3.35
PSTDICC075	PSTDICC075	01/20/2023	14:54	PL080409.D	8.79	3.35
PSTDICC050	PSTDICC050	01/20/2023	15:08	PL080410.D	8.79	3.35
PSTDICC025	PSTDICC025	01/20/2023	15:22	PL080411.D	8.79	3.35
PSTDICC005	PSTDICC005	01/20/2023	15:36	PL080412.D	8.79	3.35
PCHLORICC500	PCHLORICC500	01/20/2023	16:18	PL080415.D	8.79	3.35
PTOXICC500	PTOXICC500	01/20/2023	17:27	PL080420.D	8.79	3.35
I.BLK	I.BLK	01/20/2023	19:32	PL080426.D	8.79	3.35
PEM	PEM	01/20/2023	19:46	PL080427.D	8.79	3.35
PSTDCCC050	PSTDCCC050	01/20/2023	20:00	PL080428.D	8.79	3.35
PB150373BL	PB150373BL	01/20/2023	20:42	PL080429.D	8.79	3.35
PB150373BS	PB150373BS	01/20/2023	20:55	PL080430.D	8.79	3.35
B-P-17A	O1232-01	01/20/2023	21:09	PL080431.D	8.79	3.35
B-P-17B	O1232-02	01/20/2023	21:23	PL080432.D	8.79	3.35
B-P-18A	O1232-04	01/20/2023	21:37	PL080433.D	8.79	3.35
B-P-18B	O1232-05	01/20/2023	21:51	PL080434.D	8.79	3.35
B-P-19A	O1232-06	01/20/2023	22:05	PL080435.D	8.79	3.35
B-P-35A	O1232-08	01/20/2023	22:33	PL080437.D	8.79	3.35
B-P-35B	O1232-09	01/20/2023	22:47	PL080438.D	8.79	3.35
DUP01	O1232-10	01/20/2023	23:00	PL080439.D	8.79	3.35
I.BLK	I.BLK	01/20/2023	23:14	PL080440.D	8.79	3.35
PSTDCCC050	PSTDCCC050	01/20/2023	23:28	PL080441.D	8.79	3.35
B-P34AMS	O1233-02MS	01/21/2023	00:38	PL080443.D	8.79	3.35
B-P34AMSD	O1233-02MSD	01/21/2023	00:51	PL080444.D	8.79	3.35
I.BLK	I.BLK	01/21/2023	02:57	PL080453.D	8.79	3.35
PSTDCCC050	PSTDCCC050	01/21/2023	03:10	PL080454.D	8.79	3.35
I.BLK	I.BLK	01/23/2023	09:24	PL080456.D	8.80	3.36
PEM	PEM	01/23/2023	09:38	PL080457.D	8.80	3.35
PSTDCCC050	PSTDCCC050	01/23/2023	10:21	PL080458.D	8.80	3.36
B-P-19B	O1232-07	01/23/2023	10:53	PL080459.D	8.80	3.36
I.BLK	I.BLK	01/23/2023	11:20	PL080461.D	8.79	3.35
PSTDCCC050	PSTDCCC050	01/23/2023	11:34	PL080462.D	8.79	3.35

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Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CE **Instrument ID:** ECD_L

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 01/20/2023 01/20/2023

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	01/20/2023	09:16	PL080405.D	7.84	2.69
PEM	PEM	01/20/2023	09:30	PL080406.D	7.84	2.69
RESCHK	RESCHK	01/20/2023	14:27	PL080407.D	7.84	2.69
PSTDICC100	PSTDICC100	01/20/2023	14:41	PL080408.D	7.84	2.69
PSTDICC075	PSTDICC075	01/20/2023	14:54	PL080409.D	7.84	2.69
PSTDICC050	PSTDICC050	01/20/2023	15:08	PL080410.D	7.84	2.69
PSTDICC025	PSTDICC025	01/20/2023	15:22	PL080411.D	7.84	2.69
PSTDICC005	PSTDICC005	01/20/2023	15:36	PL080412.D	7.84	2.69
PCHLORICC500	PCHLORICC500	01/20/2023	16:18	PL080415.D	7.84	2.69
PTOXICC500	PTOXICC500	01/20/2023	17:27	PL080420.D	7.84	2.69
I.BLK	I.BLK	01/20/2023	19:32	PL080426.D	7.84	2.69
PEM	PEM	01/20/2023	19:46	PL080427.D	7.84	2.69
PSTDCCC050	PSTDCCC050	01/20/2023	20:00	PL080428.D	7.84	2.69
PB150373BL	PB150373BL	01/20/2023	20:42	PL080429.D	7.84	2.69
PB150373BS	PB150373BS	01/20/2023	20:55	PL080430.D	7.84	2.69
B-P-17A	O1232-01	01/20/2023	21:09	PL080431.D	7.84	2.69
B-P-17B	O1232-02	01/20/2023	21:23	PL080432.D	7.84	2.69
B-P-18A	O1232-04	01/20/2023	21:37	PL080433.D	7.84	2.69
B-P-18B	O1232-05	01/20/2023	21:51	PL080434.D	7.84	2.69
B-P-19A	O1232-06	01/20/2023	22:05	PL080435.D	7.84	2.69
B-P-35A	O1232-08	01/20/2023	22:33	PL080437.D	7.84	2.69
B-P-35B	O1232-09	01/20/2023	22:47	PL080438.D	7.84	2.69
DUP01	O1232-10	01/20/2023	23:00	PL080439.D	7.86	2.71
I.BLK	I.BLK	01/20/2023	23:14	PL080440.D	7.84	2.69
PSTDCCC050	PSTDCCC050	01/20/2023	23:28	PL080441.D	7.84	2.69
B-P34AMS	O1233-02MS	01/21/2023	00:38	PL080443.D	7.84	2.69
B-P34AMSD	O1233-02MSD	01/21/2023	00:51	PL080444.D	7.84	2.69
I.BLK	I.BLK	01/21/2023	02:57	PL080453.D	7.84	2.69
PSTDCCC050	PSTDCCC050	01/21/2023	03:10	PL080454.D	7.84	2.69
I.BLK	I.BLK	01/23/2023	09:24	PL080456.D	7.84	2.69
PEM	PEM	01/23/2023	09:38	PL080457.D	7.84	2.69
PSTDCCC050	PSTDCCC050	01/23/2023	10:21	PL080458.D	7.84	2.69
B-P-19B	O1232-07	01/23/2023	10:53	PL080459.D	7.84	2.69
I.BLK	I.BLK	01/23/2023	11:20	PL080461.D	7.84	2.69
PSTDCCC050	PSTDCCC050	01/23/2023	11:34	PL080462.D	7.84	2.69

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P-19A

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1232-06 **Date(s) Analyzed:** 01/20/2023 01/20/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDE	1	5.99	5.94	6.04	1.10	9.5
	2	5.15	5.10	5.20	1.00	
4,4'-DDT	1	6.81	6.76	6.86	0.22	5.3
	2	5.95	5.90	6.00	0.21	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P-19B

Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab Sample ID: O1232-07 Date(s) Analyzed: 01/23/2023 01/23/2023

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR2 ID: 0.32 (mm) GC Column:(2): ZB-MR1 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDE	1	6.00	5.95	6.05	0.88	0
	2	5.15	5.10	5.20	0.88	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMS

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1233-02MS **Date(s) Analyzed:** 01/21/2023 01/21/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDD	1	6.50	6.45	6.55	18.3	1.7
	2	5.70	5.65	5.75	18.0	
4,4'-DDE	1	5.99	5.94	6.04	18.6	1.6
	2	5.15	5.10	5.20	18.3	
4,4'-DDT	1	6.81	6.76	6.86	19.8	6.8
	2	5.96	5.91	6.01	18.5	
Aldrin	1	5.05	5.00	5.10	19.0	0.5
	2	4.14	4.09	4.19	18.9	
alpha-BHC	1	3.80	3.75	3.85	18.2	1.7
	2	3.19	3.14	3.24	17.9	
alpha-Chlordane	1	5.81	5.76	5.86	18.5	3.9
	2	4.96	4.91	5.01	17.8	
beta-BHC	1	4.32	4.27	4.37	17.7	2.3
	2	3.82	3.77	3.87	17.3	
Endosulfan II	1	6.58	6.53	6.63	16.8	21.3
	2	5.84	5.79	5.89	20.8	
Endrin aldehyde	1	6.71	6.66	6.76	19.8	2
	2	6.03	5.98	6.08	19.4	
Endosulfan sulfate	1	6.94	6.89	6.99	18.6	1.6
	2	6.25	6.20	6.30	18.3	
Methoxychlor	1	7.29	7.24	7.34	18.8	1.6
	2	6.53	6.48	6.58	18.5	
Endrin ketone	1	7.42	7.37	7.47	18.4	0
	2	6.75	6.70	6.80	18.4	
gamma-BHC (Lindane)	1	4.13	4.08	4.18	18.5	2.7
	2	3.52	3.47	3.57	18.0	
Heptachlor	1	4.71	4.66	4.76	18.4	2.2
	2	3.86	3.81	3.91	18.0	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMS

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1233-02MS **Date(s) Analyzed:** 01/21/2023 01/21/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
delta-BHC	1	4.57	4.52	4.62	18.7	2.7
	2	4.05	4.00	4.10	18.2	
Heptachlor epoxide	1	5.48	5.43	5.53	18.3	1.1
	2	4.64	4.59	4.69	18.1	
Endosulfan I	1	5.86	5.81	5.91	18.2	2.2
	2	5.01	4.96	5.06	17.8	
gamma-Chlordane	1	5.73	5.68	5.78	18.3	2.2
	2	4.89	4.84	4.94	17.9	
Dieldrin	1	6.13	6.08	6.18	19.2	2.1
	2	5.28	5.23	5.33	18.8	
Endrin	1	6.36	6.31	6.41	19.0	3.6
	2	5.55	5.50	5.60	19.7	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMSD

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1233-02MSD **Date(s) Analyzed:** 01/21/2023 01/21/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.58	6.53	6.63	17.0	21.5
	2	5.84	5.79	5.89	21.1	
4,4'-DDD	1	6.50	6.45	6.55	18.6	2.2
	2	5.70	5.65	5.75	18.2	
4,4'-DDT	1	6.81	6.76	6.86	20.0	5.7
	2	5.96	5.91	6.01	18.9	
Endosulfan sulfate	1	6.94	6.89	6.99	18.8	1.1
	2	6.25	6.20	6.30	18.6	
alpha-BHC	1	3.80	3.75	3.85	18.4	1.6
	2	3.19	3.14	3.24	18.1	
Aldrin	1	5.05	5.00	5.10	19.3	1
	2	4.14	4.09	4.19	19.1	
beta-BHC	1	4.32	4.27	4.37	17.9	1.7
	2	3.82	3.77	3.87	17.6	
delta-BHC	1	4.57	4.52	4.62	19.0	2.7
	2	4.04	3.99	4.09	18.5	
Endosulfan I	1	5.86	5.81	5.91	18.4	2.2
	2	5.01	4.96	5.06	18.0	
alpha-Chlordane	1	5.81	5.76	5.86	18.7	3.8
	2	4.96	4.91	5.01	18.0	
4,4'-DDE	1	5.99	5.94	6.04	18.9	1.6
	2	5.15	5.10	5.20	18.6	
Dieldrin	1	6.13	6.08	6.18	19.4	2.1
	2	5.28	5.23	5.33	19.0	
Endrin aldehyde	1	6.71	6.66	6.76	20.1	2
	2	6.03	5.98	6.08	19.7	
Methoxychlor	1	7.29	7.24	7.34	19.0	1.6
	2	6.53	6.48	6.58	18.7	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMSD

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1233-02MSD **Date(s) Analyzed:** 01/21/2023 01/21/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endrin ketone	1	7.42	7.37	7.47	18.6	0
	2	6.75	6.70	6.80	18.6	
gamma-BHC (Lindane)	1	4.13	4.08	4.18	18.8	3.2
	2	3.52	3.47	3.57	18.2	
Heptachlor	1	4.71	4.66	4.76	18.6	1.6
	2	3.86	3.81	3.91	18.3	
Heptachlor epoxide	1	5.48	5.43	5.53	18.5	0.5
	2	4.64	4.59	4.69	18.4	
gamma-Chlordane	1	5.73	5.68	5.78	18.8	3.8
	2	4.89	4.84	4.94	18.1	
Endrin	1	6.36	6.31	6.41	19.3	3.1
	2	5.55	5.50	5.60	19.9	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P-35A

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: O1232-08 **Date(s) Analyzed:** 01/20/2023 01/20/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
4,4'-DDE	1	5.99	5.94	6.04	1.10	0
	2	5.15	5.10	5.20	1.10	
4,4'-DDT	1	6.81	6.76	6.86	1.90	0
	2	5.96	5.91	6.01	1.90	
alpha-Chlordane	1	5.81	5.76	5.86	0.65	56.1
	2	4.96	4.91	5.01	0.36	
gamma-Chlordane	1	5.73	5.68	5.78	0.43	19.5
	2	4.89	4.84	4.94	0.35	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.
PB150373BS

Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab Sample ID: PB150373BS Date(s) Analyzed: 01/20/2023 01/20/2023

Instrument ID (1): ECD_L Instrument ID (2): ECD_L

GC Column: (1): ZB-MR2 ID: 0.32 (mm) GC Column:(2): ZB-MR1 ID: 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan II	1	6.58	6.53	6.63	14.2	20.3
	2	5.84	5.79	5.89	17.4	
4,4'-DDD	1	6.50	6.45	6.55	15.1	0.7
	2	5.70	5.65	5.75	15.2	
4,4'-DDT	1	6.82	6.77	6.87	14.5	3.4
	2	5.96	5.91	6.01	15.0	
Endrin aldehyde	1	6.71	6.66	6.76	16.4	0.6
	2	6.03	5.98	6.08	16.3	
Endosulfan sulfate	1	6.94	6.89	6.99	15.6	1.3
	2	6.25	6.20	6.30	15.4	
Methoxychlor	1	7.29	7.24	7.34	15.5	2.6
	2	6.53	6.48	6.58	15.1	
Endrin ketone	1	7.42	7.37	7.47	15.4	0.6
	2	6.75	6.70	6.80	15.5	
alpha-BHC	1	3.80	3.75	3.85	15.0	0.7
	2	3.19	3.14	3.24	15.1	
gamma-BHC (Lindane)	1	4.13	4.08	4.18	15.1	0
	2	3.52	3.47	3.57	15.1	
Heptachlor	1	4.71	4.66	4.76	15.2	1.3
	2	3.86	3.81	3.91	15.0	
Aldrin	1	5.05	5.00	5.10	15.5	0
	2	4.14	4.09	4.19	15.5	
beta-BHC	1	4.32	4.27	4.37	14.3	0.7
	2	3.82	3.77	3.87	14.2	
delta-BHC	1	4.57	4.52	4.62	15.2	1.3
	2	4.05	4.00	4.10	15.0	
Heptachlor epoxide	1	5.48	5.43	5.53	15.0	2
	2	4.64	4.59	4.69	15.3	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

PB150373BS

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Lab Sample ID: PB150373BS **Date(s) Analyzed:** 01/20/2023 01/20/2023

Instrument ID (1): ECD_L **Instrument ID (2):** ECD_L

GC Column: (1): ZB-MR2 **ID:** 0.32 (mm) **GC Column:(2):** ZB-MR1 **ID:** 0.32 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%RPD
Endosulfan I	1	5.86	5.81	5.91	15.0	0
	2	5.01	4.96	5.06	15.0	
gamma-Chlordane	1	5.73	5.68	5.78	15.0	1.3
	2	4.89	4.84	4.94	14.8	
alpha-Chlordane	1	5.81	5.76	5.86	15.3	2.6
	2	4.96	4.91	5.01	14.9	
4,4'-DDE	1	5.99	5.94	6.04	15.3	2
	2	5.15	5.10	5.20	15.0	
Dieldrin	1	6.13	6.08	6.18	15.9	0.6
	2	5.28	5.23	5.33	15.8	
Endrin	1	6.36	6.31	6.41	15.7	5
	2	5.55	5.50	5.60	16.5	

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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/20/23	
			Gasoline Range Organics	8015D			01/20/23	
			PCB	8082A		01/20/23	01/20/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/23/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/20/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**

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LAB CHRONICLE

			PCB	8082A		01/20/23	01/20/23
			Pesticide-TCL	8081B		01/20/23	01/20/23
O1232-10	**DUP01**	**SOIL**			**01/18/23**		**01/19/23**
			PCB	8082A		01/20/23	01/20/23
			Pesticide-TCL	8081B		01/20/23	01/20/23

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Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Rc

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-17								
O1232-03	WC-17	SOIL	Aroclor-1242	42.6	P	2.60	18.6	ug/kg
			Total Concentration:	**42.600**				
Client ID : B-P-18B								
O1232-05	B-P-18B	SOIL	Aroclor-1242	20.4		2.60	18.6	ug/kg
			Total Concentration:	**20.400**				

SAMPLE DATA

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	89.4 Decanted:
Sample Wt/Vol:	30.04 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054774.D	1	01/20/23 10:35	01/20/23 19:48	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.40	U	3.40	19.0	ug/kg
11104-28-2	Aroclor-1221	5.30	U	5.30	19.0	ug/kg
11141-16-5	Aroclor-1232	4.40	U	4.40	19.0	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	19.0	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	19.0	ug/kg
11097-69-1	Aroclor-1254	4.70	U	4.70	19.0	ug/kg
37324-23-5	Aroclor-1262	3.70	U	3.70	19.0	ug/kg
11100-14-4	Aroclor-1268	6.40	U	6.40	19.0	ug/kg
11096-82-5	Aroclor-1260	3.60	U	3.60	19.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.0		40 - 162	110%	SPK: 20
2051-24-3	Decachlorobiphenyl	20.8		32 - 176	104%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	86.9 Decanted:
Sample Wt/Vol:	30.08 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054777.D	1	01/20/23 10:35	01/20/23 20:38	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.5	ug/kg
11104-28-2	Aroclor-1221	5.40	U	5.40	19.5	ug/kg
11141-16-5	Aroclor-1232	4.50	U	4.50	19.5	ug/kg
53469-21-9	Aroclor-1242	2.80	U	2.80	19.5	ug/kg
12672-29-6	Aroclor-1248	3.40	U	3.40	19.5	ug/kg
11097-69-1	Aroclor-1254	4.80	U	4.80	19.5	ug/kg
37324-23-5	Aroclor-1262	3.80	U	3.80	19.5	ug/kg
11100-14-4	Aroclor-1268	6.60	U	6.60	19.5	ug/kg
11096-82-5	Aroclor-1260	3.70	U	3.70	19.5	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.9		40 - 162	114%	SPK: 20
2051-24-3	Decachlorobiphenyl	21.3		32 - 176	107%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054778.D	1	01/20/23 10:35	01/20/23 20:54	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.30	U	3.30	18.6	ug/kg
11104-28-2	Aroclor-1221	5.10	U	5.10	18.6	ug/kg
11141-16-5	Aroclor-1232	4.30	U	4.30	18.6	ug/kg
53469-21-9	Aroclor-1242	42.6	P	2.60	18.6	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	18.6	ug/kg
11097-69-1	Aroclor-1254	4.60	U	4.60	18.6	ug/kg
37324-23-5	Aroclor-1262	3.60	U	3.60	18.6	ug/kg
11100-14-4	Aroclor-1268	6.30	U	6.30	18.6	ug/kg
11096-82-5	Aroclor-1260	3.50	U	3.50	18.6	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.8		40 - 162	109%	SPK: 20
2051-24-3	Decachlorobiphenyl	21.0		32 - 176	105%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	87.5 Decanted:
Sample Wt/Vol:	30.06 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054779.D	1	01/20/23 10:35	01/20/23 21:11	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.4	ug/kg
11104-28-2	Aroclor-1221	5.40	U	5.40	19.4	ug/kg
11141-16-5	Aroclor-1232	4.50	U	4.50	19.4	ug/kg
53469-21-9	Aroclor-1242	2.80	U	2.80	19.4	ug/kg
12672-29-6	Aroclor-1248	3.40	U	3.40	19.4	ug/kg
11097-69-1	Aroclor-1254	4.80	U	4.80	19.4	ug/kg
37324-23-5	Aroclor-1262	3.80	U	3.80	19.4	ug/kg
11100-14-4	Aroclor-1268	6.50	U	6.50	19.4	ug/kg
11096-82-5	Aroclor-1260	3.70	U	3.70	19.4	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.6		40 - 162	113%	SPK: 20
2051-24-3	Decachlorobiphenyl	21.2		32 - 176	106%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054780.D	1	01/20/23 10:35	01/20/23 21:27	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.30	U	3.30	18.6	ug/kg
11104-28-2	Aroclor-1221	5.10	U	5.10	18.6	ug/kg
11141-16-5	Aroclor-1232	4.30	U	4.30	18.6	ug/kg
53469-21-9	Aroclor-1242	20.4		2.60	18.6	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	18.6	ug/kg
11097-69-1	Aroclor-1254	4.60	U	4.60	18.6	ug/kg
37324-23-5	Aroclor-1262	3.60	U	3.60	18.6	ug/kg
11100-14-4	Aroclor-1268	6.30	U	6.30	18.6	ug/kg
11096-82-5	Aroclor-1260	3.50	U	3.50	18.6	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.1		40 - 162	110%	SPK: 20
2051-24-3	Decachlorobiphenyl	22.4		32 - 176	112%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	88.2 Decanted:
Sample Wt/Vol:	30.07 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054781.D	1	01/20/23 10:35	01/20/23 21:43	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.2	ug/kg
11104-28-2	Aroclor-1221	5.30	U	5.30	19.2	ug/kg
11141-16-5	Aroclor-1232	4.40	U	4.40	19.2	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	19.2	ug/kg
12672-29-6	Aroclor-1248	3.40	U	3.40	19.2	ug/kg
11097-69-1	Aroclor-1254	4.80	U	4.80	19.2	ug/kg
37324-23-5	Aroclor-1262	3.80	U	3.80	19.2	ug/kg
11100-14-4	Aroclor-1268	6.50	U	6.50	19.2	ug/kg
11096-82-5	Aroclor-1260	3.70	U	3.70	19.2	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.9		40 - 162	104%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.4		32 - 176	87%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	88 Decanted:
Sample Wt/Vol:	30.1 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054782.D	1	01/20/23 10:35	01/20/23 22:00	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.3	ug/kg
11104-28-2	Aroclor-1221	5.30	U	5.30	19.3	ug/kg
11141-16-5	Aroclor-1232	4.50	U	4.50	19.3	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	19.3	ug/kg
12672-29-6	Aroclor-1248	3.40	U	3.40	19.3	ug/kg
11097-69-1	Aroclor-1254	4.80	U	4.80	19.3	ug/kg
37324-23-5	Aroclor-1262	3.80	U	3.80	19.3	ug/kg
11100-14-4	Aroclor-1268	6.50	U	6.50	19.3	ug/kg
11096-82-5	Aroclor-1260	3.70	U	3.70	19.3	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.3		40 - 162	107%	SPK: 20
2051-24-3	Decachlorobiphenyl	20.6		32 - 176	103%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	91.3 Decanted:
Sample Wt/Vol:	30.05 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054783.D	1	01/20/23 10:35	01/20/23 22:16	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.30	U	3.30	18.6	ug/kg
11104-28-2	Aroclor-1221	5.10	U	5.10	18.6	ug/kg
11141-16-5	Aroclor-1232	4.30	U	4.30	18.6	ug/kg
53469-21-9	Aroclor-1242	2.60	U	2.60	18.6	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	18.6	ug/kg
11097-69-1	Aroclor-1254	4.60	U	4.60	18.6	ug/kg
37324-23-5	Aroclor-1262	3.60	U	3.60	18.6	ug/kg
11100-14-4	Aroclor-1268	6.30	U	6.30	18.6	ug/kg
11096-82-5	Aroclor-1260	3.50	U	3.50	18.6	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.3		40 - 162	111%	SPK: 20
2051-24-3	Decachlorobiphenyl	20.2		32 - 176	101%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
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S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	93.3 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054784.D	1	01/20/23 10:35	01/20/23 22:33	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.30	U	3.30	18.2	ug/kg
11104-28-2	Aroclor-1221	5.00	U	5.00	18.2	ug/kg
11141-16-5	Aroclor-1232	4.20	U	4.20	18.2	ug/kg
53469-21-9	Aroclor-1242	2.60	U	2.60	18.2	ug/kg
12672-29-6	Aroclor-1248	3.20	U	3.20	18.2	ug/kg
11097-69-1	Aroclor-1254	4.50	U	4.50	18.2	ug/kg
37324-23-5	Aroclor-1262	3.60	U	3.60	18.2	ug/kg
11100-14-4	Aroclor-1268	6.10	U	6.10	18.2	ug/kg
11096-82-5	Aroclor-1260	3.50	U	3.50	18.2	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.5		40 - 162	108%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.5		32 - 176	98%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	90.1 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054785.D	1	01/20/23 10:35	01/20/23 22:49	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.40	U	3.40	18.8	ug/kg
11104-28-2	Aroclor-1221	5.20	U	5.20	18.8	ug/kg
11141-16-5	Aroclor-1232	4.30	U	4.30	18.8	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	18.8	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	18.8	ug/kg
11097-69-1	Aroclor-1254	4.70	U	4.70	18.8	ug/kg
37324-23-5	Aroclor-1262	3.70	U	3.70	18.8	ug/kg
11100-14-4	Aroclor-1268	6.30	U	6.30	18.8	ug/kg
11096-82-5	Aroclor-1260	3.60	U	3.60	18.8	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.9		40 - 162	110%	SPK: 20
2051-24-3	Decachlorobiphenyl	21.2		32 - 176	106%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

QC SUMMARY

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PP054621.D	PIBLK-PP054621.D	Tetrachloro-m-xylene	1	20	22.9	114		60	140
		Decachlorobiphenyl	1	20	24.6	123		60	140
		Tetrachloro-m-xylene	2	20	22.4	112		60	140
		Decachlorobiphenyl	2	20	24.8	124		60	140
I.BLK-PP054771.D	PIBLK-PP054771.D	Tetrachloro-m-xylene	1	20	21.7	109		60	140
		Decachlorobiphenyl	1	20	22.2	111		60	140
		Tetrachloro-m-xylene	2	20	20.0	100		60	140
		Decachlorobiphenyl	2	20	21.2	106		60	140
PB150372BL	PB150372BL	Tetrachloro-m-xylene	1	20	16.6	83		40	162
		Decachlorobiphenyl	1	20	17.6	88		32	176
		Tetrachloro-m-xylene	2	20	15.1	75		40	162
		Decachlorobiphenyl	2	20	16.6	83		32	176
PB150372BS	PB150372BS	Tetrachloro-m-xylene	1	20	17.1	86		40	162
		Decachlorobiphenyl	1	20	18.2	91		32	176
		Tetrachloro-m-xylene	2	20	14.6	73		40	162
		Decachlorobiphenyl	2	20	17.3	87		32	176
O1232-01	B-P-17A	Tetrachloro-m-xylene	1	20	22.0	110		40	162
		Decachlorobiphenyl	1	20	20.8	104		32	176
		Tetrachloro-m-xylene	2	20	20.3	102		40	162
		Decachlorobiphenyl	2	20	20.3	101		32	176
O1232-01MS	B-P-17AMS	Tetrachloro-m-xylene	1	20	22.2	111		40	162
		Decachlorobiphenyl	1	20	19.9	99		32	176
		Tetrachloro-m-xylene	2	20	19.0	95		40	162
		Decachlorobiphenyl	2	20	19.2	96		32	176
O1232-01MSD	B-P-17AMSD	Tetrachloro-m-xylene	1	20	22.3	111		40	162
		Decachlorobiphenyl	1	20	19.8	99		32	176
		Tetrachloro-m-xylene	2	20	18.8	94		40	162
		Decachlorobiphenyl	2	20	19.3	96		32	176
O1232-02	B-P-17B	Tetrachloro-m-xylene	1	20	22.9	114		40	162
		Decachlorobiphenyl	1	20	21.3	107		32	176
		Tetrachloro-m-xylene	2	20	21.0	105		40	162
		Decachlorobiphenyl	2	20	21.0	105		32	176
O1232-03	WC-17	Tetrachloro-m-xylene	1	20	21.8	109		40	162
		Decachlorobiphenyl	1	20	21.0	105		32	176
		Tetrachloro-m-xylene	2	20	20.1	101		40	162
		Decachlorobiphenyl	2	20	20.4	102		32	176
O1232-04	B-P-18A	Tetrachloro-m-xylene	1	20	22.6	113		40	162
		Decachlorobiphenyl	1	20	21.2	106		32	176
		Tetrachloro-m-xylene	2	20	20.8	104		40	162
		Decachlorobiphenyl	2	20	21.1	105		32	176
O1232-05	B-P-18B	Tetrachloro-m-xylene	1	20	22.1	110		40	162
		Decachlorobiphenyl	1	20	22.4	112		32	176
		Tetrachloro-m-xylene	2	20	19.6	98		40	162

Surrogate Summary

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
O1232-05	B-P-18B	Decachlorobiphenyl	2	20	21.3	107		32	176
O1232-06	B-P-19A	Tetrachloro-m-xylene	1	20	20.9	104		40	162
		Decachlorobiphenyl	1	20	17.4	87		32	176
		Tetrachloro-m-xylene	2	20	19.2	96		40	162
		Decachlorobiphenyl	2	20	16.5	82		32	176
O1232-07	B-P-19B	Tetrachloro-m-xylene	1	20	21.3	107		40	162
		Decachlorobiphenyl	1	20	20.6	103		32	176
		Tetrachloro-m-xylene	2	20	19.8	99		40	162
		Decachlorobiphenyl	2	20	19.4	97		32	176
O1232-08	B-P-35A	Tetrachloro-m-xylene	1	20	22.3	111		40	162
		Decachlorobiphenyl	1	20	20.2	101		32	176
		Tetrachloro-m-xylene	2	20	20.7	104		40	162
		Decachlorobiphenyl	2	20	19.4	97		32	176
O1232-09	B-P-35B	Tetrachloro-m-xylene	1	20	21.5	108		40	162
		Decachlorobiphenyl	1	20	19.5	98		32	176
		Tetrachloro-m-xylene	2	20	19.2	96		40	162
		Decachlorobiphenyl	2	20	19.3	97		32	176
O1232-10	DUP01	Tetrachloro-m-xylene	1	20	21.9	110		40	162
		Decachlorobiphenyl	1	20	21.2	106		32	176
		Tetrachloro-m-xylene	2	20	20.1	101		40	162
		Decachlorobiphenyl	2	20	19.8	99		32	176
I.BLK-PP054793.D	PIBLK-PP054793.D	Tetrachloro-m-xylene	1	20	23.1	115		60	140
		Decachlorobiphenyl	1	20	23.5	117		60	140
		Tetrachloro-m-xylene	2	20	21.0	105		60	140
		Decachlorobiphenyl	2	20	24.1	121		60	140

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8082A **DataFile :** PP054775.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Client Sample ID:	**B-P-17AMS**											
O1232-01MS	AR1016	185.9	0	174	ug/kg	94				70	142	
	AR1260	185.9	0	161	ug/kg	87				50	147	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8082A **DataFile :** PP054776.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	Limits RPD
Client Sample ID:	**B-P-17AMSD**											
O1232-01MSD	AR1016	186	0	172	ug/kg	92		2		70	142	20
	AR1260	186	0	161	ug/kg	87		0		50	147	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Compan

Analytical Method: 8082A **Datafile :** PP054773.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB150372BS	AR1016	166.6	119	ug/kg	71				71	120	
	AR1260	166.6	120	ug/kg	72				65	130	

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150372BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab Sample ID: PB150372BL Lab File ID: PP054772.D

Matrix: (soil/water) Solid Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N Date Extracted: 01/20/2023

Date Analyzed (1): 01/20/2023 Date Analyzed (2): 01/20/2023

Time Analyzed (1): 19:15 Time Analyzed (2): 19:15

Instrument ID (1): ECD_P Instrument ID (2): ECD_P

GC Column (1): ZB-MR1 ID: 0.32 (mm) GC Column (2): ZB-MR2 ID: 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB150372BS	PB150372BS	PP054773.D	01/20/2023	01/20/2023
B-P-17A	O1232-01	PP054774.D	01/20/2023	01/20/2023
B-P-17AMS	O1232-01MS	PP054775.D	01/20/2023	01/20/2023
B-P-17AMSD	O1232-01MSD	PP054776.D	01/20/2023	01/20/2023
B-P-17B	O1232-02	PP054777.D	01/20/2023	01/20/2023
WC-17	O1232-03	PP054778.D	01/20/2023	01/20/2023
B-P-18A	O1232-04	PP054779.D	01/20/2023	01/20/2023
B-P-18B	O1232-05	PP054780.D	01/20/2023	01/20/2023
B-P-19A	O1232-06	PP054781.D	01/20/2023	01/20/2023
B-P-19B	O1232-07	PP054782.D	01/20/2023	01/20/2023
B-P-35A	O1232-08	PP054783.D	01/20/2023	01/20/2023
B-P-35B	O1232-09	PP054784.D	01/20/2023	01/20/2023
DUP01	O1232-10	PP054785.D	01/20/2023	01/20/2023

COMMENTS:

CALIBRATION SUMMARY

RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Calibration Date(s):** 01/17/2023 01/18/2023

Calibration Times: 19:14 02:39

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PP054622.D RT 750 = PP054623.D

RT 500 = PP054624.D RT 250 = PP054625.D RT 050 = PP054626.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	5.51	5.51	5.51	5.51	5.51	5.51	5.41	5.61
Aroclor-1016-2	(2)	5.53	5.53	5.53	5.53	5.53	5.53	5.43	5.63
Aroclor-1016-3	(3)	5.59	5.59	5.59	5.59	5.59	5.59	5.49	5.69
Aroclor-1016-4	(4)	5.69	5.69	5.69	5.69	5.69	5.69	5.59	5.79
Aroclor-1016-5	(5)	5.99	5.99	5.99	5.98	5.98	5.99	5.89	6.09
Aroclor-1260-1	(1)	7.12	7.12	7.12	7.12	7.12	7.12	7.02	7.22
Aroclor-1260-2	(2)	7.38	7.38	7.38	7.38	7.38	7.38	7.28	7.48
Aroclor-1260-3	(3)	7.74	7.74	7.74	7.74	7.74	7.74	7.64	7.84
Aroclor-1260-4	(4)	7.96	7.96	7.96	7.96	7.96	7.96	7.86	8.06
Aroclor-1260-5	(5)	8.28	8.28	8.28	8.28	8.28	8.28	8.18	8.38
Decachlorobiphenyl		10.10	10.10	10.09	10.10	10.10	10.10	10.00	10.20
Tetrachloro-m-xylene		4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43
Aroclor-1242-1	(1)	5.51	5.51	5.51	5.51	5.51	5.51	5.41	5.61
Aroclor-1242-2	(2)	5.53	5.53	5.53	5.53	5.53	5.53	5.43	5.63
Aroclor-1242-3	(3)	5.59	5.59	5.59	5.59	5.59	5.59	5.49	5.69
Aroclor-1242-4	(4)	5.69	5.69	5.69	5.69	5.69	5.69	5.59	5.79
Aroclor-1242-5	(5)	6.43	6.43	6.43	6.43	6.43	6.43	6.33	6.53
Decachlorobiphenyl		10.10	10.10	10.10	10.10	10.10	10.10	10.00	10.20
Tetrachloro-m-xylene		4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43
Aroclor-1248-1	(1)	5.51	5.51	5.50	5.51	5.50	5.51	5.41	5.61
Aroclor-1248-2	(2)	5.78	5.78	5.78	5.78	5.78	5.78	5.68	5.88
Aroclor-1248-3	(3)	5.99	5.99	5.98	5.99	5.98	5.99	5.89	6.09
Aroclor-1248-4	(4)	6.39	6.39	6.39	6.39	6.39	6.39	6.29	6.49
Aroclor-1248-5	(5)	6.43	6.43	6.43	6.43	6.43	6.43	6.33	6.53
Decachlorobiphenyl		10.10	10.10	10.10	10.10	10.10	10.10	10.00	10.20
Tetrachloro-m-xylene		4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43
Aroclor-1254-1	(1)	6.37	6.36	6.36	6.36	6.36	6.36	6.26	6.46
Aroclor-1254-2	(2)	6.59	6.58	6.58	6.58	6.58	6.58	6.48	6.68
Aroclor-1254-3	(3)	6.95	6.95	6.95	6.95	6.95	6.95	6.85	7.05
Aroclor-1254-4	(4)	7.24	7.24	7.24	7.24	7.24	7.24	7.14	7.34
Aroclor-1254-5	(5)	7.66	7.66	7.66	7.66	7.66	7.66	7.56	7.76
Decachlorobiphenyl		10.10	10.10	10.10	10.10	10.10	10.10	10.00	10.20
Tetrachloro-m-xylene		4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43
Aroclor-1268-1	(1)	8.59	8.59	8.59	8.59	8.59	8.59	8.49	8.69
Aroclor-1268-2	(2)	8.68	8.69	8.68	8.68	8.68	8.68	8.58	8.78
Aroclor-1268-3	(3)	8.91	8.91	8.91	8.91	8.91	8.91	8.81	9.01
Aroclor-1268-4	(4)	9.34	9.34	9.34	9.34	9.34	9.34	9.24	9.44
Aroclor-1268-5	(5)	9.75	9.76	9.76	9.76	9.76	9.76	9.66	9.86

RETENTION TIMES OF INITIAL CALIBRATION

Decachlorobiphenyl	10.10	10.10	10.10	10.10	10.10	10.10	10.00	10.20
Tetrachloro-m-xylene	4.33	4.33	4.33	4.33	4.33	4.33	4.23	4.43

RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Calibration Date(s):** 01/17/2023 01/18/2023

Calibration Times: 19:14 02:39

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: RT 1000 = PP054622.D RT 750 = PP054623.D

RT 500 = PP054624.D RT 250 = PP054625.D RT 050 = PP054626.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	4.67	4.67	4.67	4.67	4.67	4.67	4.57	4.77
Aroclor-1016-2	(2)	4.69	4.69	4.68	4.68	4.69	4.69	4.59	4.79
Aroclor-1016-3	(3)	4.86	4.86	4.86	4.86	4.86	4.86	4.76	4.96
Aroclor-1016-4	(4)	4.90	4.90	4.90	4.90	4.90	4.90	4.80	5.00
Aroclor-1016-5	(5)	5.12	5.12	5.12	5.12	5.12	5.12	5.02	5.22
Aroclor-1260-1	(1)	6.16	6.16	6.16	6.16	6.16	6.16	6.06	6.26
Aroclor-1260-2	(2)	6.34	6.35	6.34	6.34	6.34	6.34	6.24	6.44
Aroclor-1260-3	(3)	6.50	6.50	6.50	6.50	6.50	6.50	6.40	6.60
Aroclor-1260-4	(4)	6.97	6.97	6.97	6.97	6.97	6.97	6.87	7.07
Aroclor-1260-5	(5)	7.22	7.22	7.22	7.22	7.22	7.22	7.12	7.32
Decachlorobiphenyl		8.60	8.60	8.60	8.60	8.60	8.60	8.50	8.70
Tetrachloro-m-xylene		3.58	3.58	3.58	3.58	3.58	3.58	3.48	3.68
Aroclor-1242-1	(1)	4.67	4.67	4.67	4.67	4.67	4.67	4.57	4.77
Aroclor-1242-2	(2)	4.69	4.68	4.69	4.69	4.69	4.69	4.59	4.79
Aroclor-1242-3	(3)	4.86	4.86	4.86	4.86	4.86	4.86	4.76	4.96
Aroclor-1242-4	(4)	4.95	4.95	4.95	4.95	4.95	4.95	4.85	5.05
Aroclor-1242-5	(5)	5.47	5.47	5.47	5.47	5.47	5.47	5.37	5.57
Decachlorobiphenyl		8.60	8.60	8.60	8.60	8.60	8.60	8.50	8.70
Tetrachloro-m-xylene		3.58	3.58	3.58	3.58	3.58	3.58	3.48	3.68
Aroclor-1248-1	(1)	4.67	4.67	4.67	4.67	4.67	4.67	4.57	4.77
Aroclor-1248-2	(2)	4.90	4.90	4.90	4.90	4.90	4.90	4.80	5.00
Aroclor-1248-3	(3)	4.95	4.95	4.95	4.95	4.95	4.95	4.85	5.05
Aroclor-1248-4	(4)	5.12	5.12	5.12	5.12	5.12	5.12	5.02	5.22
Aroclor-1248-5	(5)	5.51	5.51	5.51	5.51	5.51	5.51	5.41	5.61
Decachlorobiphenyl		8.60	8.60	8.60	8.60	8.60	8.60	8.50	8.70
Tetrachloro-m-xylene		3.58	3.58	3.58	3.58	3.58	3.58	3.48	3.68
Aroclor-1254-1	(1)	5.47	5.47	5.47	5.47	5.47	5.47	5.37	5.57
Aroclor-1254-2	(2)	5.62	5.62	5.62	5.62	5.62	5.62	5.52	5.72
Aroclor-1254-3	(3)	6.02	6.02	6.02	6.02	6.02	6.02	5.92	6.12
Aroclor-1254-4	(4)	6.25	6.25	6.25	6.25	6.25	6.25	6.15	6.35
Aroclor-1254-5	(5)	6.67	6.67	6.67	6.67	6.67	6.67	6.57	6.77
Decachlorobiphenyl		8.60	8.60	8.60	8.60	8.60	8.60	8.50	8.70
Tetrachloro-m-xylene		3.58	3.58	3.58	3.58	3.58	3.58	3.48	3.68
Aroclor-1268-1	(1)	7.50	7.50	7.50	7.50	7.50	7.50	7.40	7.60
Aroclor-1268-2	(2)	7.57	7.56	7.56	7.56	7.56	7.56	7.46	7.66
Aroclor-1268-3	(3)	7.77	7.77	7.77	7.77	7.77	7.77	7.67	7.87
Aroclor-1268-4	(4)	8.06	8.06	8.06	8.06	8.06	8.06	7.96	8.16
Aroclor-1268-5	(5)	8.35	8.35	8.35	8.35	8.35	8.35	8.25	8.45

RETENTION TIMES OF INITIAL CALIBRATION

Decachlorobiphenyl	8.60	8.60	8.60	8.60	8.60	8.60	8.50	8.70
Tetrachloro-m-xylene	3.58	3.58	3.58	3.58	3.58	3.58	3.48	3.68

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Calibration Date(s):** 01/17/2023 01/18/2023

Calibration Times: 19:14 02:39

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: **CF 1000 =** PP054622.D **CF 750 =** PP054623.D

CF 500 = PP054624.D **CF 250 =** PP054625.D **CF 050 =** PP054626.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	60994757	61617163	65555438	69557608	66086960	64762385	5
Aroclor-1016-2	(2)	89698776	91415513	95488362	100337572	95540200	94496085	4
Aroclor-1016-3	(3)	55770302	57035852	60394448	64434108	60548420	59636626	6
Aroclor-1016-4	(4)	45481753	46113448	48521374	51105992	46383960	47521305	5
Aroclor-1016-5	(5)	45060833	46319016	49079426	52666764	48937780	48412764	6
Aroclor-1260-1	(1)	63208139	64131257	68618860	73920032	73551140	68685886	7
Aroclor-1260-2	(2)	73618973	74006295	78778356	85364204	88083200	79970206	8
Aroclor-1260-3	(3)	57002616	57349332	60308428	64600060	61936160	60239319	5
Aroclor-1260-4	(4)	66249620	67120772	70758598	75398920	70316000	69968782	5
Aroclor-1260-5	(5)	126243057	124643740	130501186	136485244	133523920	130279429	4
Decachlorobiphenyl		1274969720	1274505000	1355090560	1428073880	1378697600	1342267352	5
Tetrachloro-m-xylene		1833116560	1821365480	1874138920	1904245840	1747971400	1836167640	3
Aroclor-1242-1	(1)	50809135	52021196	54810186	57831004	54879600	54070224	5
Aroclor-1242-2	(2)	73973970	74978488	79076574	83453528	78615140	78019540	5
Aroclor-1242-3	(3)	46155227	47067688	50035314	53190808	49172100	49124227	6
Aroclor-1242-4	(4)	37578215	38537477	40276172	42845280	39110980	39669625	5
Aroclor-1242-5	(5)	29832252	32681105	39082358	45312016	33492960	36080138	17
Decachlorobiphenyl		1251041510	1273988747	1344550800	1416939680	1385203200	1334344787	5
Tetrachloro-m-xylene		1811405100	1815934547	1861729720	1883700080	1773088000	1829171489	2
Aroclor-1248-1	(1)	37607776	39006492	40780610	43090024	38634340	39823848	5
Aroclor-1248-2	(2)	54475652	56989927	59770636	63999452	61541340	59355401	6
Aroclor-1248-3	(3)	60721667	62367509	66784284	71364928	68713780	65990434	7
Aroclor-1248-4	(4)	62162191	63537173	66947460	71225736	70218880	66818288	6
Aroclor-1248-5	(5)	60838553	60991893	64904352	68877936	69476000	65017747	6
Decachlorobiphenyl		1247706810	1281398533	1334691060	1413445920	1382528000	1331954065	5
Tetrachloro-m-xylene		1778703180	1796466640	1840391920	1855036880	1716680200	1797455764	3
Aroclor-1254-1	(1)	64876069	67358152	70187782	76230944	74744580	70679505	7
Aroclor-1254-2	(2)	79306440	82003113	93891248	112648900	110718960	95713732	16
Aroclor-1254-3	(3)	81892178	84489736	87129344	93066756	87230040	86761611	5
Aroclor-1254-4	(4)	58248595	60618040	62943304	67757892	63676880	62648942	6
Aroclor-1254-5	(5)	64415099	66907195	69281020	74033684	75257760	69978952	7
Decachlorobiphenyl		1254664020	1300116533	1341785500	1428088760	1371493400	1339229643	5
Tetrachloro-m-xylene		1792448220	1818331987	1827797180	1888829640	1734829400	1812447285	3
Aroclor-1268-1	(1)	175484193	178569517	187137462	192825248	188148800	184433044	4

CALIBRATION FACTOR OF INITIAL CALIBRATION

Aroclor-1268-2	(2)	160551159	163997384	171189930	177103064	174642720	169496851	4
Aroclor-1268-3	(3)	140670488	143555869	150787190	155460048	154331920	148961103	4
Aroclor-1268-4	(4)	62374308	64150585	66875200	68369584	61005440	64555023	5
Aroclor-1268-5	(5)	472850074	479426876	492048528	498177556	470558160	482612239	3
Decachlorobiphenyl		2241360920	2290810347	2403495460	2504350200	2478617600	2383726905	5
Tetrachloro-m-xylene		1820885660	1841071600	1902207260	1899803000	1713261200	1835445744	4

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Calibration Date(s):** 01/17/2023 01/18/2023

Calibration Times: 19:14 02:39

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: **CF 1000 =** PP054622.D **CF 750 =** PP054623.D

CF 500 = PP054624.D **CF 250 =** PP054625.D **CF 050 =** PP054626.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	48110900	48110107	50537560	54617184	50472120	50369574	5
Aroclor-1016-2	(2)	69111880	69642880	72798372	74770824	70622940	71389379	3
Aroclor-1016-3	(3)	37563855	37764157	39734264	41695432	37909600	38933462	5
Aroclor-1016-4	(4)	31567046	32159183	34386044	36537740	35170860	33964175	6
Aroclor-1016-5	(5)	41182153	41787627	44073134	47148696	44877720	43813866	6
Aroclor-1260-1	(1)	79365232	78844829	83633318	87879524	85377440	83020069	5
Aroclor-1260-2	(2)	88933725	87782645	92805916	97339284	93364340	92045182	4
Aroclor-1260-3	(3)	87602101	86249311	91183270	94760696	89598560	89878788	4
Aroclor-1260-4	(4)	73956541	72106947	75886624	78959280	75422320	75266342	3
Aroclor-1260-5	(5)	159388878	153900888	160536508	163728940	156965120	158904067	2
Decachlorobiphenyl		1372404250	1343669640	1421472540	1500508000	1522245600	1432060006	5
Tetrachloro-m-xylene		1613419820	1600019107	1643383900	1655624320	1491050200	1600699469	4
Aroclor-1242-1	(1)	39381881	40399891	43176434	45114300	42876980	42189897	5
Aroclor-1242-2	(2)	56142526	57034204	59998510	63074588	57331580	58716282	5
Aroclor-1242-3	(3)	30728980	31194883	32930514	34323884	31213980	32078448	5
Aroclor-1242-4	(4)	32535838	33258647	35808658	37654476	36175940	35086712	6
Aroclor-1242-5	(5)	36257488	36521681	38439862	40852864	37981200	38010619	5
Decachlorobiphenyl		1315958030	1336503627	1397426220	1474809520	1523899200	1409719319	6
Tetrachloro-m-xylene		1598557950	1600123813	1632195220	1649415280	1503535600	1596765573	4
Aroclor-1248-1	(1)	29968083	30528827	32630110	33078996	30239600	31289123	5
Aroclor-1248-2	(2)	42656411	46196937	48804598	52134512	50261680	48010828	8
Aroclor-1248-3	(3)	47442287	48618009	51003946	54494984	52529060	50817657	6
Aroclor-1248-4	(4)	58144594	56358249	59692022	62643004	60418260	59451226	4
Aroclor-1248-5	(5)	51788530	48406688	51046562	52821868	49982340	50809198	3
Decachlorobiphenyl		1312777750	1324791253	1399268980	1478112400	1469837800	1396957637	6
Tetrachloro-m-xylene		1568868510	1578596160	1614623820	1618825400	1470404000	1570263578	4
Aroclor-1254-1	(1)	79431366	81682171	83681748	89732044	90578220	85021110	6
Aroclor-1254-2	(2)	68328243	70260385	72293666	77989120	74967820	72767847	5
Aroclor-1254-3	(3)	107725360	111793424	114278880	119519708	112560740	113175622	4
Aroclor-1254-4	(4)	58850995	61251233	63196410	66474456	61431200	62240859	5
Aroclor-1254-5	(5)	90585374	93603605	94943324	100286216	94427640	94769232	4
Decachlorobiphenyl		1315840430	1351611280	1390860680	1481754480	1472256400	1402464654	5
Tetrachloro-m-xylene		1573028330	1599438347	1606333020	1637352520	1467704000	1576771243	4
Aroclor-1268-1	(1)	211800889	212068772	218805520	222295460	216088460	216211820	2

CALIBRATION FACTOR OF INITIAL CALIBRATION

Aroclor-1268-2	(2)	193204962	192623001	197813464	201698528	194072640	195882519	2
Aroclor-1268-3	(3)	173229843	174323716	178901816	182613184	175756480	176965008	2
Aroclor-1268-4	(4)	65506290	66378420	68913796	71791976	65601900	67638476	4
Aroclor-1268-5	(5)	517569534	517095833	523047182	523415748	491419840	514509627	3
Decachlorobiphenyl		2382750360	2420081013	2478549680	2574937120	2599484600	2491160555	4
Tetrachloro-m-xylene		1599008690	1617900053	1666311200	1654862560	1461882000	1599992901	5

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Date(s) Analyzed:** 01/17/2023 01/18/2023

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.54	4.44	4.64	22885400
		2	4.63	4.53	4.73	17599600
		3	4.70	4.60	4.80	53152600
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.70	4.60	4.80	44446000
		2	5.24	5.14	5.34	24106800
		3	5.53	5.43	5.63	43099800
		4	5.69	5.59	5.79	21462800
		5	5.78	5.68	5.88	17205600
Aroclor-1262	500	1	7.74	7.64	7.84	81857800
		2	8.28	8.18	8.38	141579000
		3	8.59	8.49	8.69	103096000
		4	8.68	8.58	8.78	49715200
		5	9.34	9.24	9.44	56956800

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Instrument ID: ECD_P **Date(s) Analyzed:** 01/17/2023 01/18/2023

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	3.79	3.69	3.89	19786500
		2	3.88	3.78	3.98	15022200
		3	3.95	3.85	4.05	45959600
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	3.95	3.85	4.05	38578200
		2	4.69	4.59	4.79	32690000
		3	4.86	4.76	4.96	17196900
		4	4.95	4.85	5.05	17323300
		5	5.12	5.02	5.22	18925700
Aroclor-1262	500	1	6.77	6.67	6.87	42418000
		2	6.97	6.87	7.07	91943600
		3	7.50	7.40	7.60	71841200
		4	7.56	7.46	7.66	129314000
		5	8.06	7.96	8.16	59579600

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 18:26 **Initial Calibration Time(s):** 19:14 02:39

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Aroclor-1016-1	(1)	5.51	5.51	5.41	5.61	0.00
Aroclor-1016-2	(2)	5.53	5.53	5.43	5.63	0.00
Aroclor-1016-3	(3)	5.59	5.59	5.49	5.69	0.00
Aroclor-1016-4	(4)	5.69	5.69	5.59	5.79	0.00
Aroclor-1016-5	(5)	5.98	5.99	5.89	6.09	0.01
Aroclor-1260-1	(1)	7.12	7.12	7.02	7.22	0.00
Aroclor-1260-2	(2)	7.38	7.38	7.28	7.48	0.00
Aroclor-1260-3	(3)	7.74	7.74	7.64	7.84	0.00
Aroclor-1260-4	(4)	7.96	7.96	7.86	8.06	0.00
Aroclor-1260-5	(5)	8.28	8.28	8.18	8.38	0.00
Tetrachloro-m-xylene		4.33	4.33	4.23	4.43	0.00
Decachlorobiphenyl		10.10	10.09	9.99	10.19	-0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/20/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 18:26 **Initial Calibration Time(s):** 19:14 02:39

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Aroclor-1016-1	(1)	4.67	4.67	4.57	4.77	0.00
Aroclor-1016-2	(2)	4.69	4.68	4.58	4.78	0.00
Aroclor-1016-3	(3)	4.86	4.86	4.76	4.96	0.00
Aroclor-1016-4	(4)	4.90	4.90	4.80	5.00	0.00
Aroclor-1016-5	(5)	5.12	5.12	5.02	5.22	0.00
Aroclor-1260-1	(1)	6.15	6.16	6.06	6.26	0.01
Aroclor-1260-2	(2)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-3	(3)	6.50	6.50	6.40	6.60	0.00
Aroclor-1260-4	(4)	6.97	6.97	6.87	7.07	0.00
Aroclor-1260-5	(5)	7.21	7.22	7.12	7.32	0.01
Tetrachloro-m-xylene		3.58	3.58	3.48	3.68	0.00
Decachlorobiphenyl		8.60	8.60	8.50	8.70	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL01 **Date Analyzed:** 01/20/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054770.D **Time Analyzed:** 18:26

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.505	5.405	5.605	458.730	500.000	-8.3
Aroclor-1016-2	5.527	5.427	5.627	444.190	500.000	-11.2
Aroclor-1016-3	5.590	5.490	5.690	425.180	500.000	-15.0
Aroclor-1016-4	5.688	5.588	5.788	424.530	500.000	-15.1
Aroclor-1016-5	5.984	5.885	6.085	406.460	500.000	-18.7
Aroclor-1260-1	7.117	7.017	7.217	516.460	500.000	3.3
Aroclor-1260-2	7.375	7.275	7.475	523.750	500.000	4.8
Aroclor-1260-3	7.737	7.637	7.837	518.920	500.000	3.8
Aroclor-1260-4	7.962	7.863	8.063	512.200	500.000	2.4
Aroclor-1260-5	8.280	8.181	8.381	509.420	500.000	1.9
Decachlorobiphenyl	10.095	9.994	10.194	49.100	50.000	-1.8
Tetrachloro-m-xylene	4.332	4.231	4.431	53.290	50.000	6.6

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL01 **Date Analyzed:** 01/20/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054770.D **Time Analyzed:** 18:26

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.666	4.565	4.765	516.300	500.000	3.3
Aroclor-1016-2	4.685	4.584	4.784	518.240	500.000	3.6
Aroclor-1016-3	4.861	4.761	4.961	513.600	500.000	2.7
Aroclor-1016-4	4.903	4.804	5.004	471.600	500.000	-5.7
Aroclor-1016-5	5.116	5.017	5.217	540.130	500.000	8.0
Aroclor-1260-1	6.154	6.055	6.255	492.450	500.000	-1.5
Aroclor-1260-2	6.342	6.243	6.443	501.120	500.000	0.2
Aroclor-1260-3	6.497	6.398	6.598	480.660	500.000	-3.9
Aroclor-1260-4	6.971	6.872	7.072	476.120	500.000	-4.8
Aroclor-1260-5	7.214	7.115	7.315	484.720	500.000	-3.1
Decachlorobiphenyl	8.599	8.502	8.702	46.500	50.000	-7.0
Tetrachloro-m-xylene	3.579	3.478	3.678	49.930	50.000	-0.1

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 01:05 **Initial Calibration Time(s):** 19:14 02:39

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Aroclor-1016-1	(1)	5.50	5.51	5.41	5.61	0.01
Aroclor-1016-2	(2)	5.53	5.53	5.43	5.63	0.00
Aroclor-1016-3	(3)	5.59	5.59	5.49	5.69	0.00
Aroclor-1016-4	(4)	5.69	5.69	5.59	5.79	0.00
Aroclor-1016-5	(5)	5.98	5.99	5.89	6.09	0.01
Aroclor-1260-1	(1)	7.12	7.12	7.02	7.22	0.00
Aroclor-1260-2	(2)	7.37	7.38	7.28	7.48	0.01
Aroclor-1260-3	(3)	7.74	7.74	7.64	7.84	0.00
Aroclor-1260-4	(4)	7.96	7.96	7.86	8.06	0.00
Aroclor-1260-5	(5)	8.28	8.28	8.18	8.38	0.00
Tetrachloro-m-xylene		4.33	4.33	4.23	4.43	0.00
Decachlorobiphenyl		10.09	10.09	9.99	10.19	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 01:05 **Initial Calibration Time(s):** 19:14 02:39

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	RT WINDOW TO	DIFF RT
Aroclor-1016-1	(1)	4.67	4.67	4.57	4.77	0.01
Aroclor-1016-2	(2)	4.68	4.68	4.58	4.78	0.00
Aroclor-1016-3	(3)	4.86	4.86	4.76	4.96	0.00
Aroclor-1016-4	(4)	4.90	4.90	4.80	5.00	0.00
Aroclor-1016-5	(5)	5.12	5.12	5.02	5.22	0.00
Aroclor-1260-1	(1)	6.15	6.16	6.06	6.26	0.01
Aroclor-1260-2	(2)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-3	(3)	6.50	6.50	6.40	6.60	0.00
Aroclor-1260-4	(4)	6.97	6.97	6.87	7.07	0.00
Aroclor-1260-5	(5)	7.21	7.22	7.12	7.32	0.01
Tetrachloro-m-xylene		3.58	3.58	3.48	3.68	0.00
Decachlorobiphenyl		8.60	8.60	8.50	8.70	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL02 **Date Analyzed:** 01/21/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054792.D **Time Analyzed:** 01:05

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.504	5.405	5.605	519.700	500.000	3.9
Aroclor-1016-2	5.527	5.427	5.627	512.830	500.000	2.6
Aroclor-1016-3	5.589	5.490	5.690	508.530	500.000	1.7
Aroclor-1016-4	5.688	5.588	5.788	516.130	500.000	3.2
Aroclor-1016-5	5.984	5.885	6.085	515.860	500.000	3.2
Aroclor-1260-1	7.116	7.017	7.217	531.020	500.000	6.2
Aroclor-1260-2	7.374	7.275	7.475	501.820	500.000	0.4
Aroclor-1260-3	7.735	7.637	7.837	501.240	500.000	0.2
Aroclor-1260-4	7.961	7.863	8.063	499.040	500.000	-0.2
Aroclor-1260-5	8.278	8.181	8.381	485.150	500.000	-3.0
Decachlorobiphenyl	10.092	9.994	10.194	46.080	50.000	-7.8
Tetrachloro-m-xylene	4.333	4.231	4.431	50.890	50.000	1.8

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1232 **SAS No.:** O1232 **SDG NO.:** O1232

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL02 **Date Analyzed:** 01/21/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054792.D **Time Analyzed:** 01:05

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.665	4.565	4.765	489.800	500.000	-2.0
Aroclor-1016-2	4.684	4.584	4.784	491.850	500.000	-1.6
Aroclor-1016-3	4.860	4.761	4.961	487.940	500.000	-2.4
Aroclor-1016-4	4.902	4.804	5.004	463.880	500.000	-7.2
Aroclor-1016-5	5.116	5.017	5.217	492.150	500.000	-1.6
Aroclor-1260-1	6.153	6.055	6.255	480.180	500.000	-4.0
Aroclor-1260-2	6.342	6.243	6.443	498.600	500.000	-0.3
Aroclor-1260-3	6.496	6.398	6.598	491.130	500.000	-1.8
Aroclor-1260-4	6.970	6.872	7.072	492.710	500.000	-1.5
Aroclor-1260-5	7.213	7.115	7.315	496.280	500.000	-0.7
Decachlorobiphenyl	8.598	8.502	8.702	47.510	50.000	-5.0
Tetrachloro-m-xylene	3.579	3.478	3.678	47.200	50.000	-5.6

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CE **Instrument ID:** ECD_P

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 01/17/2023 01/17/2023

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	01/17/2023	18:58	PP054621.D	10.10	4.33
AR1660ICC1000	AR1660ICC1000	01/17/2023	19:14	PP054622.D	10.10	4.33
AR1660ICC750	AR1660ICC750	01/17/2023	19:31	PP054623.D	10.10	4.33
AR1660ICC500	AR1660ICC500	01/17/2023	19:47	PP054624.D	10.09	4.33
AR1660ICC250	AR1660ICC250	01/17/2023	20:04	PP054625.D	10.10	4.33
AR1660ICC050	AR1660ICC050	01/17/2023	20:20	PP054626.D	10.10	4.33
AR1221ICC500	AR1221ICC500	01/17/2023	20:37	PP054627.D	10.10	4.33
AR1232ICC500	AR1232ICC500	01/17/2023	20:53	PP054628.D	10.10	4.33
AR1242ICC1000	AR1242ICC1000	01/17/2023	21:10	PP054629.D	10.10	4.33
AR1242ICC750	AR1242ICC750	01/17/2023	21:26	PP054630.D	10.10	4.33
AR1242ICC500	AR1242ICC500	01/17/2023	21:43	PP054631.D	10.10	4.33
AR1242ICC250	AR1242ICC250	01/17/2023	21:59	PP054632.D	10.10	4.33
AR1242ICC050	AR1242ICC050	01/17/2023	22:15	PP054633.D	10.10	4.33
AR1248ICC1000	AR1248ICC1000	01/17/2023	22:32	PP054634.D	10.10	4.33
AR1248ICC750	AR1248ICC750	01/17/2023	22:48	PP054635.D	10.10	4.33
AR1248ICC500	AR1248ICC500	01/17/2023	23:05	PP054636.D	10.10	4.33
AR1248ICC250	AR1248ICC250	01/17/2023	23:22	PP054637.D	10.10	4.33
AR1248ICC050	AR1248ICC050	01/17/2023	23:38	PP054638.D	10.10	4.33
AR1254ICC1000	AR1254ICC1000	01/17/2023	23:55	PP054639.D	10.10	4.33
AR1254ICC750	AR1254ICC750	01/18/2023	00:11	PP054640.D	10.10	4.33
AR1254ICC500	AR1254ICC500	01/18/2023	00:27	PP054641.D	10.10	4.33
AR1254ICC250	AR1254ICC250	01/18/2023	00:44	PP054642.D	10.10	4.33
AR1254ICC050	AR1254ICC050	01/18/2023	01:00	PP054643.D	10.10	4.33
AR1262ICC500	AR1262ICC500	01/18/2023	01:17	PP054644.D	10.10	4.33
AR1268ICC1000	AR1268ICC1000	01/18/2023	01:33	PP054645.D	10.10	4.33
AR1268ICC750	AR1268ICC750	01/18/2023	01:50	PP054646.D	10.10	4.33
AR1268ICC500	AR1268ICC500	01/18/2023	02:06	PP054647.D	10.10	4.33
AR1268ICC250	AR1268ICC250	01/18/2023	02:22	PP054648.D	10.10	4.33
AR1268ICC050	AR1268ICC050	01/18/2023	02:39	PP054649.D	10.10	4.33
AR1660CCC500	AR1660CCC500	01/20/2023	18:26	PP054770.D	10.10	4.33
I.BLK	I.BLK	01/20/2023	18:59	PP054771.D	10.10	4.33
PB150372BL	PB150372BL	01/20/2023	19:15	PP054772.D	10.10	4.33
PB150372BS	PB150372BS	01/20/2023	19:32	PP054773.D	10.09	4.33
B-P-17A	O1232-01	01/20/2023	19:48	PP054774.D	10.09	4.33
B-P-17AMS	O1232-01MS	01/20/2023	20:05	PP054775.D	10.09	4.33
B-P-17AMSD	O1232-01MSD	01/20/2023	20:21	PP054776.D	10.09	4.33
B-P-17B	O1232-02	01/20/2023	20:38	PP054777.D	10.09	4.33
WC-17	O1232-03	01/20/2023	20:54	PP054778.D	10.10	4.33
B-P-18A	O1232-04	01/20/2023	21:11	PP054779.D	10.10	4.33
B-P-18B	O1232-05	01/20/2023	21:27	PP054780.D	10.09	4.33
B-P-19A	O1232-06	01/20/2023	21:43	PP054781.D	10.09	4.33
B-P-19B	O1232-07	01/20/2023	22:00	PP054782.D	10.09	4.33
B-P-35A	O1232-08	01/20/2023	22:16	PP054783.D	10.09	4.33
B-P-35B	O1232-09	01/20/2023	22:33	PP054784.D	10.09	4.33
DUP01	O1232-10	01/20/2023	22:49	PP054785.D	10.09	4.33

Analytical Sequence

AR1660CCC500	AR1660CCC500	01/21/2023	01:05	PP054792.D	10.09	4.33
I.BLK	I.BLK	01/21/2023	01:54	PP054793.D	10.09	4.33

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CE **Instrument ID:** ECD_P

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Inst. Calib. Date(s):** 01/17/2023 01/17/2023

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	01/17/2023	18:58	PP054621.D	8.60	3.58
AR1660ICC1000	AR1660ICC1000	01/17/2023	19:14	PP054622.D	8.60	3.58
AR1660ICC750	AR1660ICC750	01/17/2023	19:31	PP054623.D	8.60	3.58
AR1660ICC500	AR1660ICC500	01/17/2023	19:47	PP054624.D	8.60	3.58
AR1660ICC250	AR1660ICC250	01/17/2023	20:04	PP054625.D	8.60	3.58
AR1660ICC050	AR1660ICC050	01/17/2023	20:20	PP054626.D	8.60	3.58
AR1221ICC500	AR1221ICC500	01/17/2023	20:37	PP054627.D	8.60	3.58
AR1232ICC500	AR1232ICC500	01/17/2023	20:53	PP054628.D	8.60	3.58
AR1242ICC1000	AR1242ICC1000	01/17/2023	21:10	PP054629.D	8.60	3.58
AR1242ICC750	AR1242ICC750	01/17/2023	21:26	PP054630.D	8.60	3.58
AR1242ICC500	AR1242ICC500	01/17/2023	21:43	PP054631.D	8.60	3.58
AR1242ICC250	AR1242ICC250	01/17/2023	21:59	PP054632.D	8.60	3.58
AR1242ICC050	AR1242ICC050	01/17/2023	22:15	PP054633.D	8.60	3.58
AR1248ICC1000	AR1248ICC1000	01/17/2023	22:32	PP054634.D	8.60	3.58
AR1248ICC750	AR1248ICC750	01/17/2023	22:48	PP054635.D	8.60	3.58
AR1248ICC500	AR1248ICC500	01/17/2023	23:05	PP054636.D	8.60	3.58
AR1248ICC250	AR1248ICC250	01/17/2023	23:22	PP054637.D	8.60	3.58
AR1248ICC050	AR1248ICC050	01/17/2023	23:38	PP054638.D	8.60	3.58
AR1254ICC1000	AR1254ICC1000	01/17/2023	23:55	PP054639.D	8.60	3.58
AR1254ICC750	AR1254ICC750	01/18/2023	00:11	PP054640.D	8.60	3.58
AR1254ICC500	AR1254ICC500	01/18/2023	00:27	PP054641.D	8.60	3.58
AR1254ICC250	AR1254ICC250	01/18/2023	00:44	PP054642.D	8.60	3.58
AR1254ICC050	AR1254ICC050	01/18/2023	01:00	PP054643.D	8.60	3.58
AR1262ICC500	AR1262ICC500	01/18/2023	01:17	PP054644.D	8.60	3.58
AR1268ICC1000	AR1268ICC1000	01/18/2023	01:33	PP054645.D	8.60	3.58
AR1268ICC750	AR1268ICC750	01/18/2023	01:50	PP054646.D	8.60	3.58
AR1268ICC500	AR1268ICC500	01/18/2023	02:06	PP054647.D	8.60	3.58
AR1268ICC250	AR1268ICC250	01/18/2023	02:22	PP054648.D	8.60	3.58
AR1268ICC050	AR1268ICC050	01/18/2023	02:39	PP054649.D	8.60	3.58
AR1660CCC500	AR1660CCC500	01/20/2023	18:26	PP054770.D	8.60	3.58
I.BLK	I.BLK	01/20/2023	18:59	PP054771.D	8.60	3.58
PB150372BL	PB150372BL	01/20/2023	19:15	PP054772.D	8.60	3.58
PB150372BS	PB150372BS	01/20/2023	19:32	PP054773.D	8.60	3.58
B-P-17A	O1232-01	01/20/2023	19:48	PP054774.D	8.60	3.58
B-P-17AMS	O1232-01MS	01/20/2023	20:05	PP054775.D	8.60	3.58
B-P-17AMSD	O1232-01MSD	01/20/2023	20:21	PP054776.D	8.60	3.58
B-P-17B	O1232-02	01/20/2023	20:38	PP054777.D	8.60	3.58
WC-17	O1232-03	01/20/2023	20:54	PP054778.D	8.60	3.58
B-P-18A	O1232-04	01/20/2023	21:11	PP054779.D	8.60	3.58
B-P-18B	O1232-05	01/20/2023	21:27	PP054780.D	8.60	3.58
B-P-19A	O1232-06	01/20/2023	21:43	PP054781.D	8.60	3.58
B-P-19B	O1232-07	01/20/2023	22:00	PP054782.D	8.60	3.58
B-P-35A	O1232-08	01/20/2023	22:16	PP054783.D	8.60	3.58
B-P-35B	O1232-09	01/20/2023	22:33	PP054784.D	8.60	3.58
DUP01	O1232-10	01/20/2023	22:49	PP054785.D	8.60	3.58

Analytical Sequence

AR1660CCC500	AR1660CCC500	01/21/2023	01:05	PP054792.D	8.60	3.58
I.BLK	I.BLK	01/21/2023	01:54	PP054793.D	8.60	3.58

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150372BL	SDG No.:	O1232
Lab Sample ID:	PB150372BL	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	100 Decanted:
Sample Wt/Vol:	30 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054772.D	1	01/20/23 10:35	01/20/23 19:15	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.10	U	3.10	17.0	ug/kg
11104-28-2	Aroclor-1221	4.70	U	4.70	17.0	ug/kg
11141-16-5	Aroclor-1232	3.90	U	3.90	17.0	ug/kg
53469-21-9	Aroclor-1242	2.40	U	2.40	17.0	ug/kg
12672-29-6	Aroclor-1248	3.00	U	3.00	17.0	ug/kg
11097-69-1	Aroclor-1254	4.20	U	4.20	17.0	ug/kg
37324-23-5	Aroclor-1262	3.30	U	3.30	17.0	ug/kg
11100-14-4	Aroclor-1268	5.70	U	5.70	17.0	ug/kg
11096-82-5	Aroclor-1260	3.20	U	3.20	17.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	16.6		40 - 162	83%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.6		32 - 176	88%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/17/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/17/23
Client Sample ID:	PIBLK-PP054621.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PP054621.D	Matrix:	WATER
Analytical Method:	SW8082A	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	5030		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054621.D	1		01/17/23	PP011723

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
12674-11-2	Aroclor-1016	0.14	U	0.14	0.50	ug/L
11104-28-2	Aroclor-1221	0.14	U	0.14	0.50	ug/L
11141-16-5	Aroclor-1232	0.17	U	0.17	0.50	ug/L
53469-21-9	Aroclor-1242	0.12	U	0.12	0.50	ug/L
12672-29-6	Aroclor-1248	0.15	U	0.15	0.50	ug/L
11097-69-1	Aroclor-1254	0.22	U	0.22	0.50	ug/L
11096-82-5	Aroclor-1260	0.11	U	0.11	0.50	ug/L
37324-23-5	Aroclor-1262	0.17	U	0.17	0.50	ug/L
11100-14-4	Aroclor-1268	0.13	U	0.13	0.50	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.4		60 - 140	112%	SPK: 20
2051-24-3	Decachlorobiphenyl	24.6		60 - 140	123%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-PP054771.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PP054771.D	Matrix:	WATER
Analytical Method:	SW8082A	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	5030		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054771.D	1		01/20/23	pp012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
12674-11-2	Aroclor-1016	0.14	U	0.14	0.50	ug/L
11104-28-2	Aroclor-1221	0.14	U	0.14	0.50	ug/L
11141-16-5	Aroclor-1232	0.17	U	0.17	0.50	ug/L
53469-21-9	Aroclor-1242	0.12	U	0.12	0.50	ug/L
12672-29-6	Aroclor-1248	0.15	U	0.15	0.50	ug/L
11097-69-1	Aroclor-1254	0.22	U	0.22	0.50	ug/L
11096-82-5	Aroclor-1260	0.11	U	0.11	0.50	ug/L
37324-23-5	Aroclor-1262	0.17	U	0.17	0.50	ug/L
11100-14-4	Aroclor-1268	0.13	U	0.13	0.50	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.0		60 - 140	100%	SPK: 20
2051-24-3	Decachlorobiphenyl	21.2		60 - 140	106%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/21/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/21/23
Client Sample ID:	PIBLK-PP054793.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-PP054793.D	Matrix:	WATER
Analytical Method:	SW8082A	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	5030		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054793.D	1		01/21/23	pp012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
12674-11-2	Aroclor-1016	0.14	U	0.14	0.50	ug/L
11104-28-2	Aroclor-1221	0.14	U	0.14	0.50	ug/L
11141-16-5	Aroclor-1232	0.17	U	0.17	0.50	ug/L
53469-21-9	Aroclor-1242	0.12	U	0.12	0.50	ug/L
12672-29-6	Aroclor-1248	0.15	U	0.15	0.50	ug/L
11097-69-1	Aroclor-1254	0.22	U	0.22	0.50	ug/L
11096-82-5	Aroclor-1260	0.11	U	0.11	0.50	ug/L
37324-23-5	Aroclor-1262	0.17	U	0.17	0.50	ug/L
11100-14-4	Aroclor-1268	0.13	U	0.13	0.50	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.0		60 - 140	105%	SPK: 20
2051-24-3	Decachlorobiphenyl	23.5		60 - 140	117%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150372BS	SDG No.:	O1232
Lab Sample ID:	PB150372BS	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	100 Decanted:
Sample Wt/Vol:	30.02 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054773.D	1	01/20/23 10:35	01/20/23 19:32	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	119		3.00	17.0	ug/kg
11104-28-2	Aroclor-1221	4.70	U	4.70	17.0	ug/kg
11141-16-5	Aroclor-1232	3.90	U	3.90	17.0	ug/kg
53469-21-9	Aroclor-1242	2.40	U	2.40	17.0	ug/kg
12672-29-6	Aroclor-1248	3.00	U	3.00	17.0	ug/kg
11097-69-1	Aroclor-1254	4.20	U	4.20	17.0	ug/kg
37324-23-5	Aroclor-1262	3.30	U	3.30	17.0	ug/kg
11100-14-4	Aroclor-1268	5.70	U	5.70	17.0	ug/kg
11096-82-5	Aroclor-1260	120		3.20	17.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	17.1		40 - 162	86%	SPK: 20
2051-24-3	Decachlorobiphenyl	18.2		32 - 176	91%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
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B = Analyte Found in Associated Method Blank
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D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17AMS	SDG No.:	O1232
Lab Sample ID:	O1232-01MS	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	89.4 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054775.D	1	01/20/23 10:35	01/20/23 20:05	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	174		3.40	19.0	ug/kg
11104-28-2	Aroclor-1221	5.20	U	5.20	19.0	ug/kg
11141-16-5	Aroclor-1232	4.40	U	4.40	19.0	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	19.0	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	19.0	ug/kg
11097-69-1	Aroclor-1254	4.70	U	4.70	19.0	ug/kg
37324-23-5	Aroclor-1262	3.70	U	3.70	19.0	ug/kg
11100-14-4	Aroclor-1268	6.40	U	6.40	19.0	ug/kg
11096-82-5	Aroclor-1260	161		3.60	19.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.2		40 - 162	111%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.9		32 - 176	99%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
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M = MS/MSD acceptance criteria did not meet requirements

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B = Analyte Found in Associated Method Blank
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S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17AMSD	SDG No.:	O1232
Lab Sample ID:	O1232-01MSD	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	89.4 Decanted:
Sample Wt/Vol:	30.07 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		
Prep Method :	SW3541B		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PP054776.D	1	01/20/23 10:35	01/20/23 20:21	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	172		3.40	19.0	ug/kg
11104-28-2	Aroclor-1221	5.20	U	5.20	19.0	ug/kg
11141-16-5	Aroclor-1232	4.40	U	4.40	19.0	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	19.0	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	19.0	ug/kg
11097-69-1	Aroclor-1254	4.70	U	4.70	19.0	ug/kg
37324-23-5	Aroclor-1262	3.70	U	3.70	19.0	ug/kg
11100-14-4	Aroclor-1268	6.40	U	6.40	19.0	ug/kg
11096-82-5	Aroclor-1260	161		3.60	19.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.3		40 - 162	111%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.8		32 - 176	99%	SPK: 20

Comments:

U = Not Detected
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CHEMTECH

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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-03	**WC-17**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/20/23	

SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.04 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011895.D	1	01/20/23 13:10	01/20/23 17:29	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	1920		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	10.4		37 - 130	52%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
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E = Value Exceeds Calibration Range
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J = Estimated Value
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QC SUMMARY

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SOIL DIESEL RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FF011890.D	68				0
PIBLK-FF011899.D	68				0
WC-17	52				0
WC-17MS	83				0
WC-17MSD	74				0
PB150379BL	71				0
PB150379BS	63				0

	QC LIMITS
TETRACOSANE-d50	For Water : 29-130 For Soil : 37-130

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate Diluted Out

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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Client SampleID : WC-17MS **Datafile:** FF011896.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7272	1920	10471	118%		68-131

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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Client SampleID : WC-17MSD **Datafile:** FF011897.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7277	1920	9258	101%		68-131

MS/MSD % Recovery RPD : 15.4

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SOIL DIESEL RANGE ORGANICS LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RI

Lab Name: Chemtech **Client:** Louis Berger U.S., Inc., A WSP Company

Lab Code: CHEM **Cas No:** O1232 **SAS No :** O1232 **SDG No:** O1232

Matrix Spike - EPA Sample No : PB150379BS **Datafile:** FF011894.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
DRO	6660	0	5212	78	68-131

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4B

METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150379BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG NO.: O1232

Lab File ID: FF011893.D Lab Sample ID: PB150379BL

Instrument ID: FF Date Extracted: 01/20/2023

Matrix: (soil/water) Soil Date Analyzed: 01/20/23

Level: (low/med) low Time Analyzed: 16:30

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB150379BS	PB150379BS	FF011894.D	01/20/23
WC-17	O1232-03	FF011895.D	01/20/23
WC-17MS	O1232-03MS	FF011896.D	01/20/23
WC-17MSD	O1232-03MSD	FF011897.D	01/20/23

COMMENTS:

QC SAMPLE DATA

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150379BL	SDG No.:	O1232
Lab Sample ID:	PB150379BL	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	100 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011893.D	1	01/20/23 13:10	01/20/23 16:30	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	219	U	219	1670	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	14.2		37 - 130	71%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
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D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-FF011890.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-FF011890.D	Matrix:	Water
Analytical Method:	8015D DRO	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011890.D	1		01/20/23	FF012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	7.00	U	7.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	13.6		29 - 130	68%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-FF011899.D	SDG No.:	O1232
Lab Sample ID:	I.BLK-FF011899.D	Matrix:	Water
Analytical Method:	8015D DRO	% Solid:	0 Decanted:
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011899.D	1		01/20/23	FF012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	7.00	U	7.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	13.6		29 - 130	68%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150379BS	SDG No.:	O1232
Lab Sample ID:	PB150379BS	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	100 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011894.D	1	01/20/23 13:10	01/20/23 17:00	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	5210		219	1670	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	12.6		37 - 130	63%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17MS	SDG No.:	O1232
Lab Sample ID:	O1232-03MS	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011896.D	1	01/20/23 13:10	01/20/23 17:59	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	10500		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	16.6		37 - 130	83%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17MSD	SDG No.:	O1232
Lab Sample ID:	O1232-03MSD	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	91.4 Decanted:
Sample Wt/Vol:	30.07 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011897.D	1	01/20/23 13:10	01/20/23 18:28	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	9260		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	14.8		37 - 130	74%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

DIESEL RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Calibration Sequence : FF123022		Test : Diesel Range Organics	
Concentration (PPM)	**Area Count**	**Reference Factor**	**File ID**
1000	150435250	150435	FF011840.D
500	78485683	156971	FF011841.D
200	33452553	167263	FF011842.D
100	18725781	187258	FF011843.D
50	9861875	197238	FF011844.D

AVG RF : 171833 **% RSD : 11.577** **AVG RT : 15.0486**

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DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

DataFile: FF011891.D Analyst Name: YP\AJ Analyst Date: 01-20-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	90909856	181820	171833	5.812

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DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: loui01

ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR

Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

DataFile: FF011900.D Analyst Name: YP\AJ Analyst Date: 01-20-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	90844238	181688	171833	5.735

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Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CEQR **Instrument ID:** FID_F

GC Column: RXI-1MS **ID:** 0.18 **(mm)**

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SUROGATE RT FROM INITIAL CALIBRATION **15.0486**

EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	I.BLK01	20 Jan 2023 15:00	FF011890.D	15.046	
50 PPM TRPH STD	50 PPM TRPH STD	20 Jan 2023 15:29	FF011891.D	15.053	
PB150379BL	PB150379BL	20 Jan 2023 16:30	FF011893.D	15.050	
PB150379BS	PB150379BS	20 Jan 2023 17:00	FF011894.D	15.050	
WC-17	O1232-03	20 Jan 2023 17:29	FF011895.D	15.049	
WC-17MS	O1232-03MS	20 Jan 2023 17:59	FF011896.D	15.050	
WC-17MSD	O1232-03MSD	20 Jan 2023 18:28	FF011897.D	15.050	
PIBLK02	I.BLK02	20 Jan 2023 19:57	FF011899.D	15.049	
50 PPM TRPH STD	50 PPM TRPH STD	20 Jan 2023 20:56	FF011900.D	15.054	

 # Column used to flag RT values with an * values outside of QC limits

QC Limits	Lower Limit	Upper Limits
(± 0.10 minutes)	14.9486	15.1486

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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-03	**WC-17**	**TCLP**			**01/18/23**			**01/19/23**
			TCLP ICP Metals	6010D		01/24/23	01/25/23	
			TCLP Mercury	7470A		01/23/23	01/24/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	

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LAB CHRONICLE

			Metals ICP-TAL	6010D		01/20/23	01/24/23
O1232-10	**DUP01**	**SOIL**			**01/18/23**		**01/19/23**
			Mercury	7471B		01/20/23	01/23/23
			Metals ICP-TAL	6010D		01/20/23	01/24/23

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Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P-17A								
O1232-01	B-P-17A	SOIL	Aluminum	2510		2.30	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Antimony	0.37	J	0.37	2.60	mg/Kg
O1232-01	B-P-17A	SOIL	Arsenic	1.07		0.22	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Barium	33.0		0.75	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Beryllium	0.28	J	0.022	0.31	mg/Kg
O1232-01	B-P-17A	SOIL	Cadmium	0.13	J	0.028	0.31	mg/Kg
O1232-01	B-P-17A	SOIL	Calcium	1460		7.43	104	mg/Kg
O1232-01	B-P-17A	SOIL	Chromium	11.7		0.094	0.52	mg/Kg
O1232-01	B-P-17A	SOIL	Cobalt	4.76		0.078	1.56	mg/Kg
O1232-01	B-P-17A	SOIL	Copper	8.92		0.44	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Iron	8860		4.09	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Lead	7.47		0.27	0.62	mg/Kg
O1232-01	B-P-17A	SOIL	Magnesium	1820		9.48	104	mg/Kg
O1232-01	B-P-17A	SOIL	Manganese	288		0.11	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Nickel	22.9		0.19	2.08	mg/Kg
O1232-01	B-P-17A	SOIL	Potassium	556		24.2	104	mg/Kg
O1232-01	B-P-17A	SOIL	Silver	0.58		0.081	0.52	mg/Kg
O1232-01	B-P-17A	SOIL	Sodium	52.5	J	24.3	104	mg/Kg
O1232-01	B-P-17A	SOIL	Vanadium	9.25		0.33	2.08	mg/Kg
O1232-01	B-P-17A	SOIL	Zinc	18.7		0.21	2.08	mg/Kg
Client ID : B-P-17B								
O1232-02	B-P-17B	SOIL	Aluminum	2060		2.13	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Arsenic	0.66	J	0.20	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Barium	27.6		0.69	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Beryllium	0.23	J	0.020	0.29	mg/Kg
O1232-02	B-P-17B	SOIL	Cadmium	0.094	J	0.026	0.29	mg/Kg
O1232-02	B-P-17B	SOIL	Calcium	3480		6.88	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Chromium	6.61		0.087	0.48	mg/Kg
O1232-02	B-P-17B	SOIL	Cobalt	3.33		0.072	1.44	mg/Kg
O1232-02	B-P-17B	SOIL	Copper	5.83		0.40	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Iron	6700		3.78	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Lead	3.48		0.25	0.58	mg/Kg
O1232-02	B-P-17B	SOIL	Magnesium	1550		8.77	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Manganese	147		0.11	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Mercury	0.013	J	0.0040	0.015	mg/Kg
O1232-02	B-P-17B	SOIL	Nickel	13.4		0.17	1.93	mg/Kg
O1232-02	B-P-17B	SOIL	Potassium	558		22.4	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Silver	0.43	J	0.075	0.48	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-02	B-P-17B	SOIL	Sodium	63.3	J	22.5	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Vanadium	9.32		0.31	1.93	mg/Kg
O1232-02	B-P-17B	SOIL	Zinc	15.1		0.19	1.93	mg/Kg
Client ID :	**B-P-18A**							
O1232-04	B-P-18A	SOIL	Aluminum	4820		2.18	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Antimony	1.33	J	0.35	2.46	mg/Kg
O1232-04	B-P-18A	SOIL	Arsenic	3.02		0.21	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Barium	21.1		0.71	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Beryllium	0.58		0.021	0.30	mg/Kg
O1232-04	B-P-18A	SOIL	Cadmium	0.90		0.027	0.30	mg/Kg
O1232-04	B-P-18A	SOIL	Calcium	756		7.03	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Chromium	68.5		0.089	0.49	mg/Kg
O1232-04	B-P-18A	SOIL	Cobalt	12.7		0.074	1.48	mg/Kg
O1232-04	B-P-18A	SOIL	Copper	24.2		0.41	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Iron	28000		3.87	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Lead	18.6		0.26	0.59	mg/Kg
O1232-04	B-P-18A	SOIL	Magnesium	2000		8.98	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Manganese	253		0.11	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Mercury	0.021		0.0040	0.015	mg/Kg
O1232-04	B-P-18A	SOIL	Nickel	66.5		0.18	1.97	mg/Kg
O1232-04	B-P-18A	SOIL	Potassium	769		23.0	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Silver	1.39		0.077	0.49	mg/Kg
O1232-04	B-P-18A	SOIL	Sodium	187		23.1	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Vanadium	52.7		0.32	1.97	mg/Kg
O1232-04	B-P-18A	SOIL	Zinc	55.5		0.20	1.97	mg/Kg
Client ID :	**B-P-18B**							
O1232-05	B-P-18B	SOIL	Aluminum	4010		2.28	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Antimony	0.93	J	0.36	2.58	mg/Kg
O1232-05	B-P-18B	SOIL	Arsenic	1.94		0.22	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Barium	45.9		0.74	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Beryllium	0.58		0.022	0.31	mg/Kg
O1232-05	B-P-18B	SOIL	Cadmium	0.59		0.028	0.31	mg/Kg
O1232-05	B-P-18B	SOIL	Calcium	1460		7.37	103	mg/Kg
O1232-05	B-P-18B	SOIL	Chromium	58.7		0.093	0.52	mg/Kg
O1232-05	B-P-18B	SOIL	Cobalt	14.5		0.077	1.55	mg/Kg
O1232-05	B-P-18B	SOIL	Copper	14.9		0.43	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Iron	20500		4.06	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Lead	11.8		0.27	0.62	mg/Kg
O1232-05	B-P-18B	SOIL	Magnesium	5930		9.40	103	mg/Kg
O1232-05	B-P-18B	SOIL	Manganese	345		0.11	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Mercury	0.0040	J	0.0030	0.013	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-05	B-P-18B	SOIL	Nickel	151		0.19	2.06	mg/Kg
O1232-05	B-P-18B	SOIL	Potassium	809		24.0	103	mg/Kg
O1232-05	B-P-18B	SOIL	Silver	1.12		0.081	0.52	mg/Kg
O1232-05	B-P-18B	SOIL	Sodium	143		24.2	103	mg/Kg
O1232-05	B-P-18B	SOIL	Vanadium	26.7		0.33	2.06	mg/Kg
O1232-05	B-P-18B	SOIL	Zinc	38.9		0.21	2.06	mg/Kg
Client ID :	**B-P-19A**							
O1232-06	B-P-19A	SOIL	Aluminum	5220		2.48	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Antimony	0.73	J	0.40	2.81	mg/Kg
O1232-06	B-P-19A	SOIL	Arsenic	3.88		0.24	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Barium	42.8		0.81	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Beryllium	0.49		0.024	0.34	mg/Kg
O1232-06	B-P-19A	SOIL	Cadmium	0.42		0.030	0.34	mg/Kg
O1232-06	B-P-19A	SOIL	Calcium	1150		8.02	112	mg/Kg
O1232-06	B-P-19A	SOIL	Chromium	21.6		0.10	0.56	mg/Kg
O1232-06	B-P-19A	SOIL	Cobalt	9.75		0.084	1.68	mg/Kg
O1232-06	B-P-19A	SOIL	Copper	21.1		0.47	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Iron	15600		4.41	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Lead	30.5		0.29	0.67	mg/Kg
O1232-06	B-P-19A	SOIL	Magnesium	2490		10.2	112	mg/Kg
O1232-06	B-P-19A	SOIL	Manganese	301		0.12	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Mercury	0.051		0.0040	0.016	mg/Kg
O1232-06	B-P-19A	SOIL	Nickel	69.5		0.20	2.25	mg/Kg
O1232-06	B-P-19A	SOIL	Potassium	898		26.2	112	mg/Kg
O1232-06	B-P-19A	SOIL	Silver	0.97		0.088	0.56	mg/Kg
O1232-06	B-P-19A	SOIL	Sodium	154		26.3	112	mg/Kg
O1232-06	B-P-19A	SOIL	Vanadium	20.5		0.36	2.25	mg/Kg
O1232-06	B-P-19A	SOIL	Zinc	41.8		0.23	2.25	mg/Kg
Client ID :	**B-P-19B**							
O1232-07	B-P-19B	SOIL	Aluminum	4950		2.40	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Arsenic	4.24		0.23	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Barium	62.4		0.78	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Beryllium	0.64		0.023	0.33	mg/Kg
O1232-07	B-P-19B	SOIL	Cadmium	0.38		0.029	0.33	mg/Kg
O1232-07	B-P-19B	SOIL	Calcium	6200		7.76	109	mg/Kg
O1232-07	B-P-19B	SOIL	Chromium	20.1		0.098	0.54	mg/Kg
O1232-07	B-P-19B	SOIL	Cobalt	8.36		0.082	1.63	mg/Kg
O1232-07	B-P-19B	SOIL	Copper	17.2		0.46	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Iron	14700		4.27	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Lead	42.0		0.28	0.65	mg/Kg
O1232-07	B-P-19B	SOIL	Magnesium	3580		9.91	109	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-07	B-P-19B	SOIL	Manganese	299		0.12	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Mercury	0.040		0.0040	0.015	mg/Kg
O1232-07	B-P-19B	SOIL	Nickel	37.3		0.20	2.17	mg/Kg
O1232-07	B-P-19B	SOIL	Potassium	942		25.3	109	mg/Kg
O1232-07	B-P-19B	SOIL	Silver	0.89		0.085	0.54	mg/Kg
O1232-07	B-P-19B	SOIL	Sodium	157		25.4	109	mg/Kg
O1232-07	B-P-19B	SOIL	Vanadium	19.8		0.35	2.17	mg/Kg
O1232-07	B-P-19B	SOIL	Zinc	48.6		0.22	2.17	mg/Kg
Client ID :	**B-P-35A**							
O1232-08	B-P-35A	SOIL	Aluminum	4840		2.07	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Arsenic	2.03		0.20	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Barium	27.4		0.67	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Beryllium	0.49		0.020	0.28	mg/Kg
O1232-08	B-P-35A	SOIL	Cadmium	0.22	J	0.025	0.28	mg/Kg
O1232-08	B-P-35A	SOIL	Calcium	3250		6.68	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Chromium	11.1		0.084	0.47	mg/Kg
O1232-08	B-P-35A	SOIL	Cobalt	5.95		0.070	1.40	mg/Kg
O1232-08	B-P-35A	SOIL	Copper	13.3		0.39	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Iron	12100		3.68	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Lead	10.3		0.24	0.56	mg/Kg
O1232-08	B-P-35A	SOIL	Magnesium	3740		8.53	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Manganese	252		0.10	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Mercury	0.0040	J	0.0030	0.013	mg/Kg
O1232-08	B-P-35A	SOIL	Nickel	27.8		0.17	1.87	mg/Kg
O1232-08	B-P-35A	SOIL	Potassium	822		21.8	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Silver	0.73		0.073	0.47	mg/Kg
O1232-08	B-P-35A	SOIL	Sodium	73.8	J	21.9	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Vanadium	13.2		0.30	1.87	mg/Kg
O1232-08	B-P-35A	SOIL	Zinc	24.9		0.19	1.87	mg/Kg
Client ID :	**B-P-35B**							
O1232-09	B-P-35B	SOIL	Aluminum	3720		2.29	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Arsenic	1.99		0.22	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Barium	28.7		0.75	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Beryllium	0.45		0.022	0.31	mg/Kg
O1232-09	B-P-35B	SOIL	Cadmium	0.17	J	0.028	0.31	mg/Kg
O1232-09	B-P-35B	SOIL	Calcium	7290		7.39	104	mg/Kg
O1232-09	B-P-35B	SOIL	Chromium	13.3		0.093	0.52	mg/Kg
O1232-09	B-P-35B	SOIL	Cobalt	6.41		0.078	1.55	mg/Kg
O1232-09	B-P-35B	SOIL	Copper	9.23		0.44	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Iron	11000		4.07	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Lead	5.30		0.27	0.62	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-09	B-P-35B	SOIL	Magnesium	5750		9.43	104	mg/Kg
O1232-09	B-P-35B	SOIL	Manganese	281		0.11	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Nickel	32.9		0.19	2.07	mg/Kg
O1232-09	B-P-35B	SOIL	Potassium	667		24.1	104	mg/Kg
O1232-09	B-P-35B	SOIL	Silver	0.65		0.081	0.52	mg/Kg
O1232-09	B-P-35B	SOIL	Sodium	151		24.2	104	mg/Kg
O1232-09	B-P-35B	SOIL	Vanadium	11.9		0.33	2.07	mg/Kg
O1232-09	B-P-35B	SOIL	Zinc	22.6		0.21	2.07	mg/Kg
Client ID : DUP01								
O1232-10	DUP01	SOIL	Aluminum	4430		2.32	5.26	mg/Kg
O1232-10	DUP01	SOIL	Arsenic	4.09		0.22	1.05	mg/Kg
O1232-10	DUP01	SOIL	Barium	37.7		0.76	5.26	mg/Kg
O1232-10	DUP01	SOIL	Beryllium	0.80		0.022	0.32	mg/Kg
O1232-10	DUP01	SOIL	Cadmium	0.56		0.028	0.32	mg/Kg
O1232-10	DUP01	SOIL	Calcium	1520		7.51	105	mg/Kg
O1232-10	DUP01	SOIL	Chromium	45.3		0.095	0.53	mg/Kg
O1232-10	DUP01	SOIL	Cobalt	16.3		0.079	1.58	mg/Kg
O1232-10	DUP01	SOIL	Copper	18.9		0.44	1.05	mg/Kg
O1232-10	DUP01	SOIL	Iron	20100		4.13	5.26	mg/Kg
O1232-10	DUP01	SOIL	Lead	14.2		0.27	0.63	mg/Kg
O1232-10	DUP01	SOIL	Magnesium	3300		9.58	105	mg/Kg
O1232-10	DUP01	SOIL	Manganese	306		0.12	1.05	mg/Kg
O1232-10	DUP01	SOIL	Mercury	0.011	J	0.0040	0.015	mg/Kg
O1232-10	DUP01	SOIL	Nickel	118		0.19	2.10	mg/Kg
O1232-10	DUP01	SOIL	Potassium	968		24.5	105	mg/Kg
O1232-10	DUP01	SOIL	Silver	1.14		0.082	0.53	mg/Kg
O1232-10	DUP01	SOIL	Sodium	197		24.6	105	mg/Kg
O1232-10	DUP01	SOIL	Vanadium	27.6		0.34	2.10	mg/Kg
O1232-10	DUP01	SOIL	Zinc	99.6		0.21	2.10	mg/Kg

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17A	SDG No.:	O1232
Lab Sample ID:	O1232-01	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2510		1	2.30	5.20	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-36-0	Antimony	0.37	JN	1	0.37	2.60	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-38-2	Arsenic	1.07		1	0.22	1.04	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-39-3	Barium	33.0		1	0.75	5.20	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-41-7	Beryllium	0.28	JN	1	0.022	0.31	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-43-9	Cadmium	0.13	J	1	0.028	0.31	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-70-2	Calcium	1460		1	7.43	104	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-47-3	Chromium	11.7		1	0.094	0.52	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-48-4	Cobalt	4.76		1	0.078	1.56	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-50-8	Copper	8.92	N	1	0.44	1.04	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7439-89-6	Iron	8860		1	4.09	5.20	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7439-92-1	Lead	7.47		1	0.27	0.62	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7439-95-4	Magnesium	1820		1	9.48	104	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7439-96-5	Manganese	288		1	0.11	1.04	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7439-97-6	Mercury	0.0030	U	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 10:55	SW7471B	
7440-02-0	Nickel	22.9		1	0.19	2.08	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-09-7	Potassium	556		1	24.2	104	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7782-49-2	Selenium	0.45	U	1	0.45	1.04	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-22-4	Silver	0.58		1	0.081	0.52	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-23-5	Sodium	52.5	J	1	24.3	104	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.08	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-62-2	Vanadium	9.25		1	0.33	2.08	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050
7440-66-6	Zinc	18.7		1	0.21	2.08	mg/Kg	01/20/23 15:00	01/20/23 20:38	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-17B	SDG No.:	O1232
Lab Sample ID:	O1232-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	86.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2060		1	2.13	4.81	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-36-0	Antimony	0.34	UN	1	0.34	2.41	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-38-2	Arsenic	0.66	J	1	0.20	0.96	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-39-3	Barium	27.6		1	0.69	4.81	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-41-7	Beryllium	0.23	JN	1	0.020	0.29	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-43-9	Cadmium	0.094	J	1	0.026	0.29	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-70-2	Calcium	3480		1	6.88	96.3	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-47-3	Chromium	6.61		1	0.087	0.48	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-48-4	Cobalt	3.33		1	0.072	1.44	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-50-8	Copper	5.83	N	1	0.40	0.96	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7439-89-6	Iron	6700		1	3.78	4.81	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7439-92-1	Lead	3.48		1	0.25	0.58	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7439-95-4	Magnesium	1550		1	8.77	96.3	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7439-96-5	Manganese	147		1	0.11	0.96	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7439-97-6	Mercury	0.013	J	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:09	SW7471B	
7440-02-0	Nickel	13.4		1	0.17	1.93	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-09-7	Potassium	558		1	22.4	96.3	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7782-49-2	Selenium	0.41	U	1	0.41	0.96	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-22-4	Silver	0.43	J	1	0.075	0.48	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-23-5	Sodium	63.3	J	1	22.5	96.3	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-28-0	Thallium	0.30	U	1	0.30	1.93	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-62-2	Vanadium	9.32		1	0.31	1.93	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050
7440-66-6	Zinc	15.1		1	0.19	1.93	mg/Kg	01/20/23 15:00	01/20/23 21:01	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18A	SDG No.:	O1232
Lab Sample ID:	O1232-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	87.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4820		1	2.18	4.93	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-36-0	Antimony	1.33	JN	1	0.35	2.46	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-38-2	Arsenic	3.02		1	0.21	0.99	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-39-3	Barium	21.1		1	0.71	4.93	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-41-7	Beryllium	0.58	N	1	0.021	0.30	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-43-9	Cadmium	0.90		1	0.027	0.30	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-70-2	Calcium	756		1	7.03	98.5	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-47-3	Chromium	68.5		1	0.089	0.49	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-48-4	Cobalt	12.7		1	0.074	1.48	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-50-8	Copper	24.2	N	1	0.41	0.99	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7439-89-6	Iron	28000		1	3.87	4.93	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7439-92-1	Lead	18.6		1	0.26	0.59	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7439-95-4	Magnesium	2000		1	8.98	98.5	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7439-96-5	Manganese	253		1	0.11	0.99	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7439-97-6	Mercury	0.021		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:11	SW7471B	
7440-02-0	Nickel	66.5		1	0.18	1.97	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-09-7	Potassium	769		1	23.0	98.5	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7782-49-2	Selenium	0.42	U	1	0.42	0.99	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-22-4	Silver	1.39		1	0.077	0.49	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-23-5	Sodium	187		1	23.1	98.5	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-28-0	Thallium	0.31	U	1	0.31	1.97	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-62-2	Vanadium	52.7		1	0.32	1.97	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050
7440-66-6	Zinc	55.5		1	0.20	1.97	mg/Kg	01/20/23 15:00	01/20/23 21:05	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-18B	SDG No.:	O1232
Lab Sample ID:	O1232-05	Matrix:	SOIL
Level (low/med):	low	% Solid:	91.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4010		1	2.28	5.16	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-36-0	Antimony	0.93	JN	1	0.36	2.58	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-38-2	Arsenic	1.94		1	0.22	1.03	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-39-3	Barium	45.9		1	0.74	5.16	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-41-7	Beryllium	0.58	N	1	0.022	0.31	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-43-9	Cadmium	0.59		1	0.028	0.31	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-70-2	Calcium	1460		1	7.37	103	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-47-3	Chromium	58.7		1	0.093	0.52	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-48-4	Cobalt	14.5		1	0.077	1.55	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-50-8	Copper	14.9	N	1	0.43	1.03	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7439-89-6	Iron	20500		1	4.06	5.16	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7439-92-1	Lead	11.8		1	0.27	0.62	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7439-95-4	Magnesium	5930		1	9.40	103	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7439-96-5	Manganese	345		1	0.11	1.03	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7439-97-6	Mercury	0.0040	J	1	0.0030	0.013	mg/Kg	01/20/23 16:35	01/23/23 11:13	SW7471B	
7440-02-0	Nickel	151		1	0.19	2.06	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-09-7	Potassium	809		1	24.0	103	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.03	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-22-4	Silver	1.12		1	0.081	0.52	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-23-5	Sodium	143		1	24.2	103	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.06	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-62-2	Vanadium	26.7		1	0.33	2.06	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050
7440-66-6	Zinc	38.9		1	0.21	2.06	mg/Kg	01/20/23 15:00	01/20/23 21:09	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19A	SDG No.:	O1232
Lab Sample ID:	O1232-06	Matrix:	SOIL
Level (low/med):	low	% Solid:	88.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	5220		1	2.48	5.61	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-36-0	Antimony	0.73	JN	1	0.40	2.81	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-38-2	Arsenic	3.88		1	0.24	1.12	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-39-3	Barium	42.8		1	0.81	5.61	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-41-7	Beryllium	0.49	N	1	0.024	0.34	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-43-9	Cadmium	0.42		1	0.030	0.34	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-70-2	Calcium	1150		1	8.02	112	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-47-3	Chromium	21.6		1	0.10	0.56	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-48-4	Cobalt	9.75		1	0.084	1.68	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-50-8	Copper	21.1	N	1	0.47	1.12	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7439-89-6	Iron	15600		1	4.41	5.61	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7439-92-1	Lead	30.5		1	0.29	0.67	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7439-95-4	Magnesium	2490		1	10.2	112	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7439-96-5	Manganese	301		1	0.12	1.12	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7439-97-6	Mercury	0.051		1	0.0040	0.016	mg/Kg	01/20/23 16:35	01/23/23 11:16	SW7471B	
7440-02-0	Nickel	69.5		1	0.20	2.25	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-09-7	Potassium	898		1	26.2	112	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7782-49-2	Selenium	0.48	U	1	0.48	1.12	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-22-4	Silver	0.97		1	0.088	0.56	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-23-5	Sodium	154		1	26.3	112	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-28-0	Thallium	0.35	U	1	0.35	2.25	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-62-2	Vanadium	20.5		1	0.36	2.25	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050
7440-66-6	Zinc	41.8		1	0.23	2.25	mg/Kg	01/20/23 15:00	01/20/23 21:12	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
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OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-19B	SDG No.:	O1232
Lab Sample ID:	O1232-07	Matrix:	SOIL
Level (low/med):	low	% Solid:	88

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4950		1	2.40	5.44	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-36-0	Antimony	0.38	UN	1	0.38	2.72	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-38-2	Arsenic	4.24		1	0.23	1.09	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-39-3	Barium	62.4		1	0.78	5.44	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-41-7	Beryllium	0.64	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-43-9	Cadmium	0.38		1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-70-2	Calcium	6200		1	7.76	109	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-47-3	Chromium	20.1		1	0.098	0.54	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-48-4	Cobalt	8.36		1	0.082	1.63	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-50-8	Copper	17.2	N	1	0.46	1.09	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7439-89-6	Iron	14700		1	4.27	5.44	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7439-92-1	Lead	42.0		1	0.28	0.65	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7439-95-4	Magnesium	3580		1	9.91	109	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7439-96-5	Manganese	299		1	0.12	1.09	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7439-97-6	Mercury	0.040		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:18	SW7471B	
7440-02-0	Nickel	37.3		1	0.20	2.17	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-09-7	Potassium	942		1	25.3	109	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.09	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-22-4	Silver	0.89		1	0.085	0.54	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-23-5	Sodium	157		1	25.4	109	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.17	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-62-2	Vanadium	19.8		1	0.35	2.17	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050
7440-66-6	Zinc	48.6		1	0.22	2.17	mg/Kg	01/20/23 15:00	01/24/23 13:49	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35A	SDG No.:	O1232
Lab Sample ID:	O1232-08	Matrix:	SOIL
Level (low/med):	low	% Solid:	91.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4840		1	2.07	4.68	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-36-0	Antimony	0.33	UN	1	0.33	2.34	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-38-2	Arsenic	2.03		1	0.20	0.94	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-39-3	Barium	27.4		1	0.67	4.68	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-41-7	Beryllium	0.49	N	1	0.020	0.28	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-43-9	Cadmium	0.22	J	1	0.025	0.28	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-70-2	Calcium	3250		1	6.68	93.6	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-47-3	Chromium	11.1		1	0.084	0.47	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-48-4	Cobalt	5.95		1	0.070	1.40	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-50-8	Copper	13.3	N	1	0.39	0.94	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7439-89-6	Iron	12100		1	3.68	4.68	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7439-92-1	Lead	10.3		1	0.24	0.56	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7439-95-4	Magnesium	3740		1	8.53	93.6	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7439-96-5	Manganese	252		1	0.10	0.94	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7439-97-6	Mercury	0.0040	J	1	0.0030	0.013	mg/Kg	01/20/23 16:35	01/23/23 11:20	SW7471B	
7440-02-0	Nickel	27.8		1	0.17	1.87	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-09-7	Potassium	822		1	21.8	93.6	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7782-49-2	Selenium	0.40	U	1	0.40	0.94	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-22-4	Silver	0.73		1	0.073	0.47	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-23-5	Sodium	73.8	J	1	21.9	93.6	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-28-0	Thallium	0.29	U	1	0.29	1.87	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-62-2	Vanadium	13.2		1	0.30	1.87	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050
7440-66-6	Zinc	24.9		1	0.19	1.87	mg/Kg	01/20/23 15:00	01/24/23 13:53	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P-35B	SDG No.:	O1232
Lab Sample ID:	O1232-09	Matrix:	SOIL
Level (low/med):	low	% Solid:	93.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3720		1	2.29	5.18	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-36-0	Antimony	0.37	UN	1	0.37	2.59	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-38-2	Arsenic	1.99		1	0.22	1.04	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-39-3	Barium	28.7		1	0.75	5.18	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-41-7	Beryllium	0.45	N	1	0.022	0.31	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-43-9	Cadmium	0.17	J	1	0.028	0.31	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-70-2	Calcium	7290		1	7.39	104	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-47-3	Chromium	13.3		1	0.093	0.52	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-48-4	Cobalt	6.41		1	0.078	1.55	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-50-8	Copper	9.23	N	1	0.44	1.04	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7439-89-6	Iron	11000		1	4.07	5.18	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7439-92-1	Lead	5.30		1	0.27	0.62	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7439-95-4	Magnesium	5750		1	9.43	104	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7439-96-5	Manganese	281		1	0.11	1.04	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7439-97-6	Mercury	0.0040	U	1	0.0040	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:22	SW7471B	
7440-02-0	Nickel	32.9		1	0.19	2.07	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-09-7	Potassium	667		1	24.1	104	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7782-49-2	Selenium	0.45	U	1	0.45	1.04	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-22-4	Silver	0.65		1	0.081	0.52	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-23-5	Sodium	151		1	24.2	104	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.07	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-62-2	Vanadium	11.9		1	0.33	2.07	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050
7440-66-6	Zinc	22.6		1	0.21	2.07	mg/Kg	01/20/23 15:00	01/24/23 13:57	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	DUP01	SDG No.:	O1232
Lab Sample ID:	O1232-10	Matrix:	SOIL
Level (low/med):	low	% Solid:	90.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4430		1	2.32	5.26	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-36-0	Antimony	0.37	UN	1	0.37	2.63	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-38-2	Arsenic	4.09		1	0.22	1.05	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-39-3	Barium	37.7		1	0.76	5.26	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-41-7	Beryllium	0.80	N	1	0.022	0.32	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-43-9	Cadmium	0.56		1	0.028	0.32	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-70-2	Calcium	1520		1	7.51	105	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-47-3	Chromium	45.3		1	0.095	0.53	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-48-4	Cobalt	16.3		1	0.079	1.58	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-50-8	Copper	18.9	N	1	0.44	1.05	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7439-89-6	Iron	20100		1	4.13	5.26	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7439-92-1	Lead	14.2		1	0.27	0.63	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7439-95-4	Magnesium	3300		1	9.58	105	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7439-96-5	Manganese	306		1	0.12	1.05	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7439-97-6	Mercury	0.011	J	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:25	SW7471B	
7440-02-0	Nickel	118		1	0.19	2.10	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-09-7	Potassium	968		1	24.5	105	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7782-49-2	Selenium	0.45	U	1	0.45	1.05	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-22-4	Silver	1.14		1	0.082	0.53	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-23-5	Sodium	197		1	24.6	105	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-28-0	Thallium	0.33	U	1	0.33	2.10	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-62-2	Vanadium	27.6		1	0.34	2.10	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050
7440-66-6	Zinc	99.6		1	0.21	2.10	mg/Kg	01/20/23 15:00	01/24/23 14:00	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

METAL CALIBRATION DATA

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV12	Mercury	3.91	4.0	98	90 - 110	CV	01/23/2023	10:28	LB123763

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV93	Mercury	4.87	5.0	97	90 - 110	CV	01/23/2023	10:33	LB123763
CCV94	Mercury	4.70	5.0	94	90 - 110	CV	01/23/2023	11:00	LB123763
CCV95	Mercury	4.66	5.0	93	90 - 110	CV	01/23/2023	11:27	LB123763
CCV96	Mercury	4.90	5.0	98	90 - 110	CV	01/23/2023	11:54	LB123763
CCV97	Mercury	4.96	5.0	99	90 - 110	CV	01/23/2023	12:21	LB123763
CCV98	Mercury	4.71	5.0	94	90 - 110	CV	01/23/2023	12:35	LB123763

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2530	2500	101	90 - 110	P	01/20/2023	12:38	LB123754
	Antimony	999	1000	100	90 - 110	P	01/20/2023	12:38	LB123754
	Arsenic	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Barium	505	520	97	90 - 110	P	01/20/2023	12:38	LB123754
	Beryllium	512	510	100	90 - 110	P	01/20/2023	12:38	LB123754
	Cadmium	509	510	100	90 - 110	P	01/20/2023	12:38	LB123754
	Calcium	9870	10000	99	90 - 110	P	01/20/2023	12:38	LB123754
	Chromium	524	520	101	90 - 110	P	01/20/2023	12:38	LB123754
	Cobalt	502	520	97	90 - 110	P	01/20/2023	12:38	LB123754
	Copper	525	510	103	90 - 110	P	01/20/2023	12:38	LB123754
	Iron	10100	10000	101	90 - 110	P	01/20/2023	12:38	LB123754
	Lead	1020	1000	102	90 - 110	P	01/20/2023	12:38	LB123754
	Magnesium	5910	6000	98	90 - 110	P	01/20/2023	12:38	LB123754
	Manganese	514	520	99	90 - 110	P	01/20/2023	12:38	LB123754
	Nickel	506	530	95	90 - 110	P	01/20/2023	12:38	LB123754
	Potassium	9940	9900	100	90 - 110	P	01/20/2023	12:38	LB123754
	Selenium	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Silver	255	250	102	90 - 110	P	01/20/2023	12:38	LB123754
	Sodium	9970	10000	100	90 - 110	P	01/20/2023	12:38	LB123754
	Thallium	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Vanadium	493	500	99	90 - 110	P	01/20/2023	12:38	LB123754
	Zinc	1020	1000	102	90 - 110	P	01/20/2023	12:38	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9850	10000	98	90 - 110	P	01/20/2023	13:42	LB123754
	Antimony	4950	5000	99	90 - 110	P	01/20/2023	13:42	LB123754
	Arsenic	5070	5000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Barium	10600	10000	106	90 - 110	P	01/20/2023	13:42	LB123754
	Beryllium	238	250	95	90 - 110	P	01/20/2023	13:42	LB123754
	Cadmium	2490	2500	100	90 - 110	P	01/20/2023	13:42	LB123754
	Calcium	25100	25000	100	90 - 110	P	01/20/2023	13:42	LB123754
	Chromium	964	1000	96	90 - 110	P	01/20/2023	13:42	LB123754
	Cobalt	2440	2500	98	90 - 110	P	01/20/2023	13:42	LB123754
	Copper	1230	1250	99	90 - 110	P	01/20/2023	13:42	LB123754
	Iron	5090	5000	102	90 - 110	P	01/20/2023	13:42	LB123754
	Lead	4940	5000	99	90 - 110	P	01/20/2023	13:42	LB123754
	Magnesium	24400	25000	98	90 - 110	P	01/20/2023	13:42	LB123754
	Manganese	2520	2500	101	90 - 110	P	01/20/2023	13:42	LB123754
	Nickel	2500	2500	100	90 - 110	P	01/20/2023	13:42	LB123754
	Potassium	25300	25000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Selenium	5020	5000	100	90 - 110	P	01/20/2023	13:42	LB123754
	Silver	1210	1250	97	90 - 110	P	01/20/2023	13:42	LB123754
	Sodium	24200	25000	97	90 - 110	P	01/20/2023	13:42	LB123754
	Thallium	5070	5000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Vanadium	2530	2500	101	90 - 110	P	01/20/2023	13:42	LB123754
	Zinc	2510	2500	100	90 - 110	P	01/20/2023	13:42	LB123754

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Aluminum	105	100	105	80 - 120	P	01/20/2023	13:46	LB123754
	Antimony	52.1	50.0	104	80 - 120	P	01/20/2023	13:46	LB123754
	Arsenic	20.6	20.0	103	80 - 120	P	01/20/2023	13:46	LB123754
	Barium	102	100	102	80 - 120	P	01/20/2023	13:46	LB123754
	Beryllium	6.28	6.0	105	80 - 120	P	01/20/2023	13:46	LB123754
	Cadmium	6.60	6.0	110	80 - 120	P	01/20/2023	13:46	LB123754
	Calcium	2000	2000	100	80 - 120	P	01/20/2023	13:46	LB123754
	Chromium	9.74	10.0	97	80 - 120	P	01/20/2023	13:46	LB123754
	Cobalt	29.3	30.0	98	80 - 120	P	01/20/2023	13:46	LB123754
	Copper	22.4	20.0	112	80 - 120	P	01/20/2023	13:46	LB123754
	Iron	112	100	112	80 - 120	P	01/20/2023	13:46	LB123754
	Lead	11.7	12.0	98	80 - 120	P	01/20/2023	13:46	LB123754
	Magnesium	2130	2000	107	80 - 120	P	01/20/2023	13:46	LB123754
	Manganese	21.5	20.0	108	80 - 120	P	01/20/2023	13:46	LB123754
	Nickel	39.9	40.0	100	80 - 120	P	01/20/2023	13:46	LB123754
	Potassium	2070	2000	104	80 - 120	P	01/20/2023	13:46	LB123754
	Selenium	19.2	20.0	96	80 - 120	P	01/20/2023	13:46	LB123754
	Silver	11.8	10.0	118	80 - 120	P	01/20/2023	13:46	LB123754
	Sodium	1990	2000	100	80 - 120	P	01/20/2023	13:46	LB123754
	Thallium	42.0	40.0	105	80 - 120	P	01/20/2023	13:46	LB123754
	Vanadium	36.3	40.0	91	80 - 120	P	01/20/2023	13:46	LB123754
	Zinc	43.0	40.0	108	80 - 120	P	01/20/2023	13:46	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Aluminum	10500	10000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Antimony	5270	5000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Arsenic	5370	5000	108	90 - 110	P	01/20/2023	14:37	LB123754
	Barium	10900	10000	109	90 - 110	P	01/20/2023	14:37	LB123754
	Beryllium	245	250	98	90 - 110	P	01/20/2023	14:37	LB123754
	Cadmium	2610	2500	104	90 - 110	P	01/20/2023	14:37	LB123754
	Calcium	26000	25000	104	90 - 110	P	01/20/2023	14:37	LB123754
	Chromium	1030	1000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Cobalt	2560	2500	102	90 - 110	P	01/20/2023	14:37	LB123754
	Copper	1290	1250	104	90 - 110	P	01/20/2023	14:37	LB123754
	Iron	5370	5000	107	90 - 110	P	01/20/2023	14:37	LB123754
	Lead	5170	5000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Magnesium	25700	25000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Manganese	2570	2500	103	90 - 110	P	01/20/2023	14:37	LB123754
	Nickel	2620	2500	105	90 - 110	P	01/20/2023	14:37	LB123754
	Potassium	26700	25000	107	90 - 110	P	01/20/2023	14:37	LB123754
	Selenium	5250	5000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Silver	1290	1250	103	90 - 110	P	01/20/2023	14:37	LB123754
	Sodium	25100	25000	101	90 - 110	P	01/20/2023	14:37	LB123754
	Thallium	5390	5000	108	90 - 110	P	01/20/2023	14:37	LB123754
	Vanadium	2660	2500	106	90 - 110	P	01/20/2023	14:37	LB123754
	Zinc	2700	2500	108	90 - 110	P	01/20/2023	14:37	LB123754
CCV03	Aluminum	10100	10000	101	90 - 110	P	01/20/2023	15:29	LB123754
	Antimony	5210	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Arsenic	5270	5000	106	90 - 110	P	01/20/2023	15:29	LB123754
	Barium	10500	10000	105	90 - 110	P	01/20/2023	15:29	LB123754
	Beryllium	235	250	94	90 - 110	P	01/20/2023	15:29	LB123754
	Cadmium	2570	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
	Calcium	25100	25000	100	90 - 110	P	01/20/2023	15:29	LB123754
	Chromium	994	1000	99	90 - 110	P	01/20/2023	15:29	LB123754
	Cobalt	2540	2500	102	90 - 110	P	01/20/2023	15:29	LB123754
	Copper	1280	1250	103	90 - 110	P	01/20/2023	15:29	LB123754
	Iron	5210	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Lead	5110	5000	102	90 - 110	P	01/20/2023	15:29	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV03	Magnesium	24500	25000	98	90 - 110	P	01/20/2023	15:29	LB123754
	Manganese	2480	2500	99	90 - 110	P	01/20/2023	15:29	LB123754
	Nickel	2580	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
	Potassium	25900	25000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Selenium	5200	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Silver	1240	1250	99	90 - 110	P	01/20/2023	15:29	LB123754
	Sodium	25100	25000	100	90 - 110	P	01/20/2023	15:29	LB123754
	Thallium	5300	5000	106	90 - 110	P	01/20/2023	15:29	LB123754
	Vanadium	2560	2500	102	90 - 110	P	01/20/2023	15:29	LB123754
	Zinc	2570	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
CCV04	Aluminum	10000	10000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Antimony	5240	5000	105	90 - 110	P	01/20/2023	16:15	LB123754
	Arsenic	5290	5000	106	90 - 110	P	01/20/2023	16:15	LB123754
	Barium	10300	10000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Beryllium	238	250	95	90 - 110	P	01/20/2023	16:15	LB123754
	Cadmium	2590	2500	104	90 - 110	P	01/20/2023	16:15	LB123754
	Calcium	24900	25000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Chromium	997	1000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Cobalt	2560	2500	102	90 - 110	P	01/20/2023	16:15	LB123754
	Copper	1290	1250	103	90 - 110	P	01/20/2023	16:15	LB123754
	Iron	5180	5000	104	90 - 110	P	01/20/2023	16:15	LB123754
	Lead	5140	5000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Magnesium	24600	25000	98	90 - 110	P	01/20/2023	16:15	LB123754
	Manganese	2460	2500	98	90 - 110	P	01/20/2023	16:15	LB123754
	Nickel	2600	2500	104	90 - 110	P	01/20/2023	16:15	LB123754
	Potassium	25800	25000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Selenium	5220	5000	104	90 - 110	P	01/20/2023	16:15	LB123754
	Silver	1250	1250	100	90 - 110	P	01/20/2023	16:15	LB123754
	Sodium	25300	25000	101	90 - 110	P	01/20/2023	16:15	LB123754
	Thallium	5320	5000	106	90 - 110	P	01/20/2023	16:15	LB123754
	Vanadium	2530	2500	101	90 - 110	P	01/20/2023	16:15	LB123754
	Zinc	2580	2500	103	90 - 110	P	01/20/2023	16:15	LB123754
CCV05	Aluminum	9970	10000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Antimony	4970	5000	99	90 - 110	P	01/20/2023	17:11	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Arsenic	5020	5000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Barium	10100	10000	101	90 - 110	P	01/20/2023	17:11	LB123754
	Beryllium	236	250	94	90 - 110	P	01/20/2023	17:11	LB123754
	Cadmium	2460	2500	98	90 - 110	P	01/20/2023	17:11	LB123754
	Calcium	24600	25000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Chromium	980	1000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Cobalt	2430	2500	97	90 - 110	P	01/20/2023	17:11	LB123754
	Copper	1230	1250	98	90 - 110	P	01/20/2023	17:11	LB123754
	Iron	5130	5000	103	90 - 110	P	01/20/2023	17:11	LB123754
	Lead	4900	5000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Magnesium	24300	25000	97	90 - 110	P	01/20/2023	17:11	LB123754
	Manganese	2420	2500	97	90 - 110	P	01/20/2023	17:11	LB123754
	Nickel	2470	2500	99	90 - 110	P	01/20/2023	17:11	LB123754
	Potassium	25100	25000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Selenium	4930	5000	99	90 - 110	P	01/20/2023	17:11	LB123754
	Silver	1220	1250	98	90 - 110	P	01/20/2023	17:11	LB123754
	Sodium	24600	25000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Thallium	5040	5000	101	90 - 110	P	01/20/2023	17:11	LB123754
	Vanadium	2480	2500	99	90 - 110	P	01/20/2023	17:11	LB123754
	Zinc	2530	2500	101	90 - 110	P	01/20/2023	17:11	LB123754
CCV06	Aluminum	10000	10000	100	90 - 110	P	01/20/2023	18:47	LB123754
	Antimony	5000	5000	100	90 - 110	P	01/20/2023	18:47	LB123754
	Arsenic	5190	5000	104	90 - 110	P	01/20/2023	18:47	LB123754
	Barium	11000	10000	110	90 - 110	P	01/20/2023	18:47	LB123754
	Beryllium	229	250	92	90 - 110	P	01/20/2023	18:47	LB123754
	Cadmium	2480	2500	99	90 - 110	P	01/20/2023	18:47	LB123754
	Calcium	25200	25000	101	90 - 110	P	01/20/2023	18:47	LB123754
	Chromium	965	1000	96	90 - 110	P	01/20/2023	18:47	LB123754
	Cobalt	2380	2500	95	90 - 110	P	01/20/2023	18:47	LB123754
	Copper	1210	1250	97	90 - 110	P	01/20/2023	18:47	LB123754
	Iron	5370	5000	108	90 - 110	P	01/20/2023	18:47	LB123754
	Lead	4910	5000	98	90 - 110	P	01/20/2023	18:47	LB123754
	Magnesium	24600	25000	99	90 - 110	P	01/20/2023	18:47	LB123754
	Manganese	2530	2500	101	90 - 110	P	01/20/2023	18:47	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV06	Nickel	2510	2500	100	90 - 110	P	01/20/2023	18:47	LB123754
	Potassium	26900	25000	108	90 - 110	P	01/20/2023	18:47	LB123754
	Selenium	5070	5000	102	90 - 110	P	01/20/2023	18:47	LB123754
	Silver	1220	1250	98	90 - 110	P	01/20/2023	18:47	LB123754
	Sodium	23700	25000	95	90 - 110	P	01/20/2023	18:47	LB123754
	Thallium	5190	5000	104	90 - 110	P	01/20/2023	18:47	LB123754
	Vanadium	2580	2500	103	90 - 110	P	01/20/2023	18:47	LB123754
	Zinc	2580	2500	103	90 - 110	P	01/20/2023	18:47	LB123754
CCV07	Aluminum	9640	10000	96	90 - 110	P	01/20/2023	19:44	LB123754
	Antimony	4890	5000	98	90 - 110	P	01/20/2023	19:44	LB123754
	Arsenic	5060	5000	101	90 - 110	P	01/20/2023	19:44	LB123754
	Barium	10600	10000	106	90 - 110	P	01/20/2023	19:44	LB123754
	Beryllium	251	250	100	90 - 110	P	01/20/2023	19:44	LB123754
	Cadmium	2400	2500	96	90 - 110	P	01/20/2023	19:44	LB123754
	Calcium	24200	25000	97	90 - 110	P	01/20/2023	19:44	LB123754
	Chromium	935	1000	94	90 - 110	P	01/20/2023	19:44	LB123754
	Cobalt	2300	2500	92	90 - 110	P	01/20/2023	19:44	LB123754
	Copper	1170	1250	94	90 - 110	P	01/20/2023	19:44	LB123754
	Iron	5220	5000	104	90 - 110	P	01/20/2023	19:44	LB123754
	Lead	4750	5000	95	90 - 110	P	01/20/2023	19:44	LB123754
	Magnesium	23700	25000	95	90 - 110	P	01/20/2023	19:44	LB123754
	Manganese	2440	2500	97	90 - 110	P	01/20/2023	19:44	LB123754
	Nickel	2440	2500	98	90 - 110	P	01/20/2023	19:44	LB123754
	Potassium	25500	25000	102	90 - 110	P	01/20/2023	19:44	LB123754
	Selenium	4950	5000	99	90 - 110	P	01/20/2023	19:44	LB123754
	Silver	1180	1250	95	90 - 110	P	01/20/2023	19:44	LB123754
	Sodium	23300	25000	93	90 - 110	P	01/20/2023	19:44	LB123754
	Thallium	5060	5000	101	90 - 110	P	01/20/2023	19:44	LB123754
	Vanadium	2510	2500	100	90 - 110	P	01/20/2023	19:44	LB123754
	Zinc	2490	2500	100	90 - 110	P	01/20/2023	19:44	LB123754
CCV08	Aluminum	9870	10000	99	90 - 110	P	01/20/2023	20:30	LB123754
	Antimony	5000	5000	100	90 - 110	P	01/20/2023	20:30	LB123754
	Arsenic	5200	5000	104	90 - 110	P	01/20/2023	20:30	LB123754
	Barium	10700	10000	107	90 - 110	P	01/20/2023	20:30	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV08	Beryllium	257	250	103	90 - 110	P	01/20/2023	20:30	LB123754
	Cadmium	2460	2500	99	90 - 110	P	01/20/2023	20:30	LB123754
	Calcium	24700	25000	99	90 - 110	P	01/20/2023	20:30	LB123754
	Chromium	941	1000	94	90 - 110	P	01/20/2023	20:30	LB123754
	Cobalt	2360	2500	94	90 - 110	P	01/20/2023	20:30	LB123754
	Copper	1200	1250	96	90 - 110	P	01/20/2023	20:30	LB123754
	Iron	5230	5000	105	90 - 110	P	01/20/2023	20:30	LB123754
	Lead	4890	5000	98	90 - 110	P	01/20/2023	20:30	LB123754
	Magnesium	24200	25000	97	90 - 110	P	01/20/2023	20:30	LB123754
	Manganese	2470	2500	99	90 - 110	P	01/20/2023	20:30	LB123754
	Nickel	2510	2500	100	90 - 110	P	01/20/2023	20:30	LB123754
	Potassium	25100	25000	100	90 - 110	P	01/20/2023	20:30	LB123754
	Selenium	5060	5000	101	90 - 110	P	01/20/2023	20:30	LB123754
	Silver	1190	1250	95	90 - 110	P	01/20/2023	20:30	LB123754
	Sodium	23100	25000	92	90 - 110	P	01/20/2023	20:30	LB123754
	Thallium	5190	5000	104	90 - 110	P	01/20/2023	20:30	LB123754
	Vanadium	2540	2500	102	90 - 110	P	01/20/2023	20:30	LB123754
	Zinc	2510	2500	101	90 - 110	P	01/20/2023	20:30	LB123754
CCV09	Aluminum	9620	10000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Antimony	4940	5000	99	90 - 110	P	01/20/2023	21:16	LB123754
	Arsenic	5120	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Barium	10500	10000	105	90 - 110	P	01/20/2023	21:16	LB123754
	Beryllium	255	250	102	90 - 110	P	01/20/2023	21:16	LB123754
	Cadmium	2430	2500	97	90 - 110	P	01/20/2023	21:16	LB123754
	Calcium	24100	25000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Chromium	929	1000	93	90 - 110	P	01/20/2023	21:16	LB123754
	Cobalt	2320	2500	93	90 - 110	P	01/20/2023	21:16	LB123754
	Copper	1180	1250	94	90 - 110	P	01/20/2023	21:16	LB123754
	Iron	5100	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Lead	4820	5000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Magnesium	23800	25000	95	90 - 110	P	01/20/2023	21:16	LB123754
	Manganese	2410	2500	96	90 - 110	P	01/20/2023	21:16	LB123754
	Nickel	2480	2500	99	90 - 110	P	01/20/2023	21:16	LB123754
	Potassium	24700	25000	99	90 - 110	P	01/20/2023	21:16	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV09	Selenium	5000	5000	100	90 - 110	P	01/20/2023	21:16	LB123754
	Silver	1180	1250	94	90 - 110	P	01/20/2023	21:16	LB123754
	Sodium	22900	25000	92	90 - 110	P	01/20/2023	21:16	LB123754
	Thallium	5120	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Vanadium	2490	2500	100	90 - 110	P	01/20/2023	21:16	LB123754
	Zinc	2490	2500	99	90 - 110	P	01/20/2023	21:16	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2520	2500	101	90 - 110	P	01/24/2023	13:12	LB123785
	Antimony	1000	1000	100	90 - 110	P	01/24/2023	13:12	LB123785
	Arsenic	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Barium	497	520	96	90 - 110	P	01/24/2023	13:12	LB123785
	Beryllium	507	510	100	90 - 110	P	01/24/2023	13:12	LB123785
	Cadmium	511	510	100	90 - 110	P	01/24/2023	13:12	LB123785
	Calcium	9880	10000	99	90 - 110	P	01/24/2023	13:12	LB123785
	Chromium	519	520	100	90 - 110	P	01/24/2023	13:12	LB123785
	Cobalt	504	520	97	90 - 110	P	01/24/2023	13:12	LB123785
	Copper	528	510	104	90 - 110	P	01/24/2023	13:12	LB123785
	Iron	9840	10000	98	90 - 110	P	01/24/2023	13:12	LB123785
	Lead	1020	1000	102	90 - 110	P	01/24/2023	13:12	LB123785
	Magnesium	6000	6000	100	90 - 110	P	01/24/2023	13:12	LB123785
	Manganese	510	520	98	90 - 110	P	01/24/2023	13:12	LB123785
	Nickel	508	530	96	90 - 110	P	01/24/2023	13:12	LB123785
	Potassium	9640	9900	97	90 - 110	P	01/24/2023	13:12	LB123785
	Selenium	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Silver	252	250	101	90 - 110	P	01/24/2023	13:12	LB123785
	Sodium	9740	10000	97	90 - 110	P	01/24/2023	13:12	LB123785
	Thallium	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Vanadium	503	500	101	90 - 110	P	01/24/2023	13:12	LB123785
	Zinc	1010	1000	101	90 - 110	P	01/24/2023	13:12	LB123785

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9760	10000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Antimony	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Arsenic	4860	5000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Barium	9840	10000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Beryllium	241	250	96	90 - 110	P	01/24/2023	13:33	LB123785
	Cadmium	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Calcium	24300	25000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Chromium	984	1000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Cobalt	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Copper	1230	1250	98	90 - 110	P	01/24/2023	13:33	LB123785
	Iron	5000	5000	100	90 - 110	P	01/24/2023	13:33	LB123785
	Lead	4840	5000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Magnesium	24200	25000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Manganese	2440	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Nickel	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Potassium	24800	25000	99	90 - 110	P	01/24/2023	13:33	LB123785
	Selenium	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Silver	1220	1250	98	90 - 110	P	01/24/2023	13:33	LB123785
	Sodium	24800	25000	99	90 - 110	P	01/24/2023	13:33	LB123785
	Thallium	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Vanadium	2440	2500	98	90 - 110	P	01/24/2023	13:33	LB123785
	Zinc	2460	2500	98	90 - 110	P	01/24/2023	13:33	LB123785

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Aluminum	90.7	100	91	80 - 120	P	01/24/2023	13:41	LB123785
	Antimony	48.3	50.0	97	80 - 120	P	01/24/2023	13:41	LB123785
	Arsenic	21.7	20.0	109	80 - 120	P	01/24/2023	13:41	LB123785
	Barium	100	100	100	80 - 120	P	01/24/2023	13:41	LB123785
	Beryllium	6.49	6.0	108	80 - 120	P	01/24/2023	13:41	LB123785
	Cadmium	6.42	6.0	107	80 - 120	P	01/24/2023	13:41	LB123785
	Calcium	1930	2000	97	80 - 120	P	01/24/2023	13:41	LB123785
	Chromium	10.7	10.0	107	80 - 120	P	01/24/2023	13:41	LB123785
	Cobalt	29.7	30.0	99	80 - 120	P	01/24/2023	13:41	LB123785
	Copper	23.0	20.0	115	80 - 120	P	01/24/2023	13:41	LB123785
	Iron	88.9	100	89	80 - 120	P	01/24/2023	13:41	LB123785
	Lead	11.4	12.0	95	80 - 120	P	01/24/2023	13:41	LB123785
	Magnesium	2150	2000	107	80 - 120	P	01/24/2023	13:41	LB123785
	Manganese	19.9	20.0	100	80 - 120	P	01/24/2023	13:41	LB123785
	Nickel	39.0	40.0	98	80 - 120	P	01/24/2023	13:41	LB123785
	Potassium	1960	2000	98	80 - 120	P	01/24/2023	13:41	LB123785
	Selenium	21.8	20.0	109	80 - 120	P	01/24/2023	13:41	LB123785
	Silver	10.5	10.0	105	80 - 120	P	01/24/2023	13:41	LB123785
	Sodium	2040	2000	102	80 - 120	P	01/24/2023	13:41	LB123785
	Thallium	40.2	40.0	100	80 - 120	P	01/24/2023	13:41	LB123785
	Vanadium	39.1	40.0	98	80 - 120	P	01/24/2023	13:41	LB123785
	Zinc	42.2	40.0	106	80 - 120	P	01/24/2023	13:41	LB123785

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Aluminum	9780	10000	98	90 - 110	P	01/24/2023	14:35	LB123785
	Antimony	5010	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Arsenic	4980	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Barium	9860	10000	99	90 - 110	P	01/24/2023	14:35	LB123785
	Beryllium	259	250	103	90 - 110	P	01/24/2023	14:35	LB123785
	Cadmium	2460	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Calcium	24300	25000	97	90 - 110	P	01/24/2023	14:35	LB123785
	Chromium	1010	1000	101	90 - 110	P	01/24/2023	14:35	LB123785
	Cobalt	2440	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Copper	1250	1250	100	90 - 110	P	01/24/2023	14:35	LB123785
	Iron	4980	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Lead	4970	5000	99	90 - 110	P	01/24/2023	14:35	LB123785
	Magnesium	24200	25000	97	90 - 110	P	01/24/2023	14:35	LB123785
	Manganese	2420	2500	97	90 - 110	P	01/24/2023	14:35	LB123785
	Nickel	2470	2500	99	90 - 110	P	01/24/2023	14:35	LB123785
	Potassium	25000	25000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Selenium	5000	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Silver	1260	1250	101	90 - 110	P	01/24/2023	14:35	LB123785
	Sodium	25100	25000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Thallium	5000	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Vanadium	2440	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Zinc	2520	2500	101	90 - 110	P	01/24/2023	14:35	LB123785
CCV03	Aluminum	9370	10000	94	90 - 110	P	01/24/2023	17:46	LB123785
	Antimony	4930	5000	98	90 - 110	P	01/24/2023	17:46	LB123785
	Arsenic	4940	5000	99	90 - 110	P	01/24/2023	17:46	LB123785
	Barium	10200	10000	102	90 - 110	P	01/24/2023	17:46	LB123785
	Beryllium	234	250	94	90 - 110	P	01/24/2023	17:46	LB123785
	Cadmium	2320	2500	93	90 - 110	P	01/24/2023	17:46	LB123785
	Calcium	23700	25000	95	90 - 110	P	01/24/2023	17:46	LB123785
	Chromium	959	1000	96	90 - 110	P	01/24/2023	17:46	LB123785
	Cobalt	2500	2500	100	90 - 110	P	01/24/2023	17:46	LB123785
	Copper	1160	1250	93	90 - 110	P	01/24/2023	17:46	LB123785
	Iron	5200	5000	104	90 - 110	P	01/24/2023	17:46	LB123785
	Lead	4930	5000	99	90 - 110	P	01/24/2023	17:46	LB123785

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV03	Magnesium	23600	25000	95	90 - 110	P	01/24/2023	17:46	LB123785
	Manganese	2440	2500	98	90 - 110	P	01/24/2023	17:46	LB123785
	Nickel	2380	2500	95	90 - 110	P	01/24/2023	17:46	LB123785
	Potassium	25300	25000	101	90 - 110	P	01/24/2023	17:46	LB123785
	Selenium	5070	5000	101	90 - 110	P	01/24/2023	17:46	LB123785
	Silver	1250	1250	100	90 - 110	P	01/24/2023	17:46	LB123785
	Sodium	24000	25000	96	90 - 110	P	01/24/2023	17:46	LB123785
	Thallium	4890	5000	98	90 - 110	P	01/24/2023	17:46	LB123785
	Vanadium	2420	2500	97	90 - 110	P	01/24/2023	17:46	LB123785
	Zinc	2400	2500	96	90 - 110	P	01/24/2023	17:46	LB123785
CCV04	Aluminum	10800	10000	108	90 - 110	P	01/24/2023	18:37	LB123785
	Antimony	4850	5000	97	90 - 110	P	01/24/2023	18:37	LB123785
	Arsenic	4820	5000	96	90 - 110	P	01/24/2023	18:37	LB123785
	Barium	10200	10000	102	90 - 110	P	01/24/2023	18:37	LB123785
	Beryllium	235	250	94	90 - 110	P	01/24/2023	18:37	LB123785
	Cadmium	2260	2500	90	90 - 110	P	01/24/2023	18:37	LB123785
	Calcium	23700	25000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Chromium	953	1000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Cobalt	2730	2500	109	90 - 110	P	01/24/2023	18:37	LB123785
	Copper	1290	1250	103	90 - 110	P	01/24/2023	18:37	LB123785
	Iron	5140	5000	103	90 - 110	P	01/24/2023	18:37	LB123785
	Lead	4850	5000	97	90 - 110	P	01/24/2023	18:37	LB123785
	Magnesium	23800	25000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Manganese	2450	2500	98	90 - 110	P	01/24/2023	18:37	LB123785
	Nickel	2340	2500	94	90 - 110	P	01/24/2023	18:37	LB123785
	Potassium	25100	25000	100	90 - 110	P	01/24/2023	18:37	LB123785
	Selenium	4930	5000	99	90 - 110	P	01/24/2023	18:37	LB123785
	Silver	1250	1250	100	90 - 110	P	01/24/2023	18:37	LB123785
	Sodium	23600	25000	94	90 - 110	P	01/24/2023	18:37	LB123785
	Thallium	4820	5000	96	90 - 110	P	01/24/2023	18:37	LB123785
	Vanadium	2430	2500	97	90 - 110	P	01/24/2023	18:37	LB123785
	Zinc	2380	2500	95	90 - 110	P	01/24/2023	18:37	LB123785

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Aluminum	110	100	110	40 - 160	P	01/20/2023	17:07	LB123754
	Antimony	50.4	50.0	101	40 - 160	P	01/20/2023	17:07	LB123754
	Arsenic	20.2	20.0	101	40 - 160	P	01/20/2023	17:07	LB123754
	Barium	94.4	100	94	40 - 160	P	01/20/2023	17:07	LB123754
	Beryllium	6.17	6.0	103	40 - 160	P	01/20/2023	17:07	LB123754
	Cadmium	6.40	6.0	107	40 - 160	P	01/20/2023	17:07	LB123754
	Calcium	1910	2000	96	40 - 160	P	01/20/2023	17:07	LB123754
	Chromium	9.67	10.0	97	40 - 160	P	01/20/2023	17:07	LB123754
	Cobalt	29.1	30.0	97	40 - 160	P	01/20/2023	17:07	LB123754
	Copper	22.3	20.0	112	40 - 160	P	01/20/2023	17:07	LB123754
	Iron	107	100	107	40 - 160	P	01/20/2023	17:07	LB123754
	Lead	11.3	12.0	94	40 - 160	P	01/20/2023	17:07	LB123754
	Magnesium	2060	2000	103	40 - 160	P	01/20/2023	17:07	LB123754
	Manganese	19.9	20.0	100	40 - 160	P	01/20/2023	17:07	LB123754
	Nickel	39.2	40.0	98	40 - 160	P	01/20/2023	17:07	LB123754
	Potassium	2060	2000	103	40 - 160	P	01/20/2023	17:07	LB123754
	Selenium	17.2	20.0	86	40 - 160	P	01/20/2023	17:07	LB123754
	Silver	11.3	10.0	113	40 - 160	P	01/20/2023	17:07	LB123754
	Sodium	2140	2000	107	40 - 160	P	01/20/2023	17:07	LB123754
	Thallium	39.8	40.0	100	40 - 160	P	01/20/2023	17:07	LB123754
	Vanadium	36.8	40.0	92	40 - 160	P	01/20/2023	17:07	LB123754
	Zinc	42.1	40.0	105	40 - 160	P	01/20/2023	17:07	LB123754
CRA	Mercury	0.16	0.2	82	40 - 160	CV	01/23/2023	10:37	LB123763
CRI01	Aluminum	93.4	100	93	40 - 160	P	01/24/2023	13:20	LB123785
	Antimony	51.7	50.0	104	40 - 160	P	01/24/2023	13:20	LB123785
	Arsenic	22.2	20.0	111	40 - 160	P	01/24/2023	13:20	LB123785
	Barium	101	100	101	40 - 160	P	01/24/2023	13:20	LB123785
	Beryllium	6.48	6.0	108	40 - 160	P	01/24/2023	13:20	LB123785
	Cadmium	6.52	6.0	109	40 - 160	P	01/24/2023	13:20	LB123785
	Calcium	1980	2000	99	40 - 160	P	01/24/2023	13:20	LB123785
	Chromium	10.7	10.0	107	40 - 160	P	01/24/2023	13:20	LB123785
	Cobalt	29.9	30.0	100	40 - 160	P	01/24/2023	13:20	LB123785
	Copper	23.0	20.0	115	40 - 160	P	01/24/2023	13:20	LB123785
	Iron	90.6	100	91	40 - 160	P	01/24/2023	13:20	LB123785
	Lead	12.1	12.0	100	40 - 160	P	01/24/2023	13:20	LB123785

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Magnesium	2190	2000	110	40 - 160	P	01/24/2023	13:20	LB123785
	Manganese	21.0	20.0	105	40 - 160	P	01/24/2023	13:20	LB123785
	Nickel	39.8	40.0	100	40 - 160	P	01/24/2023	13:20	LB123785
	Potassium	1960	2000	98	40 - 160	P	01/24/2023	13:20	LB123785
	Selenium	22.7	20.0	114	40 - 160	P	01/24/2023	13:20	LB123785
	Silver	10.5	10.0	105	40 - 160	P	01/24/2023	13:20	LB123785
	Sodium	2000	2000	100	40 - 160	P	01/24/2023	13:20	LB123785
	Thallium	40.7	40.0	102	40 - 160	P	01/24/2023	13:20	LB123785
	Vanadium	42.2	40.0	106	40 - 160	P	01/24/2023	13:20	LB123785
	Zinc	42.0	40.0	105	40 - 160	P	01/24/2023	13:20	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB12	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	10:30	LB123763

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB93	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	10:35	LB123763
CCB94	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:02	LB123763
CCB95	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:29	LB123763
CCB96	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:56	LB123763
CCB97	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	12:24	LB123763
CCB98	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	12:37	LB123763

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	01/20/2023	12:43	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	12:43	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	12:43	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	12:43	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	12:43	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	12:43	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	12:43	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	12:43	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	12:43	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	12:43	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	01/20/2023	13:50	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	13:50	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	13:50	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	13:50	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	13:50	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	13:50	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	13:50	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	13:50	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	13:50	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	13:50	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
CCB02	Aluminum	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	14:41	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	14:41	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	14:41	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	14:41	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	14:41	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	14:41	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Potassium	298	+/-2000	J	2000	P	01/20/2023	14:41	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	14:41	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
CCB03	Aluminum	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	15:33	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	15:33	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	15:33	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	15:33	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	15:33	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	15:33	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	15:33	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
CCB04	Aluminum	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	16:18	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	16:18	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	16:18	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	16:18	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	16:18	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	16:18	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	16:18	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
CCB05	Aluminum	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	17:15	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	17:15	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	17:15	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	17:15	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	17:15	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	17:15	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	17:15	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
CCB06	Aluminum	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	18:51	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	18:51	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	18:51	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	18:51	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	18:51	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	18:51	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Iron	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	18:51	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	18:51	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Potassium	852	+/-2000	J	2000	P	01/20/2023	18:51	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Silver	1.75	+/-10.0	J	10.0	P	01/20/2023	18:51	LB123754
	Sodium	711	+/-2000	J	2000	P	01/20/2023	18:51	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
CCB07	Aluminum	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	19:48	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	19:48	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	19:48	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	19:48	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	19:48	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	19:48	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Silver	2.00	+/-10.0	J	10.0	P	01/20/2023	19:48	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
CCB08	Aluminum	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	20:34	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	20:34	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	20:34	LB123754

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Calcium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	20:34	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	20:34	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	20:34	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Silver	2.03	+/-10.0	J	10.0	P	01/20/2023	20:34	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
CCB09	Aluminum	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	21:20	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	21:20	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	21:20	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	21:20	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	21:20	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	21:20	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Silver	1.70	+/-10.0	J	10.0	P	01/20/2023	21:20	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	01/24/2023	13:16	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	13:16	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	13:16	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:16	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:16	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	13:16	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	13:16	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	13:16	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	13:16	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	13:16	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	01/24/2023	13:45	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	13:45	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	13:45	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:45	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:45	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	13:45	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	13:45	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	13:45	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	13:45	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	13:45	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
CCB02	Aluminum	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	14:38	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	14:38	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	14:38	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	14:38	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	14:38	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	14:38	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	14:38	LB123785

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
CCB03	Aluminum	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	17:50	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	17:50	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	17:50	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	17:50	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	17:50	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	17:50	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	17:50	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
CCB04	Aluminum	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	18:41	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	18:41	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	18:41	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	18:41	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	18:41	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	18:41	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	18:41	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB150381BL		**SOLID**		**Batch Number:**	**PB150381**		**Prep Date:**	**01/20/2023**	
	Mercury	0.012	<0.012	U	0.012	CV	01/23/2023	10:44	LB123763

Metals
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PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Instrument: P4

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB150370BL		**SOLID**		**Batch Number:**	**PB150370**		**Prep Date:**	**01/20/2023**	
	Aluminum	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Antimony	2.39	<2.39	U	2.39	P	01/20/2023	20:23	LB123754
	Arsenic	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Barium	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Beryllium	0.29	<0.29	U	0.29	P	01/20/2023	20:23	LB123754
	Cadmium	0.29	<0.29	U	0.29	P	01/20/2023	20:23	LB123754
	Calcium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Chromium	0.48	<0.48	U	0.48	P	01/20/2023	20:23	LB123754
	Cobalt	1.44	<1.44	U	1.44	P	01/20/2023	20:23	LB123754
	Copper	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Iron	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Lead	0.57	<0.57	U	0.57	P	01/20/2023	20:23	LB123754
	Magnesium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Manganese	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Nickel	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Potassium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Selenium	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Silver	0.090	<0.48	J	0.48	P	01/20/2023	20:23	LB123754
	Sodium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Thallium	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Vanadium	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Zinc	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754

Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	257000	250000	103	210000	290000	01/20/2023	13:26	LB123754
	Antimony	2.20			-50	50	01/20/2023	13:26	LB123754
	Arsenic	-4.95			-20	20	01/20/2023	13:26	LB123754
	Barium	1.98	6.0	33	-94	106	01/20/2023	13:26	LB123754
	Beryllium	0.68			-6	6	01/20/2023	13:26	LB123754
	Cadmium	0.15	1.0	15	-5	7	01/20/2023	13:26	LB123754
	Calcium	250000	240000	104	200000	280000	01/20/2023	13:26	LB123754
	Chromium	55.1	52.0	106	42	62	01/20/2023	13:26	LB123754
	Cobalt	1.24			-30	30	01/20/2023	13:26	LB123754
	Copper	-2.55	2.0	128	-18	22	01/20/2023	13:26	LB123754
	Iron	108000	100000	108	85000	120000	01/20/2023	13:26	LB123754
	Lead	-3.73			-12	12	01/20/2023	13:26	LB123754
	Magnesium	257000	260000	99	220000	300000	01/20/2023	13:26	LB123754
	Manganese	10.2	7.0	145	-13	27	01/20/2023	13:26	LB123754
	Nickel	3.44	2.0	172	-38	42	01/20/2023	13:26	LB123754
	Potassium	-136			0	0	01/20/2023	13:26	LB123754
	Selenium	-17.7			-20	20	01/20/2023	13:26	LB123754
	Silver	2.09			-10	10	01/20/2023	13:26	LB123754
	Sodium	8.74			0	0	01/20/2023	13:26	LB123754
	Thallium	-7.43			-40	40	01/20/2023	13:26	LB123754
	Vanadium	-0.77			-40	40	01/20/2023	13:26	LB123754
	Zinc	-0.52			-40	40	01/20/2023	13:26	LB123754
ICSAB01	Aluminum	245000	250000	98	210000	290000	01/20/2023	13:30	LB123754
	Antimony	597	620	96	530	710	01/20/2023	13:30	LB123754
	Arsenic	102	100	102	85	120	01/20/2023	13:30	LB123754
	Barium	518	540	96	440	640	01/20/2023	13:30	LB123754
	Beryllium	490	500	98	430	580	01/20/2023	13:30	LB123754
	Cadmium	1030	970	106	820	1100	01/20/2023	13:30	LB123754
	Calcium	238000	230000	104	200000	260000	01/20/2023	13:30	LB123754
	Chromium	545	540	101	460	620	01/20/2023	13:30	LB123754
	Cobalt	494	480	103	410	550	01/20/2023	13:30	LB123754
	Copper	480	510	94	430	590	01/20/2023	13:30	LB123754
	Iron	102000	99000	103	84000	110000	01/20/2023	13:30	LB123754
	Lead	44.8	49.0	91	37	61	01/20/2023	13:30	LB123754
	Magnesium	246000	250000	98	210000	290000	01/20/2023	13:30	LB123754
	Manganese	502	510	98	430	590	01/20/2023	13:30	LB123754
	Nickel	1000	950	105	810	1100	01/20/2023	13:30	LB123754
	Potassium	-121			0	0	01/20/2023	13:30	LB123754
	Selenium	38.2	46.0	83	26	66	01/20/2023	13:30	LB123754
	Silver	212	200	106	170	230	01/20/2023	13:30	LB123754
	Sodium	18.8			0	0	01/20/2023	13:30	LB123754
	Thallium	93.1	110	85	70	150	01/20/2023	13:30	LB123754
	Vanadium	488	490	100	420	560	01/20/2023	13:30	LB123754
	Zinc	1040	950	110	810	1100	01/20/2023	13:30	LB123754
ICSA01	Aluminum	247000	250000	99	210000	290000	01/24/2023	13:25	LB123785

Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Antimony	-3.42			-50	50	01/24/2023	13:25	LB123785
	Arsenic	5.47			-20	20	01/24/2023	13:25	LB123785
	Barium	7.42	6.0	124	-94	106	01/24/2023	13:25	LB123785
	Beryllium	1.36			-6	6	01/24/2023	13:25	LB123785
	Cadmium	0.46	1.0	46	-5	7	01/24/2023	13:25	LB123785
	Calcium	237000	240000	99	200000	280000	01/24/2023	13:25	LB123785
	Chromium	61.1	52.0	118	42	62	01/24/2023	13:25	LB123785
	Cobalt	1.04			-30	30	01/24/2023	13:25	LB123785
	Copper	-11.8	2.0	590	-18	22	01/24/2023	13:25	LB123785
	Iron	108000	100000	108	85000	120000	01/24/2023	13:25	LB123785
	Lead	-3.03			-12	12	01/24/2023	13:25	LB123785
	Magnesium	247000	260000	95	220000	300000	01/24/2023	13:25	LB123785
	Manganese	9.76	7.0	139	-13	27	01/24/2023	13:25	LB123785
	Nickel	3.04	2.0	152	-38	42	01/24/2023	13:25	LB123785
	Potassium	-217			0	0	01/24/2023	13:25	LB123785
	Selenium	-7.48			-20	20	01/24/2023	13:25	LB123785
	Silver	4.83			-10	10	01/24/2023	13:25	LB123785
	Sodium	-5.35			0	0	01/24/2023	13:25	LB123785
	Thallium	-6.97			-40	40	01/24/2023	13:25	LB123785
	Vanadium	3.06			-40	40	01/24/2023	13:25	LB123785
	Zinc	0.0080			-40	40	01/24/2023	13:25	LB123785
ICSAB01	Aluminum	243000	250000	97	210000	290000	01/24/2023	13:29	LB123785
	Antimony	598	620	96	530	710	01/24/2023	13:29	LB123785
	Arsenic	110	100	110	85	120	01/24/2023	13:29	LB123785
	Barium	482	540	89	440	640	01/24/2023	13:29	LB123785
	Beryllium	492	500	98	430	580	01/24/2023	13:29	LB123785
	Cadmium	1010	970	104	820	1100	01/24/2023	13:29	LB123785
	Calcium	234000	230000	102	200000	260000	01/24/2023	13:29	LB123785
	Chromium	558	540	103	460	620	01/24/2023	13:29	LB123785
	Cobalt	495	480	103	410	550	01/24/2023	13:29	LB123785
	Copper	475	510	93	430	590	01/24/2023	13:29	LB123785
	Iron	102000	99000	103	84000	110000	01/24/2023	13:29	LB123785
	Lead	47.1	49.0	96	37	61	01/24/2023	13:29	LB123785
	Magnesium	243000	250000	97	210000	290000	01/24/2023	13:29	LB123785
	Manganese	484	510	95	430	590	01/24/2023	13:29	LB123785
	Nickel	983	950	104	810	1100	01/24/2023	13:29	LB123785
	Potassium	-161			0	0	01/24/2023	13:29	LB123785
	Selenium	40.7	46.0	88	26	66	01/24/2023	13:29	LB123785
	Silver	215	200	108	170	230	01/24/2023	13:29	LB123785
	Sodium	-0.86			0	0	01/24/2023	13:29	LB123785
	Thallium	93.1	110	85	70	150	01/24/2023	13:29	LB123785
	Vanadium	471	490	96	420	560	01/24/2023	13:29	LB123785
	Zinc	1020	950	107	810	1100	01/24/2023	13:29	LB123785

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1232

contract: loui01 **lab code:** CHEM **case no.:** O1232 **sas no.:** O1232

matrix: Solid **sample id:** O1232-01 **client id:** B-P-17AMS

Percent Solids for Sample: 89.4 **Spiked ID:** O1232-01MS **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	2860		2510		100	356		P
Antimony	mg/Kg	75 - 125	30.5		0.37	J	40.7	74	N	P
Arsenic	mg/Kg	75 - 125	35.8		1.07		40.7	85		P
Barium	mg/Kg	75 - 125	42.8		33.0		10.2	96		P
Beryllium	mg/Kg	75 - 125	7.71		0.28	J	10.2	73	N	P
Cadmium	mg/Kg	75 - 125	9.44		0.13	J	10.2	91		P
Calcium	mg/Kg	75 - 125	1880		1460		50.8	837		P
Chromium	mg/Kg	75 - 125	28.2		11.7		20.3	82		P
Cobalt	mg/Kg	75 - 125	13.7		4.76		10.2	88		P
Copper	mg/Kg	75 - 125	20.1		8.92		15.3	73	N	P
Iron	mg/Kg	75 - 125	10300		8860		150	987		P
Lead	mg/Kg	75 - 125	51.9		7.47		50.8	87		P
Magnesium	mg/Kg	75 - 125	2200		1820		100	372		P
Manganese	mg/Kg	75 - 125	234		288		10.2	-530		P
Mercury	mg/Kg	80 - 120	0.28		0.014	U	0.28	99		CV
Nickel	mg/Kg	75 - 125	48.0		22.9		25.4	99		P
Potassium	mg/Kg	75 - 125	1010		556		510	90		P
Selenium	mg/Kg	75 - 125	82.6		1.04	U	100	83		P
Silver	mg/Kg	75 - 125	3.62		0.58		3.8	80		P
Sodium	mg/Kg	75 - 125	176		52.5	J	150	82		P
Thallium	mg/Kg	75 - 125	94.5		2.08	U	100	94		P
Vanadium	mg/Kg	75 - 125	23.8		9.25		15.3	95		P
Zinc	mg/Kg	75 - 125	31.0		18.7		10.2	120		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1232

contract: loui01 **lab code:** CHEM **case no.:** O1232 **sas no.:** O1232

matrix: Solid **sample id:** O1232-01 **client id:** B-P-17AMSD

Percent Solids for Sample: 89.4 **Spiked ID:** O1232-01MSD **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	2900		2510		100	396		P
Antimony	mg/Kg	75 - 125	32.0		0.37	J	41.8	76		P
Arsenic	mg/Kg	75 - 125	37.5		1.07		41.8	87		P
Barium	mg/Kg	75 - 125	42.5		33.0		10.5	91		P
Beryllium	mg/Kg	75 - 125	8.15		0.28	J	10.5	75		P
Cadmium	mg/Kg	75 - 125	9.99		0.13	J	10.5	94		P
Calcium	mg/Kg	75 - 125	1730		1460		52.3	511		P
Chromium	mg/Kg	75 - 125	30.3		11.7		20.9	89		P
Cobalt	mg/Kg	75 - 125	14.5		4.76		10.5	93		P
Copper	mg/Kg	75 - 125	21.3		8.92		15.7	79		P
Iron	mg/Kg	75 - 125	10200		8860		160	860		P
Lead	mg/Kg	75 - 125	54.2		7.47		52.3	89		P
Magnesium	mg/Kg	75 - 125	2350		1820		100	529		P
Manganese	mg/Kg	75 - 125	231		288		10.5	-547		P
Mercury	mg/Kg	80 - 120	0.27		0.014	U	0.27	102		CV
Nickel	mg/Kg	75 - 125	52.3		22.9		26.1	113		P
Potassium	mg/Kg	75 - 125	999		556		520	85		P
Selenium	mg/Kg	75 - 125	86.9		1.04	U	100	87		P
Silver	mg/Kg	75 - 125	3.65		0.58		3.9	79		P
Sodium	mg/Kg	75 - 125	172		52.5	J	160	75		P
Thallium	mg/Kg	75 - 125	99.3		2.08	U	100	99		P
Vanadium	mg/Kg	75 - 125	24.0		9.25		15.7	94		P
Zinc	mg/Kg	75 - 125	30.9		18.7		10.5	115		P

CHEMTECH

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: Solid **Level:** LOW **Client ID:** B-P-17AA

Sample ID: O1232-01 **Spiked ID:** O1232-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	mg/Kg	75 - 125	35.4		0.37	J	41.6	84		P
Beryllium	mg/Kg	75 - 125	8.72		0.28	J	10.4	81		P
Copper	mg/Kg	75 - 125	22.1		8.92		15.6	84		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: Solid **Sample ID:** O1232-01 **Client ID:** B-P-17ADUP

Percent Solids for Sample: 89.4 **Duplicate ID** O1232-01DUP **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	2510		2500		0		P
Antimony	mg/Kg	20	0.37	J	2.55	U	200.0		P
Arsenic	mg/Kg	20	1.07		1.03		4		P
Barium	mg/Kg	20	33.0		33.0		0		P
Beryllium	mg/Kg	20	0.28	J	0.28	J	0		P
Cadmium	mg/Kg	20	0.13	J	0.12	J	7		P
Calcium	mg/Kg	20	1460		1460		0		P
Chromium	mg/Kg	20	11.7		11.3		3		P
Cobalt	mg/Kg	20	4.76		4.61		3		P
Copper	mg/Kg	20	8.92		8.67		3		P
Iron	mg/Kg	20	8860		8530		4		P
Lead	mg/Kg	20	7.47		7.27		3		P
Magnesium	mg/Kg	20	1820		1820		0		P
Manganese	mg/Kg	20	288		287		0		P
Mercury	mg/Kg	20	0.014	U	0.0040	J	200.0		CV
Nickel	mg/Kg	20	22.9		22.2		3		P
Potassium	mg/Kg	20	556		535		4		P
Selenium	mg/Kg	20	1.04	U	1.02	U			P
Silver	mg/Kg	20	0.58		0.53		9		P
Sodium	mg/Kg	20	52.5	J	50.3	J	4		P
Thallium	mg/Kg	20	2.08	U	2.04	U			P
Vanadium	mg/Kg	20	9.25		9.26		0		P
Zinc	mg/Kg	20	18.7		18.2		3		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: Solid **Sample ID:** O1232-01MS **Client ID:** B-P-17AMSD

Percent Solids for Sample: 89.4 **Duplicate ID** O1232-01MSD **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	2860		2900		1		P
Antimony	mg/Kg	20	30.5		32.0		5		P
Arsenic	mg/Kg	20	35.8		37.5		5		P
Barium	mg/Kg	20	42.8		42.5		1		P
Beryllium	mg/Kg	20	7.71		8.15		6		P
Cadmium	mg/Kg	20	9.44		9.99		6		P
Calcium	mg/Kg	20	1880		1730		8		P
Chromium	mg/Kg	20	28.2		30.3		7		P
Cobalt	mg/Kg	20	13.7		14.5		6		P
Copper	mg/Kg	20	20.1		21.3		6		P
Iron	mg/Kg	20	10300		10200		1		P
Lead	mg/Kg	20	51.9		54.2		4		P
Magnesium	mg/Kg	20	2200		2350		7		P
Manganese	mg/Kg	20	234		231		1		P
Mercury	mg/Kg	20	0.28		0.27		1		CV
Nickel	mg/Kg	20	48.0		52.3		9		P
Potassium	mg/Kg	20	1010		999		1		P
Selenium	mg/Kg	20	82.6		86.9		5		P
Silver	mg/Kg	20	3.62		3.65		1		P
Sodium	mg/Kg	20	176		172		2		P
Thallium	mg/Kg	20	94.5		99.3		5		P
Vanadium	mg/Kg	20	23.8		24.0		1		P
Zinc	mg/Kg	20	31.0		30.9		0		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150370BS							
Aluminum	mg/Kg	98.5	96.7		98	80 - 120	P
Antimony	mg/Kg	39.4	38.3		97	80 - 120	P
Arsenic	mg/Kg	39.4	40.6		103	80 - 120	P
Barium	mg/Kg	9.9	10.0		101	80 - 120	P
Beryllium	mg/Kg	9.9	8.67		88	80 - 120	P
Cadmium	mg/Kg	9.9	9.52		96	80 - 120	P
Calcium	mg/Kg	49.3	49.4	J	100	80 - 120	P
Chromium	mg/Kg	19.7	18.9		96	80 - 120	P
Cobalt	mg/Kg	9.9	8.98		91	80 - 120	P
Copper	mg/Kg	14.8	14.5		98	80 - 120	P
Iron	mg/Kg	150	156		104	80 - 120	P
Lead	mg/Kg	49.3	47.4		96	80 - 120	P
Magnesium	mg/Kg	98.5	94.2	J	96	80 - 120	P
Manganese	mg/Kg	9.9	9.86		100	80 - 120	P
Nickel	mg/Kg	24.6	24.0		98	80 - 120	P
Potassium	mg/Kg	490	506		103	80 - 120	P
Selenium	mg/Kg	98.5	99.9		101	80 - 120	P
Silver	mg/Kg	3.7	3.59		97	80 - 120	P
Sodium	mg/Kg	150	142		95	80 - 120	P
Thallium	mg/Kg	98.5	102		104	80 - 120	P
Vanadium	mg/Kg	14.8	14.8		100	80 - 120	P
Zinc	mg/Kg	9.9	10.3		104	80 - 120	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150381BS							
Mercury	mg/Kg	0.26	0.23		89	80 - 120	CV

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ICP SERIAL DILUTIONS

SAMPLE NO.

B-P-17AL

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123754 **Lab Sample ID :** O1232-01L **SDG No.:** O1232

Matrix (soil/water): Solid **Level (low/med):** LOW

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	2510		2550		2		P
Antimony	0.37	J	13.0	U	100.0		P
Arsenic	1.07		5.20	U	100.0		P
Barium	33.0		31.3		5		P
Beryllium	0.28	J	0.29	J	4		P
Cadmium	0.13	J	1.56	U	100.0		P
Calcium	1460		1480		1		P
Chromium	11.7		11.5		1		P
Cobalt	4.76		4.47	J	6		P
Copper	8.92		9.79		10		P
Iron	8860		8630		3		P
Lead	7.47		7.16		4		P
Magnesium	1820		1840		1		P
Manganese	288		290		1		P
Mercury	0.014	U	0.071	U			CV
Nickel	22.9		21.8		5		P
Potassium	556		528		5		P
Selenium	1.04	U	5.20	U			P
Silver	0.58		0.80	J	38		P
Sodium	52.5	J	520	U	100.0		P
Thallium	2.08	U	10.4	U			P
Vanadium	9.25		8.85	J	4		P
Zinc	18.7		18.9		1		P

METAL PREPARATION & INSTRUMENT DATA

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Aluminum	396.100	0.0000000	0.0002900	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000140	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0001380	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0001340	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000890	0.0000000	0.0000460	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001960	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001430	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	-0.0000910	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001400	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0021660
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0005750
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0038070
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0329190
Antimony	206.833	0.0121700	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0019440	0.0000000	0.0000000	0.0000000	0.0003800
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000720	-0.0004950
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0002110	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007810
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0012940
Iron	240.488	0.0000000	0.0009350	0.0000000	0.0000000	-0.0037480
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000700	-0.0014440
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	-0.0127400
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0004280	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0001890	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0008700	-0.0040480
Vanadium	292.402	-0.0024690	0.0000000	0.0000000	0.0000000	-0.0073200
Zinc	213.800	0.0000000	0.0023040	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0002020	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0001570	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0048560	0.0013380	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0016160	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0001070	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0058160	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	-0.0081200	0.0000000	0.0000000	-0.0018770	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0001560	-0.0003220
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0017040	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0002630	0.0000000	0.0000000	0.0005570
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0016400
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0001090
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0001700	0.0000000	-0.0007490	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0005960	0.0000000	0.0152900	0.0003570
Vanadium	292.402	0.0000000	0.0004650	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	-0.0005190	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1232 **SAS No.:** O1232

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150370**						
O1232-01	B-P-17A	SAM	SOLID	01/20/2023	2.15	100.0	89.40
O1232-01DUP	B-P-17ADUP	DUP	SOLID	01/20/2023	2.19	100.0	89.40
O1232-01MS	B-P-17AMS	MS	SOLID	01/20/2023	2.20	100.0	89.40
O1232-01MSD	B-P-17AMSD	MSD	SOLID	01/20/2023	2.14	100.0	89.40
O1232-02	B-P-17B	SAM	SOLID	01/20/2023	2.39	100.0	86.90
O1232-04	B-P-18A	SAM	SOLID	01/20/2023	2.32	100.0	87.50
O1232-05	B-P-18B	SAM	SOLID	01/20/2023	2.12	100.0	91.40
O1232-06	B-P-19A	SAM	SOLID	01/20/2023	2.02	100.0	88.20
O1232-07	B-P-19B	SAM	SOLID	01/20/2023	2.09	100.0	88.00
O1232-08	B-P-35A	SAM	SOLID	01/20/2023	2.34	100.0	91.30
O1232-09	B-P-35B	SAM	SOLID	01/20/2023	2.07	100.0	93.30
O1232-10	DUP01	SAM	SOLID	01/20/2023	2.11	100.0	90.10
PB150370BL	PB150370BL	MB	SOLID	01/20/2023	2.09	100.0	100.00
PB150370BS	PB150370BS	LCS	SOLID	01/20/2023	2.03	100.0	100.00

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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1232 **SAS No.:** O1232

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150381**						
O1232-01	B-P-17A	SAM	SOLID	01/20/2023	0.55	35.0	89.40
O1232-01DUP	B-P-17ADUP	DUP	SOLID	01/20/2023	0.56	35.0	89.40
O1232-01MS	B-P-17AMS	MS	SOLID	01/20/2023	0.56	35.0	89.40
O1232-01MSD	B-P-17AMSD	MSD	SOLID	01/20/2023	0.57	35.0	89.40
O1232-02	B-P-17B	SAM	SOLID	01/20/2023	0.53	35.0	86.90
O1232-04	B-P-18A	SAM	SOLID	01/20/2023	0.55	35.0	87.50
O1232-05	B-P-18B	SAM	SOLID	01/20/2023	0.57	35.0	91.40
O1232-06	B-P-19A	SAM	SOLID	01/20/2023	0.50	35.0	88.20
O1232-07	B-P-19B	SAM	SOLID	01/20/2023	0.53	35.0	88.00
O1232-08	B-P-35A	SAM	SOLID	01/20/2023	0.58	35.0	91.30
O1232-09	B-P-35B	SAM	SOLID	01/20/2023	0.52	35.0	93.30
O1232-10	DUP01	SAM	SOLID	01/20/2023	0.52	35.0	90.10
PB150381BL	PB150381BL	MB	SOLID	01/20/2023	0.58	35.0	100.00
PB150381BS	PB150381BS	LCS	SOLID	01/20/2023	0.53	35.0	100.00

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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1232 **Sas no.:** O1232 **Sdg no.:** O1232

Instrument id number: **Method:** **Run number:** LB123754

Start date: 01/20/2023 **End date:** 01/20/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1215	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1219	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1223	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1227	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1231	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1234	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1238	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1243	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1326	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1330	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1342	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1346	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1350	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1437	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1441	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1529	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1533	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1615	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1618	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1707	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1711	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1715	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1847	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1851	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1944	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1948	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB150370BL	PB150370BL	1	2023	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB150370BS	PB150370BS	1	2027	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV08	CCV08	1	2030	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB08	CCB08	1	2034	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01	B-P-17A	1	2038	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01DUP	B-P-17ADUP	1	2042	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01L	B-P-17AL	5	2046	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01MS	B-P-17AMS	1	2050	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01MSD	B-P-17AMSD	1	2054	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01A	B-P-17AA	1	2057	Be,Cu,Sb
O1232-02	B-P-17B	1	2101	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-04	B-P-18A	1	2105	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-05	B-P-18B	1	2109	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-06	B-P-19A	1	2112	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV09	CCV09	1	2116	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	2120	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

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metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1232 **Sas no.:** O1232 **Sdg no.:** O1232

Instrument id number: **Method:** **Run number:** LB123763

Start date: 01/23/2023 **End date:** 01/23/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1006	HG
S0.2	S0.2	1	1011	HG
S2.5	S2.5	1	1013	HG
S5	S5	1	1016	HG
S7.5	S7.5	1	1020	HG
S10	S10	1	1023	HG
ICV12	ICV12	1	1028	HG
ICB12	ICB12	1	1030	HG
CCV93	CCV93	1	1033	HG
CCB93	CCB93	1	1035	HG
CRA	CRA	1	1037	HG
PB150381BL	PB150381BL	1	1044	HG
PB150381BS	PB150381BS	1	1046	HG
O1232-01	B-P-17A	1	1055	HG
O1232-01DUP	B-P-17ADUP	1	1057	HG
CCV94	CCV94	1	1100	HG
CCB94	CCB94	1	1102	HG
O1232-01MS	B-P-17AMS	1	1104	HG
O1232-01MSD	B-P-17AMSD	1	1106	HG
O1232-02	B-P-17B	1	1109	HG
O1232-04	B-P-18A	1	1111	HG
O1232-05	B-P-18B	1	1113	HG
O1232-06	B-P-19A	1	1116	HG
O1232-07	B-P-19B	1	1118	HG
O1232-08	B-P-35A	1	1120	HG
O1232-09	B-P-35B	1	1122	HG
O1232-10	DUP01	1	1125	HG
CCV95	CCV95	1	1127	HG
CCB95	CCB95	1	1129	HG
CCV96	CCV96	1	1154	HG
CCB96	CCB96	1	1156	HG
CCV97	CCV97	1	1221	HG
CCB97	CCB97	1	1224	HG
O1232-01L	B-P-17AL	5	1226	HG
CCV98	CCV98	1	1235	HG
CCB98	CCB98	1	1237	HG

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metals
- 14 -
ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1232 **Sas no.:** O1232 **Sdg no.:** O1232

Instrument id number: **Method:** **Run number:** LB123785

Start date: 01/24/2023 **End date:** 01/24/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1234	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1238	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1242	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1246	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1249	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1253	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1312	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1316	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1320	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1325	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1329	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1333	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1341	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1345	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-07	B-P-19B	1	1349	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-08	B-P-35A	1	1353	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-09	B-P-35B	1	1357	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-10	DUP01	1	1400	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1435	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1438	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1746	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1750	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1837	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1841	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-01	**B-P-17A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-02	**B-P-17B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-03	**WC-17**	**TCLP**			**01/18/23**			**01/19/23**
			TCLP ICP Metals	6010D		01/24/23	01/25/23	
			TCLP Mercury	7470A		01/23/23	01/24/23	
O1232-04	**B-P-18A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-05	**B-P-18B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-06	**B-P-19A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/20/23	
O1232-07	**B-P-19B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1232-08	**B-P-35A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1232-09	**B-P-35B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	

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LAB CHRONICLE

			Metals ICP-TAL	6010D		01/20/23	01/24/23
O1232-10	**DUP01**	**SOIL**			**01/18/23**		**01/19/23**
			Mercury	7471B		01/20/23	01/23/23
			Metals ICP-TAL	6010D		01/20/23	01/24/23

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Hit Summary Sheet
SW-846

SDG No.: O1232 **Order ID:** O1232

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-17								
O1232-03	WC-17	TCLP	Barium	3210		77.9	500	ug/L

SAMPLE DATA

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	TCLP
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-38-2	Arsenic	30.8	U	1	30.8	100	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7440-39-3	Barium	3210		1	77.9	500	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7440-43-9	Cadmium	2.60	U	1	2.60	30.0	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7440-47-3	Chromium	10.4	U	1	10.4	50.0	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7439-92-1	Lead	19.4	U	1	19.4	60.0	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7439-97-6	Mercury	0.70	U	1	0.70	2.00	ug/L	01/23/23 14:15	01/24/23 11:13	SW7470A	
7782-49-2	Selenium	35.3	U	1	35.3	100	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050
7440-22-4	Silver	8.20	U	1	8.20	50.0	ug/L	01/24/23 14:00	01/25/23 15:55	SW6010	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP METALS				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV15	Mercury	4.01	4.0	100	90 - 110	CV	01/24/2023	10:47	LB123775

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV08	Mercury	4.98	5.0	100	90 - 110	CV	01/24/2023	10:52	LB123775
CCV09	Mercury	5.02	5.0	100	90 - 110	CV	01/24/2023	11:24	LB123775
CCV10	Mercury	4.83	5.0	97	90 - 110	CV	01/24/2023	11:51	LB123775
CCV11	Mercury	5.00	5.0	100	90 - 110	CV	01/24/2023	12:19	LB123775
CCV12	Mercury	5.04	5.0	101	90 - 110	CV	01/24/2023	12:46	LB123775

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Arsenic	1040	1000	104	90 - 110	P	01/25/2023	12:15	LB123806
	Barium	498	520	96	90 - 110	P	01/25/2023	12:15	LB123806
	Cadmium	507	510	99	90 - 110	P	01/25/2023	12:15	LB123806
	Chromium	530	520	102	90 - 110	P	01/25/2023	12:15	LB123806
	Lead	1010	1000	101	90 - 110	P	01/25/2023	12:15	LB123806
	Selenium	1040	1000	104	90 - 110	P	01/25/2023	12:15	LB123806
	Silver	257	250	103	90 - 110	P	01/25/2023	12:15	LB123806

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Arsenic	4970	5000	100	90 - 110	P	01/25/2023	12:57	LB123806
	Barium	9770	10000	98	90 - 110	P	01/25/2023	12:57	LB123806
	Cadmium	2490	2500	100	90 - 110	P	01/25/2023	12:57	LB123806
	Chromium	1040	1000	104	90 - 110	P	01/25/2023	12:57	LB123806
	Lead	4960	5000	99	90 - 110	P	01/25/2023	12:57	LB123806
	Selenium	4960	5000	99	90 - 110	P	01/25/2023	12:57	LB123806
	Silver	1280	1250	102	90 - 110	P	01/25/2023	12:57	LB123806

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Arsenic	22.9	20.0	115	80 - 120	P	01/25/2023	13:00	LB123806
	Barium	106	100	106	80 - 120	P	01/25/2023	13:00	LB123806
	Cadmium	6.48	6.0	108	80 - 120	P	01/25/2023	13:00	LB123806
	Chromium	10.9	10.0	109	80 - 120	P	01/25/2023	13:00	LB123806
	Lead	13.2	12.0	110	80 - 120	P	01/25/2023	13:00	LB123806
	Selenium	17.8	20.0	89	80 - 120	P	01/25/2023	13:00	LB123806
	Silver	10.7	10.0	107	80 - 120	P	01/25/2023	13:00	LB123806

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Arsenic	4830	5000	96	90 - 110	P	01/25/2023	13:48	LB123806
	Barium	9480	10000	95	90 - 110	P	01/25/2023	13:48	LB123806
	Cadmium	2400	2500	96	90 - 110	P	01/25/2023	13:48	LB123806
	Chromium	995	1000	100	90 - 110	P	01/25/2023	13:48	LB123806
	Lead	4770	5000	95	90 - 110	P	01/25/2023	13:48	LB123806
	Selenium	4810	5000	96	90 - 110	P	01/25/2023	13:48	LB123806
	Silver	1220	1250	97	90 - 110	P	01/25/2023	13:48	LB123806
CCV03	Arsenic	4920	5000	98	90 - 110	P	01/25/2023	14:39	LB123806
	Barium	9600	10000	96	90 - 110	P	01/25/2023	14:39	LB123806
	Cadmium	2420	2500	97	90 - 110	P	01/25/2023	14:39	LB123806
	Chromium	978	1000	98	90 - 110	P	01/25/2023	14:39	LB123806
	Lead	4800	5000	96	90 - 110	P	01/25/2023	14:39	LB123806
	Selenium	4910	5000	98	90 - 110	P	01/25/2023	14:39	LB123806
	Silver	1200	1250	96	90 - 110	P	01/25/2023	14:39	LB123806
CCV04	Arsenic	5120	5000	102	90 - 110	P	01/25/2023	15:32	LB123806
	Barium	10100	10000	101	90 - 110	P	01/25/2023	15:32	LB123806
	Cadmium	2530	2500	101	90 - 110	P	01/25/2023	15:32	LB123806
	Chromium	1040	1000	104	90 - 110	P	01/25/2023	15:32	LB123806
	Lead	4990	5000	100	90 - 110	P	01/25/2023	15:32	LB123806
	Selenium	5080	5000	102	90 - 110	P	01/25/2023	15:32	LB123806
	Silver	1310	1250	105	90 - 110	P	01/25/2023	15:32	LB123806
CCV05	Arsenic	5150	5000	103	90 - 110	P	01/25/2023	16:20	LB123806
	Barium	10300	10000	103	90 - 110	P	01/25/2023	16:20	LB123806
	Cadmium	2560	2500	102	90 - 110	P	01/25/2023	16:20	LB123806
	Chromium	1020	1000	102	90 - 110	P	01/25/2023	16:20	LB123806
	Lead	4990	5000	100	90 - 110	P	01/25/2023	16:20	LB123806
	Selenium	5070	5000	101	90 - 110	P	01/25/2023	16:20	LB123806
	Silver	1260	1250	101	90 - 110	P	01/25/2023	16:20	LB123806
CCV06	Arsenic	4870	5000	98	90 - 110	P	01/25/2023	17:19	LB123806
	Barium	9950	10000	100	90 - 110	P	01/25/2023	17:19	LB123806
	Cadmium	2430	2500	97	90 - 110	P	01/25/2023	17:19	LB123806
	Chromium	958	1000	96	90 - 110	P	01/25/2023	17:19	LB123806
	Lead	4680	5000	94	90 - 110	P	01/25/2023	17:19	LB123806
	Selenium	4740	5000	95	90 - 110	P	01/25/2023	17:19	LB123806

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV06	Silver	1170	1250	94	90 - 110	P	01/25/2023	17:19	LB123806
CCV07	Arsenic	4890	5000	98	90 - 110	P	01/25/2023	18:09	LB123806
	Barium	9710	10000	97	90 - 110	P	01/25/2023	18:09	LB123806
	Cadmium	2430	2500	97	90 - 110	P	01/25/2023	18:09	LB123806
	Chromium	968	1000	97	90 - 110	P	01/25/2023	18:09	LB123806
	Lead	4690	5000	94	90 - 110	P	01/25/2023	18:09	LB123806
	Selenium	4760	5000	95	90 - 110	P	01/25/2023	18:09	LB123806
	Silver	1190	1250	95	90 - 110	P	01/25/2023	18:09	LB123806
CCV08	Arsenic	4900	5000	98	90 - 110	P	01/25/2023	18:44	LB123806
	Barium	9630	10000	96	90 - 110	P	01/25/2023	18:44	LB123806
	Cadmium	2450	2500	98	90 - 110	P	01/25/2023	18:44	LB123806
	Chromium	963	1000	96	90 - 110	P	01/25/2023	18:44	LB123806
	Lead	4670	5000	93	90 - 110	P	01/25/2023	18:44	LB123806
	Selenium	4730	5000	95	90 - 110	P	01/25/2023	18:44	LB123806
	Silver	1190	1250	95	90 - 110	P	01/25/2023	18:44	LB123806

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRA	Mercury	0.18	0.2	89	40 - 160	CV	01/24/2023	10:59	LB123775
CRI01	Arsenic	22.1	20.0	110	40 - 160	P	01/25/2023	12:24	LB123806
	Barium	109	100	109	40 - 160	P	01/25/2023	12:24	LB123806
	Cadmium	6.67	6.0	111	40 - 160	P	01/25/2023	12:24	LB123806
	Chromium	11.4	10.0	114	40 - 160	P	01/25/2023	12:24	LB123806
	Lead	12.3	12.0	102	40 - 160	P	01/25/2023	12:24	LB123806
	Selenium	20.5	20.0	103	40 - 160	P	01/25/2023	12:24	LB123806
	Silver	11.0	10.0	110	40 - 160	P	01/25/2023	12:24	LB123806

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB15	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	10:49	LB123775

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	10:54	LB123775
CCB09	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	11:26	LB123775
CCB10	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	11:54	LB123775
CCB11	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	12:21	LB123775
CCB12	Mercury	0.20	+/-0.20	U	0.20	CV	01/24/2023	12:48	LB123775

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	12:20	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	12:20	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	12:20	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	12:20	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	12:20	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	12:20	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	12:20	LB123806

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	13:04	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	13:04	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	13:04	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	13:04	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	13:04	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	13:04	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	13:04	LB123806
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	13:52	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	13:52	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	13:52	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	13:52	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	13:52	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	13:52	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	13:52	LB123806
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	14:43	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	14:43	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	14:43	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	14:43	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	14:43	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	14:43	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	14:43	LB123806
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	15:36	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	15:36	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	15:36	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	15:36	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	15:36	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	15:36	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	15:36	LB123806
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	16:24	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	16:24	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	16:24	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	16:24	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	16:24	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	16:24	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	16:24	LB123806
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	17:23	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	17:23	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	17:23	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	17:23	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	17:23	LB123806

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	17:23	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	17:23	LB123806
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	18:13	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	18:13	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	18:13	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	18:13	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	18:13	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	18:13	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	18:13	LB123806
CCB08	Arsenic	20.0	+/-20.0	U	20.0	P	01/25/2023	18:48	LB123806
	Barium	100	+/-100	U	100	P	01/25/2023	18:48	LB123806
	Cadmium	6.00	+/-6.00	U	6.00	P	01/25/2023	18:48	LB123806
	Chromium	10.0	+/-10.0	U	10.0	P	01/25/2023	18:48	LB123806
	Lead	12.0	+/-12.0	U	12.0	P	01/25/2023	18:48	LB123806
	Selenium	20.0	+/-20.0	U	20.0	P	01/25/2023	18:48	LB123806
	Silver	10.0	+/-10.0	U	10.0	P	01/25/2023	18:48	LB123806

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB150368TB		**WATER**		**Batch Number:**	**PB150390**		**Prep Date:**	**01/23/2023**	
	Mercury	2.00	<2.00	U	2.00	CV	01/24/2023	12:32	LB123775

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB150390BL		**WATER**		**Batch Number:**	**PB150390**		**Prep Date:**	**01/23/2023**	
	Mercury	0.20	<0.20	U	0.20	CV	01/24/2023	11:06	LB123775

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB150368TB		**WATER**		**Batch Number:**	**PB150432**		**Prep Date:**	**01/24/2023**	
	Arsenic	100	<100	U	100	P	01/25/2023	14:11	LB123806
	Barium	500	<500	U	500	P	01/25/2023	14:11	LB123806
	Cadmium	30.0	<30.0	U	30.0	P	01/25/2023	14:11	LB123806
	Chromium	14.3	<50.0	J	50.0	P	01/25/2023	14:11	LB123806
	Lead	60.0	<60.0	U	60.0	P	01/25/2023	14:11	LB123806
	Selenium	100	<100	U	100	P	01/25/2023	14:11	LB123806
	Silver	50.0	<50.0	U	50.0	P	01/25/2023	14:11	LB123806

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB150432BL		**WATER**		**Batch Number:**	**PB150432**		**Prep Date:**	**01/24/2023**	
	Arsenic	100	<100	U	100	P	01/25/2023	14:03	LB123806
	Barium	500	<500	U	500	P	01/25/2023	14:03	LB123806
	Cadmium	30.0	<30.0	U	30.0	P	01/25/2023	14:03	LB123806
	Chromium	50.0	<50.0	U	50.0	P	01/25/2023	14:03	LB123806
	Lead	60.0	<60.0	U	60.0	P	01/25/2023	14:03	LB123806
	Selenium	100	<100	U	100	P	01/25/2023	14:03	LB123806
	Silver	50.0	<50.0	U	50.0	P	01/25/2023	14:03	LB123806

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Arsenic	1.24			-20	20	01/25/2023	12:33	LB123806
	Barium	11.4	6.0	190	-94	106	01/25/2023	12:33	LB123806
	Cadmium	2.75	1.0	275	-5	7	01/25/2023	12:33	LB123806
	Chromium	56.5	52.0	109	42	62	01/25/2023	12:33	LB123806
	Lead	4.10			-12	12	01/25/2023	12:33	LB123806
	Selenium	1.75			-20	20	01/25/2023	12:33	LB123806
	Silver	-0.64			-10	10	01/25/2023	12:33	LB123806
ICSAB01	Arsenic	107	100	107	85	120	01/25/2023	12:37	LB123806
	Barium	483	540	89	440	640	01/25/2023	12:37	LB123806
	Cadmium	1010	970	104	820	1100	01/25/2023	12:37	LB123806
	Chromium	565	540	105	460	620	01/25/2023	12:37	LB123806
	Lead	50.7	49.0	104	37	61	01/25/2023	12:37	LB123806
	Selenium	51.2	46.0	111	26	66	01/25/2023	12:37	LB123806
	Silver	210	200	105	170	230	01/25/2023	12:37	LB123806

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1232

contract: loui01 **lab code:** CHEM **case no.:** O1232 **sas no.:** O1232

matrix: Water **sample id:** O1255-02 **client id:** BORING-1MS

Percent Solids for Sample: NA **Spiked ID:** O1255-02MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3850		100	U	4000	96		P
Barium	ug/L	75 - 125	1360		447	J	1000	91		P
Cadmium	ug/L	75 - 125	970		30.0	U	1000	97		P
Chromium	ug/L	75 - 125	1990		16.7	J	2000	98		P
Lead	ug/L	75 - 125	4750		60.0	U	5000	95		P
Mercury	ug/L	75 - 125	42.9		2.00	U	40.0	107		CV
Selenium	ug/L	75 - 125	9460		100	U	10000	95		P
Silver	ug/L	75 - 125	353		50.0	U	380	93		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1232

contract: loui01 **lab code:** CHEM **case no.:** O1232 **sas no.:** O1232

matrix: Water **sample id:** O1255-02 **client id:** BORING-1MSD

Percent Solids for Sample: NA **Spiked ID:** O1255-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3860		100	U	4000	96		P
Barium	ug/L	75 - 125	1310		447	J	1000	86		P
Cadmium	ug/L	75 - 125	965		30.0	U	1000	96		P
Chromium	ug/L	75 - 125	1950		16.7	J	2000	97		P
Lead	ug/L	75 - 125	4720		60.0	U	5000	94		P
Mercury	ug/L	75 - 125	42.9		2.00	U	40.0	107		CV
Selenium	ug/L	75 - 125	9440		100	U	10000	94		P
Silver	ug/L	75 - 125	349		50.0	U	380	92		P

CHEMTECH

Metals
- 5b -

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: **Level:** LOW **Client ID:**

Sample ID: **Spiked ID:**

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: Water **Sample ID:** O1255-02 **Client ID:** BORING-1DUP

Percent Solids for Sample: NA **Duplicate ID** O1255-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	100	U	100	U			P
Barium	ug/L	20	447	J	435	J	3		P
Cadmium	ug/L	20	30.0	U	30.0	U			P
Chromium	ug/L	20	16.7	J	15.1	J	10		P
Lead	ug/L	20	60.0	U	60.0	U			P
Mercury	ug/L	20	2.00	U	2.00	U			CV
Selenium	ug/L	20	100	U	100	U			P
Silver	ug/L	20	50.0	U	50.0	U			P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Matrix: Water **Sample ID:** O1255-02MS **Client ID:** BORING-1MSD

Percent Solids for Sample: NA **Duplicate ID** O1255-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	3850		3860		0		P
Barium	ug/L	20	1360		1310		4		P
Cadmium	ug/L	20	970		965		1		P
Chromium	ug/L	20	1990		1950		2		P
Lead	ug/L	20	4750		4720		1		P
Mercury	ug/L	20	42.9		42.9		0		CV
Selenium	ug/L	20	9460		9440		0		P
Silver	ug/L	20	353		349		1		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150390BS							
Mercury	ug/L	4.0	3.88		97	80 - 120	CV

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150432BS							
Arsenic	ug/L	4000	3980		100	80 - 120	P
Barium	ug/L	1000	981		98	80 - 120	P
Cadmium	ug/L	1000	971		97	80 - 120	P
Chromium	ug/L	2000	2050		102	80 - 120	P
Lead	ug/L	5000	4870		97	80 - 120	P
Selenium	ug/L	10000	10100		101	80 - 120	P
Silver	ug/L	380	379		100	80 - 120	P

Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

BORING-1L

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123806 **Lab Sample ID :** O1255-02L **SDG No.:** O1232

Matrix (soil/water): Water **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	100	U	500	U			P
Barium	447	J	546	J	22		P
Cadmium	30.0	U	150	U			P
Chromium	16.7	J	250	U	100.0		P
Lead	60.0	U	300	U			P
Mercury	2.00	U	10.0	U			CV
Selenium	100	U	500	U			P
Silver	50.0	U	250	U			P

METAL PREPARATION & INSTRUMENT DATA

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0001380	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000890	0.0000000	0.0000460	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001960	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001430	0.0000000	0.0000000

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0005750
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Arsenic	193.759	-0.0019440	0.0000000	0.0000000	0.0000000	0.0003800
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0002110	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000700	-0.0014440
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0004280	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0001890	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Arsenic	193.759	0.0000000	0.0002020	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0001570	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0001070	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1232 **SAS No.:** O1232

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0001560	-0.0003220
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0001090
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0001700	0.0000000	-0.0007490	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1232 **SAS No.:** O1232

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150390**						
O1232-03	WC-17	SAM	WATER	01/23/2023	3.0	30.0	
O1255-02DUP	BORING-1DUP	DUP	WATER	01/23/2023	3.0	30.0	
O1255-02MS	BORING-1MS	MS	WATER	01/23/2023	3.0	30.0	
O1255-02MSD	BORING-1MSD	MSD	WATER	01/23/2023	3.0	30.0	
PB150368TB	PB150368TB	MB	WATER	01/23/2023	3.0	30.0	
PB150390BL	PB150390BL	MB	WATER	01/23/2023	30.0	30.0	
PB150390BS	PB150390BS	LCS	WATER	01/23/2023	30.0	30.0	

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1232 **SAS No.:** O1232

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150432**						
O1232-03	WC-17	SAM	WATER	01/24/2023	5.0	25.0	
O1255-02DUP	BORING-1DUP	DUP	WATER	01/24/2023	5.0	25.0	
O1255-02MS	BORING-1MS	MS	WATER	01/24/2023	5.0	25.0	
O1255-02MSD	BORING-1MSD	MSD	WATER	01/24/2023	5.0	25.0	
PB150368TB	PB150368TB	MB	WATER	01/24/2023	5.0	25.0	
PB150432BL	PB150432BL	MB	WATER	01/24/2023	5.0	25.0	
PB150432BS	PB150432BS	LCS	WATER	01/24/2023	5.0	25.0	

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metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1232 **Sas no.:** O1232 **Sdg no.:** O1232

Instrument id number: **Method:** **Run number:** LB123775

Start date: 01/24/2023 **End date:** 01/24/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1025	HG
S0.2	S0.2	1	1027	HG
S2.5	S2.5	1	1030	HG
S5	S5	1	1035	HG
S7.5	S7.5	1	1037	HG
S10	S10	1	1042	HG
ICV15	ICV15	1	1047	HG
ICB15	ICB15	1	1049	HG
CCV08	CCV08	1	1052	HG
CCB08	CCB08	1	1054	HG
CRA	CRA	1	1059	HG
PB150390BL	PB150390BL	1	1106	HG
PB150390BS	PB150390BS	1	1110	HG
O1232-03	WC-17	1	1113	HG
CCV09	CCV09	1	1124	HG
CCB09	CCB09	1	1126	HG
O1255-02DUP	BORING-1DUP	1	1147	HG
O1255-02MS	BORING-1MS	1	1149	HG
CCV10	CCV10	1	1151	HG
CCB10	CCB10	1	1154	HG
O1255-02MSD	BORING-1MSD	1	1156	HG
CCV11	CCV11	1	1219	HG
CCB11	CCB11	1	1221	HG
PB150368TB	PB150368TB	1	1232	HG
O1255-02L	BORING-1L	5	1237	HG
CCV12	CCV12	1	1246	HG
CCB12	CCB12	1	1248	HG

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metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1232 **Sas no.:** O1232 **Sdg no.:** O1232

Instrument id number: **Method:** **Run number:** LB123806

Start date: 01/25/2023 **End date:** 01/25/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1152	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1156	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1200	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1204	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1208	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1212	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1215	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1220	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1224	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1233	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1237	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1257	Ag,As,Ba,Cd,Cr,Pb,Se
LLCCV01	LLCCV01	1	1300	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1304	Ag,As,Ba,Cd,Cr,Pb,Se
O1255-02DUP	BORING-1DUP	1	1328	Ag,As,Ba,Cd,Cr,Pb,Se
O1255-02L	BORING-1L	5	1332	Ag,As,Ba,Cd,Cr,Pb,Se
O1255-02MS	BORING-1MS	1	1336	Ag,As,Ba,Cd,Cr,Pb,Se
O1255-02MSD	BORING-1MSD	1	1340	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1348	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1352	Ag,As,Ba,Cd,Cr,Pb,Se
PB150432BL	PB150432BL	1	1403	Ag,As,Ba,Cd,Cr,Pb,Se
PB150432BS	PB150432BS	1	1407	Ag,As,Ba,Cd,Cr,Pb,Se
PB150368TB	PB150368TB	1	1411	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1439	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1443	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1532	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1536	Ag,As,Ba,Cd,Cr,Pb,Se
O1232-03	WC-17	1	1555	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1620	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1624	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1719	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1723	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1809	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1813	Ag,As,Ba,Cd,Cr,Pb,Se
CCV08	CCV08	1	1844	Ag,As,Ba,Cd,Cr,Pb,Se
CCB08	CCB08	1	1848	Ag,As,Ba,Cd,Cr,Pb,Se

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LAB CHRONICLE

OrderID:	O1232	**OrderDate:**	1/19/2023 1:44:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-03	**WC-17**	**SOIL**			**01/18/23 10:10**			**01/19/23**
			Corrosivity	9045D			01/20/23 16:40	
			Ignitability	1030			01/20/23 15:40	
			Paint Filter	9095B			01/20/23 13:45	
			Reactive Cyanide	9012B		01/20/23	01/20/23 14:30	
			Reactive Sulfide	9034		01/20/23	01/20/23 13:11	

SAMPLE DATA

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23 10:10
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-17	SDG No.:	O1232
Lab Sample ID:	O1232-03	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	8.38	H	1	0	0	pH		01/20/23 16:40	9045D
Ignitability	NO		1	0	0	oC		01/20/23 15:40	1030
Paint Filter	1.00	U	1	1.00	1.00	ml/100gm		01/20/23 13:45	9095B
Reactive Cyanide	0.050	U	1	0.050	0.050	mg/Kg	01/20/23 12:00	01/20/23 14:30	9012B
Reactive Sulfide	10.0	U	1	10.0	10.0	mg/Kg	01/20/23 08:35	01/20/23 13:11	9034

Comments: pH result reported at temperature 20.6 °C

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

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Initial and Continuing Calibration Verification

Client:	Louis Berger U.S., Inc., A WSP Company	**SDG No.:**	O1232
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	**RunNo.:**	LB123753

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Reactive Cyanide	mg/L	0.098	0.099	99	85-115	01/20/2023
Sample ID: CCV1						
Reactive Cyanide	mg/L	0.25	0.25	100	90-110	01/20/2023
Sample ID: CCV2						
Reactive Cyanide	mg/L	0.26	0.25	104	90-110	01/20/2023
Sample ID: CCV3						
Reactive Cyanide	mg/L	0.26	0.25	104	90-110	01/20/2023

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Initial and Continuing Calibration Verification

Client:	Louis Berger U.S., Inc., A WSP Company	**SDG No.:**	O1232
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	**RunNo.:**	LB123757

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV**						
Corrosivity		pH	6.99	7	100	90-110	01/20/2023
Sample ID:	**CCV1**						
Corrosivity		pH	2.02	2.00	101	90-110	01/20/2023
Sample ID:	**CCV2**						
Corrosivity		pH	12.03	12.00	100	90-110	01/20/2023

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Initial and Continuing Calibration Blank Summary

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CEQR **RunNo.:** LB123753

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.0050	0.005	01/20/2023
Sample ID: CCB1							
Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.0050	0.005	01/20/2023
Sample ID: CCB2							
Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.0050	0.005	01/20/2023
Sample ID: CCB3							
Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.0050	0.005	01/20/2023

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Preparation Blank Summary

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CEQR

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB150286BL							
Reactive Sulfide	mg/Kg	< 5.0000	5.0000	U	10	10	01/20/2023
Sample ID: PB150350BL							
Reactive Cyanide	mg/Kg	< 0.0250	0.0250	U	0.05	0.05	01/20/2023

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Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1232
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Sample ID: O1159-02
Client ID: TP-EDUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Sulfide	mg/Kg	+/-20	10.0	U	10.0	U	1	0		01/20/2023

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Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1232
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Sample ID: O1172-02
Client ID: TP-FDUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Cyanide	mg/Kg	+/-20	0.050	U	0.050	U	1	0		01/20/2023

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Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1232
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Sample ID: O1229-01
Client ID: OK-02-011923DUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Paint Filter	ml/100gm	+/-20	1.00	U	1.00	U	1	0		01/20/2023

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Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1232
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Sample ID: O1232-03
Client ID: WC-17DUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ignitability	oC	+/-20	NO		NO		1	0		01/20/2023

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1232
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Sample ID: O1255-02
Client ID: BORING-1DUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Corrosivity	pH	+/-20	6.76		6.77		1	0.15		01/20/2023

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax: (908) 78-8922
www.chemtech.net

Chemtech Project Number: 01232|33

COC Number:

CLIENT INFORMATION	PROJECT INFORMATION	BILLING INFORMATION
COMPANY: Louis Berger dba WSP USA Inc.	PROJECT NAME: HWR1140A PCSMP Ph II SCI	BILL TO: Louis Berger PO# 31202661.297 Task 02
ADDRESS: 350 Mt. Kemble Ave	PROJECT #: 31202661.297 Task 02 LOCATION: Staten Island	ADDRESS: 350 Mt. Kemble Ave
CITY Morristown STATE: NJ ZIP: 07962	PROJECT MANAGER: Jon Ganz	CITY: Morristown STATE: NJ ZIP: 07962
ATTENTION: Jonathan Ganz (Jon.Ganz@wsp.com)	E-MAIL: Jon.Ganz@wsp.com	ATTENTION: Jon Ganz PHONE: 212-612-7995
PHONE: 212-612-7995 FAX:	PHONE: 212-612-7995 FAX:	

DATA TURNAROUND INFORMATION

FAX:_____ DAYS
HARD COPY:_____DAYS*
EDD See Contract Rates below DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

TCL VOC - 2 days
TCL SVOC - 5 days
PAH - 5 days
TPH GRO/DRO - 3 days
TAL Metals - 5 Days
PCBs and Pesticides - 5 Day
TCLP RCRA Metals - 5 Day
RCRA Characteristics and Paint Filter - 3 Days

DATA DELIVERABLE INFORMATION

❑ RESEULTS ONLY ❑ USEPA CLP
❑ RESULTS + QC ❑ New York State ASP "B"
❑ New Jersey REDUCED ❑ New York State ASP "A"
❑ New Jersey CLP ❑ Other_____

Level 2

❑ EDD Format_____

ANALYSIS

1	2	3	4	5	6	7	8	9
TCL VOC (8260C)	TCL SVOC (8270C/625)	TCL Pest (8081A/608)	PCB (3550B, 8082/608)	TAL Metals (7471A and 6010B)	PCBs (8082), PAHs (8270)	TCLP Metals (RCRA 8) EPA 1311/ 6010B	RCRA Char- EPA 9012B/9034, 1030/1010A, 9045C, 9095B	TPH-DRO/GRO (8015B), Paint Filter Test (EPA 9095B)

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	B-P17A	soil		X	1/18/23	0950	1	X	X	X	X	X					
2.	B-P17B	soil		X	1/18/23	1005	1	X	X	X	X	X					
3.	WC17	soil	X		1/18/23	1010	1						X	X	X	X	
4.	B-P18A			X	1/18/23	1025		X	X	X	X	X					
5.	B-P18B			X	1/18/23	1045		X	X	X	X	X					
6.	B-P19A			X	1/18/23	1125		X	X	X	X	X					
7.	B-P19B			X	1/18/23	1135		X	X	X	X	X					
8.	B-P35A			X	1/18/23	1225		X	X	X	X	X					
9.	B-P35B			X	1/18/23	1245		X	X	X	X	X					
10.	DUP01			X	—	—		X	X	X	X	X					

PRESERVATIVES: E-ICE

COMMENTS: <-- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	1/19/23	1333 1-19-23
RELINQUISHED BY 2	DATE/TIME	RECEIVED BY 2.
RELINQUISHED BY 3.	DATE/TIME 1-19-23 1806	RECEIVED FOR LAB BY 3. —

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 3.0
MeOH extraction requires an additional 4oz. Jar for percent solid ❑ Ice in Cooler?:_____
Comments:

Page 1 of 3

SHIPPED VIA: CLIENT: ❑ Hand Delivered ❑ Overnight
CHEMTECH: ❑ Picked Up ❑ Overnight

Shipment Complete ❑ YES ❑ NO

WHITE - CHEMTECH COPYFOR RETURN TO CLIENT **YELLOW** - CHEMTECH COPY **PINK** - SAMPLER COPY

CHEMTECH
CHAIN OF CUSTODY RECORD

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www.chemtech.net

Chemtech Project Number: 01232/33

COC Number:

CLIENT INFORMATION

COMPANY: Louis Berger dba WSP USA Inc.
ADDRESS: 350 Mt. Kemble Ave
CITY Morristown STATE: NJ ZIP: 07962
ATTENTION: Jonathan Ganz (Jon.Ganz@wsp.com)
PHONE: 212-612-7995 FAX:

PROJECT INFORMATION

PROJECT NAME: HWR1140A PCSMP Ph II SCI
PROJECT #: 31202661.297 Task 02 LOCATION: Staten Island
PROJECT MANAGER: Jon Ganz
E-MAIL: Jon.Ganz@wsp.com
PHONE: 212-612-7995 FAX:

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❑ New Jersey REDUCED ❑ New York State ASP "A"
❑ New Jersey CLP ❑ Other_____

Level 2

❑ EDD Format_____

ANALYSIS

1	2	3	4	5	6	7	8	9
TCL VOC (8260C)	TCL SVOC (8270C/625)	TCL Pest (8081A/608)	PCB (3550B, 8082/608)	TAL Metals (7471A and 6010B)	PCBs (8082), PAHs (8270)	TCLP Metals (RCRA 8) EPA 1311/ 6010B	RCRA Char- EPA 9012B/9034, 1030/1010A, 9045C, 9095B	TPH-DRO/GRO (8015B), Paint Filter Test (EPA 9095B)

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	FB01	Field Blank			1/18/23	1205	2	X	X	X	X	X					HCl Preservative
2.	B-P34A	soil		X	1/18/23	2115	1	X	X	X	X	X					Ice Preservative
3.	B-P34B	soil		X	1/18/23	2140	1	X	X	X	X	X					
4.	B-P36A			X		2210	1	X	X	X	X	X					
5.	B-P36B			X		2225	1	X	X	X	X	X					
6.	B-P37A			X		2300	1	X	X	X	X	X					
7.	B-P37B			X		2315	1	X	X	X	X	X					
8.	B-38A			X		2345	1	X	X	X	X	X					
9.	B-P38B			X		2355	1	X	X	X	X	X					
10.	~~WC38~~ WC38		X			2355	1						X	X	X	X	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	1/19/23	1. 1333 1.19.23
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.		2.
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY
3.	1-19-23 1855	3.

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 3.0
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Comments:

Page 2 of 3

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1.	B-P38C	SOIL		X	1/18/23	2350	1	X	X	X	X	X					
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

<-- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

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1.	1/19/23	1333 1-19-23
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.		2.
RELINQUISHED BY	DATE/TIME 1800	RECEIVED FOR LAB BY
3.	1-19-23	3.

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 3.0
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Page 3 of 3

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Shipment Complete ❑ YES ❑ NO

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Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Maine	2022022
Maryland	296
New Hampshire	255422
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-21-00137
Texas	T104704488-22-15

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1232 loui01
Client Name : Louis Berger U.S., Inc., A V
Client Contact : Jonathan Ganz
Invoice Name : Louis Berger U.S., Inc., A V
Invoice Contact : Jonathan Ganz

Order Date : 1/19/2023 1:44:00 PM
Project Name : NYCDDC Phase II SCI Artl
Receive DateTime : 1/19/2023 ~~12:00:00 AM~~ 18:05
Purchase Order :

Project Mgr :
Report Type : Level I 2
EDD Type : Excel NY
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
O1232-01	B-P-17A	Solid	01/18/2023	09:50					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-02	B-P-17B	Solid	01/18/2023	10:05					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-04	B-P-18A	Solid	01/18/2023	10:25					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-05	B-P-18B	Solid	01/18/2023	10:45					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-06	B-P-19A	Solid	01/18/2023	11:25					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-07	B-P-19B	Solid	01/18/2023	11:35					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-08	B-P-35A	Solid	01/18/2023	12:25					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-09	B-P-35B	Solid	01/18/2023	12:45					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1232-10	DUP01	Solid	01/18/2023	00:00					

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1232 loui01
Client Name : Louis Berger U.S., Inc., A V
Client Contact : Jonathan Ganz
Invoice Name : Louis Berger U.S., Inc., A V
Invoice Contact : Jonathan Ganz

Order Date : 1/19/2023 1:44:00 PM
Project Name : NYCDDC Phase II SCI Artl
Receive DateTime : 1/19/2023 ~~12:00:00~~ AM
Purchase Order : 18:05

Project Mgr :
Report Type : Level 1 2 SB 01/31/2023
EDD Type : Excel NY
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
					VOC-TCLVOA-10		8260D	2 Bus. Days	

JAN samples

storeline rob
FRZ # 02

Relinguished By : CL
Date / Time : 1/20/23 9:20

Received By : [signature]
Date / Time : 1/20/23 9:20

Storage Area : VOA Refridgerator Room