CHEMTECH

DATA PACKAGE

VOLATILE ORGANICS
GENERAL CHEMISTRY
METALS
GC SEMI-VOLATILES
SEMI-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 : O1233

ATTENTION : Jonathan Ganz

NELAP ACCREDITED TNI LABORATORY

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP

Laboratory Certification ID # 20012

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Order ID : O1233

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
O1233-02	B-P34A
O1233-03	B-P34B
O1233-04	B-P36A
O1233-05	B-P36B
O1233-06	B-P37A
O1233-07	B-P37B
O1233-08	B-P38A
O1233-09	B-P38B
O1233-10	WC-38
O1233-11	B-P38C
O1233-12	FB01

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 : _____ Date: 9/12/2023

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 # O1233
Test Name: VOC-TCLVOA-10

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 and VOC-TCLVOA-10. This data package contains results for VOC-TCLVOA-10.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_D were done using GC column RTX-VMS which is 20 meters, 0.18 mm id, 1.0 um df, Restek Cat. #49914. The Trap was supplied by SUPELCO, K (VOACARB 3000) , TEKMAR LSC-2000 Concentrator.The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.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-P36B [1,2-Dichloroethane-d4 - 185%],
B-P38A [1,2-Dichloroethane-d4 - 181%],
B-P38ARE [Dibromofluoromethane - 52%], sample was reanalyzed to confirm the failure and reported, while for
B-P37B [1,2-Dichloroethane-d4 - 166%], as corrective action sample was reanalyzed o confirm the failure but not purged therefore sample reported with failure, while for
B-P38C [4-Bromofluorobenzene - 182%] Due to high concentration of compounds, this sample required dilution. Therefore, sample was reanalyzed with dilution and reported.

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The Internal Standards Areas met the acceptable requirements except for B-P36B,B-P36BRE, B-P38A, B-P38ARE, B-P38B and B-P38BRE samples were reanalyzed to confirm the failure and reported, while for B-P37B, sample reanalyzed to confirm the failure but not purged therefore sample reported with failure.

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.

The %RSD is greater than 15% in the Initial Calibration method (82D011823S.M) for Dichlorodifluoromethane, Methylene Chloride are passing on Linear Regression.

The %RSD is greater than 15% in the Initial Calibration method (82N011623W.M) for Acetone,Methylene Chloride,1,4-Dichlorobenzene,1,2,4-Trichlorobenzene,1,2,3-Trichlorobenzene are passing on Linear Regression.

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

The Continuous Calibration File ID VD075168.D met the requirements except for Acetone is failing high but no positive hit in associate sample therefore no corrective action taken.

The Tuning criteria met requirements.

Sample B-P38C was directly analyzed in methanol as low level soil vial not purged.

Sample B-P38C was diluted due to high concentration.

E. Additional Comments:
This data Package has been revised to correct the Client ID of sample # 08 as per client request.
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.

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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 # O1233
Test Name: Gasoline Range Organics

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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 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.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

For Sample # WC-38 , both soil vial did not purge therefore analyzed directly in methanol.

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

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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 # O1233
Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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 df The samples were analyzed on instrument BNA_G using GC Column ZB-Semi Volatiles 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-Semi Volatiles 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,

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Benzo(g,h,i)perylene, these compounds are passing on Linear Regression and Di-n-octyl phthalate is passing on Quadratic regression.

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 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.

Sample B-P38C was diluted due to high concentration.

E. Additional Comments:
This data Package has been revised to correct the Client ID of sample # 08 as per client request.

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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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 # O1233
Test Name: SVOC-PAH

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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_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-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 % RSD is greater than 15% in the Initial Calibration (8270-BP012322.M) for Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene, these compounds are passing on Linear Regression.

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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 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 # O1233
Test Name: Pesticide-TCL

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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:
This data Package has been revised to correct the Client ID of sample # 08 as per client request.
The soil samples results are based on a dry weight basis.

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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 # O1233
Test Name: PCB

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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:
This data Package has been revised to correct the Client ID of sample # 08 as per client request.
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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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 # O1233
Test Name: Diesel Range Organics

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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 .

Samples WC-38 was diluted due to bad matrix The above sample original run is reported as screening data in miscellaneous data.

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

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 # O1233
Test Name: Mercury,Metals ICP-TAL

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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-P17AMS) 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:
This data Package has been revised to correct the Client ID of sample O1233-08 as per client request.

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.

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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 # O1233
Test Name: TCLP ICP Metals,TCLP Mercury

A. Number of Samples and Date of Receipt:
10 Solid samples were received on 01/19/2023.
1 Water sample was 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, VOC-TCLVOA-10 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:

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_____

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

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 # O1233
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.
1 Water sample was 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, VOC-TCLVOA-10 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-38 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_____

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 #: **O1233**

	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:** **09/12/2023**

2nd Level QA Review Signature: _____ **Date:** _____

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

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1233-05RE	**B-P36BRE**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-08	**B-P38A**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1233-08RE	**B-P38ARE**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/20/23	
O1233-09RE	**B-P38BRE**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**			**01/19/23**
			VOC-TCLVOA-10	8260D			01/23/23	

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LAB CHRONICLE

O1233-11DL	**B-P38CDL**	**SOIL**			**01/18/23**	**01/19/23**
			VOC-TCLVOA-10	8260D		01/23/23
O1233-12	**FB01**	**Water**			**01/18/23**	**01/19/23**
			VOC-TCLVOA-10	8260-Low		01/20/23

Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
Client ID:	**B-P34A**								
O1233-02	B-P34A	SOIL	Acetone		22.2	J	14.1	28.9	ug/Kg
			Total Voc :		22.2				
O1233-02	B-P34A	SOIL	unknown11.034	*	6.40	J	0	0	ug/Kg
O1233-02	B-P34A	SOIL	Ethanol, 2-(trimethylsilyl)-	*	27.6	J	0	0	ug/Kg
			Total Tics :		34.0				
			Total Concentration:		56.2				
Client ID:	**B-P34B**								
O1233-03	B-P34B	SOIL	Silanol, trimethyl-	*	24.0	J	0	0	ug/Kg
			Total Tics :		24.0				
			Total Concentration:		24.0				
Client ID:	**B-P36A**								
O1233-04	B-P36A	SOIL	Acetone		17.6	J	13.5	27.7	ug/Kg
			Total Voc :		17.6				
O1233-04	B-P36A	SOIL	Silanol, trimethyl-	*	9.90	J	0	0	ug/Kg
			Total Tics :		9.90				
			Total Concentration:		27.5				
Client ID:	**B-P37A**								
O1233-06	B-P37A	SOIL	Ethanol, 2-(trimethylsilyl)-	*	11.8	J	0	0	ug/Kg
			Total Tics :		11.8				
			Total Concentration:		11.8				
Client ID:	**B-P37B**								
O1233-07	B-P37B	SOIL	Acetone		20.6	J	14.6	29.8	ug/Kg
			Total Voc :		20.6				
O1233-07	B-P37B	SOIL	unknown10.947	*	8.50	J	0	0	ug/Kg
O1233-07	B-P37B	SOIL	Ethylene glycol, TMS derivativ	*	40.0	J	0	0	ug/Kg
			Total Tics :		48.5				
			Total Concentration:		69.1				
Client ID:	**B-P38B**								
O1233-09	B-P38B	SOIL	Octane	*	6.70	J	0	0	ug/Kg
			Total Tics :		6.70				
			Total Concentration:		6.70				
Client ID:	**B-P38C**								
O1233-11	B-P38C	SOIL	Cyclohexane		4600		97.2	580	ug/Kg
O1233-11	B-P38C	SOIL	Methylcyclohexane		31500	E	92.6	580	ug/Kg
O1233-11	B-P38C	SOIL	Ethyl Benzene		860		81.0	580	ug/Kg
O1233-11	B-P38C	SOIL	m/p-Xylenes		2400		170	1200	ug/Kg
O1233-11	B-P38C	SOIL	o-Xylene		320	J	91.4	580	ug/Kg
O1233-11	B-P38C	SOIL	Isopropylbenzene		1500		83.3	580	ug/Kg
			Total Voc :		41200				
O1233-11	B-P38C	SOIL	unknown12.600	*	47300	J	0	0	ug/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
O1233-11	B-P38C	SOIL	Octane	*	54700	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Heptane	*	22000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Heptane, 3-methyl-	*	22900	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Heptane, 2-methyl-	*	38200	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	1-Phenyl-1-butene	*	31200	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Octane, 3-methyl-	*	30700	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Octane, 2-methyl-	*	49000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Nonane, 3-methyl-	*	28400	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Nonane, 4-methyl-	*	27300	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	n-propylbenzene	*	3300	J	82.2	580	ug/Kg
O1233-11	B-P38C	SOIL	1,3,5-Trimethylbenzene	*	4000	J	74.1	580	ug/Kg
O1233-11	B-P38C	SOIL	1,2,4-Trimethylbenzene	*	7700	J	82.2	580	ug/Kg
O1233-11	B-P38C	SOIL	sec-Butylbenzene	*	1300	J	87.9	580	ug/Kg
O1233-11	B-P38C	SOIL	p-Isopropyltoluene	*	2600	J	96.0	580	ug/Kg
O1233-11	B-P38C	SOIL	n-Butylbenzene	*	3700	J	82.2	580	ug/Kg
			Total Tics :		374000				
			Total Concentration:		415000				
Client ID:	**B-P38CDL**								
O1233-11DL	B-P38CDL	SOIL	Cyclohexane		6300	D	970	5800	ug/Kg
O1233-11DL	B-P38CDL	SOIL	Methylcyclohexane		33800	D	930	5800	ug/Kg
O1233-11DL	B-P38CDL	SOIL	Ethyl Benzene		1000	JD	810	5800	ug/Kg
O1233-11DL	B-P38CDL	SOIL	m/p-Xylenes		2800	JD	1700	11600	ug/Kg
O1233-11DL	B-P38CDL	SOIL	Isopropylbenzene		2100	JD	830	5800	ug/Kg
			Total Voc :		46000				
			Total Concentration:		46000				
Client ID:	**FB01**								
O1233-12	FB01	Water	Methylene Chloride		2.80		0.18	1.00	ug/L
			Total Voc :		2.80				
			Total Concentration:		2.80				

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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075172.D	1		01/23/23 13:36	VD012323

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	1.10	U	1.10	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	22.2	J	14.1	28.9	ug/Kg
75-15-0	Carbon Disulfide	0.87	U	0.87	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	1.50	U	1.50	5.80	ug/Kg
75-09-2	Methylene Chloride	6.90	U	6.90	11.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.79	U	0.79	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	28.9	ug/Kg
56-23-5	Carbon Tetrachloride	0.91	U	0.91	5.80	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.79	U	0.79	5.80	ug/Kg
74-97-5	Bromochloromethane	0.94	U	0.94	5.80	ug/Kg
67-66-3	Chloroform	0.77	U	0.77	5.80	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.87	U	0.87	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	28.9	ug/Kg
108-88-3	Toluene	0.73	U	0.73	5.80	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.86	U	0.86	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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075172.D	1		01/23/23 13:36	VD012323

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	28.9	ug/Kg
124-48-1	Dibromochloromethane	0.87	U	0.87	5.80	ug/Kg
106-93-4	1,2-Dibromoethane	0.87	U	0.87	5.80	ug/Kg
127-18-4	Tetrachloroethene	0.88	U	0.88	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	11.6	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	0.94	U	0.94	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	0.73	U	0.73	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	58.5		50 - 163	117%	SPK: 50
1868-53-7	Dibromofluoromethane	51.4		54 - 147	103%	SPK: 50
2037-26-5	Toluene-d8	52.1		58 - 134	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.8		30 - 143	108%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	67900	7.881			
540-36-3	1,4-Difluorobenzene	130000	8.781			
3114-55-4	Chlorobenzene-d5	125000	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	54900	13.522			
TENTATIVE IDENTIFIED COMPOUNDS						
002916-68-9	Ethanol, 2-(trimethylsilyl)-	27.6	J		7.07	ug/Kg
	unknown11.034	6.40	J		11.0	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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.3
Sample Wt/Vol:	5.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075172.D	1		01/23/23 13:36	VD012323

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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.7
Sample Wt/Vol:	5.06 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075173.D	1		01/23/23 14:04	VD012323

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	0.92	U	0.92	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	0.72	U	0.72	5.40	ug/Kg
107-06-2	1,2-Dichloroethane	0.92	U	0.92	5.40	ug/Kg
79-01-6	Trichloroethene	0.80	U	0.80	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	0.69	U	0.69	5.40	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.81	U	0.81	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.7
Sample Wt/Vol:	5.06 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075173.D	1		01/23/23 14:04	VD012323

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	1.40	U	1.40	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	66.4		50 - 163	133%	SPK: 50
1868-53-7	Dibromofluoromethane	53.5		54 - 147	107%	SPK: 50
2037-26-5	Toluene-d8	52.7		58 - 134	105%	SPK: 50
460-00-4	4-Bromofluorobenzene	56.2		30 - 143	112%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	49100	7.881			
540-36-3	1,4-Difluorobenzene	95000	8.781			
3114-55-4	Chlorobenzene-d5	93600	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	41800	13.522			
TENTATIVE IDENTIFIED COMPOUNDS						
001066-40-6	Silanol, trimethyl-	24.0	J		7.07	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.7
Sample Wt/Vol:	5.06 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075173.D	1		01/23/23 14:04	VD012323

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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.6
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075174.D	1		01/23/23 14:32	VD012323

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	17.6	J	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	0.73	U	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	0.70	U	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:	B-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.6
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075174.D	1		01/23/23 14:32	VD012323

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	49.8		50 - 163	100%	SPK: 50
1868-53-7	Dibromofluoromethane	47.1		54 - 147	94%	SPK: 50
2037-26-5	Toluene-d8	51.5		58 - 134	103%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.5		30 - 143	101%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	88000	7.875			
540-36-3	1,4-Difluorobenzene	171000	8.781			
3114-55-4	Chlorobenzene-d5	158000	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	64200	13.522			
TENTATIVE IDENTIFIED COMPOUNDS						
001066-40-6	Silanol, trimethyl-	9.90	J		7.07	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.6
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075174.D	1		01/23/23 14:32	VD012323

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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.08 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075158.D	1		01/20/23 17:26	VD012023

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	0.72	U	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	0.69	U	0.69	5.40	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.81	U	0.81	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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.08 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075158.D	1		01/20/23 17:26	VD012023

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	1.40	U	1.40	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	92.5	*	50 - 163	185%	SPK: 50
1868-53-7	Dibromofluoromethane	56.1		54 - 147	112%	SPK: 50
2037-26-5	Toluene-d8	51.5		58 - 134	103%	SPK: 50
460-00-4	4-Bromofluorobenzene	60.1		30 - 143	120%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	4930	7.875			
540-36-3	1,4-Difluorobenzene	11100	8.781			
3114-55-4	Chlorobenzene-d5	10700	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	5310	13.522			

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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.08 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075158.D	1		01/20/23 17:26	VD012023

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-P36BRE	SDG No.:	O1233
Lab Sample ID:	O1233-05RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075175.D	1		01/23/23 15:00	VD012323

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	0.98	U	0.98	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	0.95	U	0.95	5.50	ug/Kg
67-64-1	Acetone	13.4	U	13.4	27.5	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	11.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.75	U	0.75	5.50	ug/Kg
75-34-3	1,1-Dichloroethane	0.77	U	0.77	5.50	ug/Kg
110-82-7	Cyclohexane	0.93	U	0.93	5.50	ug/Kg
78-93-3	2-Butanone	8.00	U	8.00	27.5	ug/Kg
56-23-5	Carbon Tetrachloride	0.87	U	0.87	5.50	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.75	5.50	ug/Kg
74-97-5	Bromochloromethane	0.89	U	0.89	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	0.88	U	0.88	5.50	ug/Kg
71-43-2	Benzene	0.73	U	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	0.80	U	0.80	5.50	ug/Kg
78-87-5	1,2-Dichloropropane	0.72	U	0.72	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	27.5	ug/Kg
108-88-3	Toluene	0.69	U	0.69	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	0.78	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-P36BRE	SDG No.:	O1233
Lab Sample ID:	O1233-05RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075175.D	1		01/23/23 15:00	VD012323

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	27.5	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	0.77	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	0.74	U	0.74	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	0.71	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	68.1		50 - 163	136%	SPK: 50
1868-53-7	Dibromofluoromethane	52.3		54 - 147	105%	SPK: 50
2037-26-5	Toluene-d8	48.9		58 - 134	98%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.8		30 - 143	92%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	2290	7.881			
540-36-3	1,4-Difluorobenzene	4730	8.775			
3114-55-4	Chlorobenzene-d5	4220	11.581			
3855-82-1	1,4-Dichlorobenzene-d4	1550	13.522			

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-P36BRE	SDG No.:	O1233
Lab Sample ID:	O1233-05RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	90.4
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075175.D	1		01/23/23 15:00	VD012323

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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075176.D	1		01/23/23 15:27	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	0.98	U	0.98	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	0.82	U	0.82	5.70	ug/Kg
75-35-4	1,1-Dichloroethene	0.98	U	0.98	5.70	ug/Kg
67-64-1	Acetone	13.9	U	13.9	28.4	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	6.80	U	6.80	11.4	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.77	U	0.77	5.70	ug/Kg
75-34-3	1,1-Dichloroethane	0.80	U	0.80	5.70	ug/Kg
110-82-7	Cyclohexane	0.96	U	0.96	5.70	ug/Kg
78-93-3	2-Butanone	8.30	U	8.30	28.4	ug/Kg
56-23-5	Carbon Tetrachloride	0.90	U	0.90	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	0.96	U	0.96	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	0.80	U	0.80	5.70	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.20	U	5.20	28.4	ug/Kg
108-88-3	Toluene	0.72	U	0.72	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	0.81	U	0.81	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075176.D	1		01/23/23 15:27	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	0.98	U	0.98	5.70	ug/Kg
591-78-6	2-Hexanone	5.30	U	5.30	28.4	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	0.80	U	0.80	5.70	ug/Kg
179601-23-1	m/p-Xylenes	1.70	U	1.70	11.4	ug/Kg
95-47-6	o-Xylene	0.90	U	0.90	5.70	ug/Kg
100-42-5	Styrene	0.90	U	0.90	5.70	ug/Kg
75-25-2	Bromoform	0.92	U	0.92	5.70	ug/Kg
98-82-8	Isopropylbenzene	0.82	U	0.82	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	0.72	U	0.72	5.70	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.73	U	0.73	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	50.8		50 - 163	102%	SPK: 50
1868-53-7	Dibromofluoromethane	48.2		54 - 147	96%	SPK: 50
2037-26-5	Toluene-d8	51.4		58 - 134	103%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.0		30 - 143	100%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	85100	7.881			
540-36-3	1,4-Difluorobenzene	168000	8.781			
3114-55-4	Chlorobenzene-d5	154000	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	63400	13.522			
TENTATIVE IDENTIFIED COMPOUNDS						
002916-68-9	Ethanol, 2-(trimethylsilyl)-	11.8	J		7.08	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	87.9
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075176.D	1		01/23/23 15:27	VD012323

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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	83.5
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
VY012315.D	1		01/23/23 15:48	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	1.00	U	1.00	6.00	ug/Kg
74-87-3	Chloromethane	1.30	U	1.30	6.00	ug/Kg
75-01-4	Vinyl Chloride	1.10	U	1.10	6.00	ug/Kg
74-83-9	Bromomethane	1.40	U	1.40	6.00	ug/Kg
75-00-3	Chloroethane	1.10	U	1.10	6.00	ug/Kg
75-69-4	Trichlorofluoromethane	1.20	U	1.20	6.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.86	U	0.86	6.00	ug/Kg
75-35-4	1,1-Dichloroethene	1.00	U	1.00	6.00	ug/Kg
67-64-1	Acetone	20.6	J	14.6	29.8	ug/Kg
75-15-0	Carbon Disulfide	0.89	U	0.89	6.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.10	U	1.10	6.00	ug/Kg
79-20-9	Methyl Acetate	1.50	U	1.50	6.00	ug/Kg
75-09-2	Methylene Chloride	7.10	U	7.10	11.9	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.81	U	0.81	6.00	ug/Kg
75-34-3	1,1-Dichloroethane	0.83	U	0.83	6.00	ug/Kg
110-82-7	Cyclohexane	1.00	U	1.00	6.00	ug/Kg
78-93-3	2-Butanone	8.70	U	8.70	29.8	ug/Kg
56-23-5	Carbon Tetrachloride	0.94	U	0.94	6.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.81	U	0.81	6.00	ug/Kg
74-97-5	Bromochloromethane	0.97	U	0.97	6.00	ug/Kg
67-66-3	Chloroform	0.80	U	0.80	6.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.89	U	0.89	6.00	ug/Kg
108-87-2	Methylcyclohexane	0.95	U	0.95	6.00	ug/Kg
71-43-2	Benzene	0.79	U	0.79	6.00	ug/Kg
107-06-2	1,2-Dichloroethane	1.00	U	1.00	6.00	ug/Kg
79-01-6	Trichloroethene	0.87	U	0.87	6.00	ug/Kg
78-87-5	1,2-Dichloropropane	0.78	U	0.78	6.00	ug/Kg
75-27-4	Bromodichloromethane	0.83	U	0.83	6.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.50	U	5.50	29.8	ug/Kg
108-88-3	Toluene	0.75	U	0.75	6.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.88	U	0.88	6.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.85	U	0.85	6.00	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	83.5
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
VY012315.D	1		01/23/23 15:48	VY012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1.00	U	1.00	6.00	ug/Kg
591-78-6	2-Hexanone	5.60	U	5.60	29.8	ug/Kg
124-48-1	Dibromochloromethane	0.89	U	0.89	6.00	ug/Kg
106-93-4	1,2-Dibromoethane	0.89	U	0.89	6.00	ug/Kg
127-18-4	Tetrachloroethene	0.91	U	0.91	6.00	ug/Kg
108-90-7	Chlorobenzene	0.78	U	0.78	6.00	ug/Kg
100-41-4	Ethyl Benzene	0.83	U	0.83	6.00	ug/Kg
179601-23-1	m/p-Xylenes	1.80	U	1.80	11.9	ug/Kg
95-47-6	o-Xylene	0.94	U	0.94	6.00	ug/Kg
100-42-5	Styrene	0.94	U	0.94	6.00	ug/Kg
75-25-2	Bromoform	0.97	U	0.97	6.00	ug/Kg
98-82-8	Isopropylbenzene	0.86	U	0.86	6.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.30	U	1.30	6.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.80	U	0.80	6.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.75	U	0.75	6.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.76	U	0.76	6.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.50	U	1.50	6.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.10	U	1.10	6.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.20	U	1.20	6.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	83.0	*	50 - 163	166%	SPK: 50
1868-53-7	Dibromofluoromethane	60.1		54 - 147	120%	SPK: 50
2037-26-5	Toluene-d8	66.9		58 - 134	134%	SPK: 50
460-00-4	4-Bromofluorobenzene	48.8		30 - 143	98%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	35900	7.789			
540-36-3	1,4-Difluorobenzene	57300	8.691			
3114-55-4	Chlorobenzene-d5	56000	11.489			
3855-82-1	1,4-Dichlorobenzene-d4	24400	13.428			
TENTATIVE IDENTIFIED COMPOUNDS						
004403-13-8	Ethylene glycol, TMS derivative	40.0	J		6.97	ug/Kg
	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	83.5
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
VY012315.D	1		01/23/23 15:48	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075161.D	1		01/20/23 18:49	VD012023

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	0.99	U	0.99	5.60	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.60	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.80	U	0.80	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	27.8	ug/Kg
75-15-0	Carbon Disulfide	0.83	U	0.83	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	6.60	U	6.60	11.1	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	27.8	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	0.90	U	0.90	5.60	ug/Kg
67-66-3	Chloroform	0.75	U	0.75	5.60	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.83	U	0.83	5.60	ug/Kg
108-87-2	Methylcyclohexane	0.89	U	0.89	5.60	ug/Kg
71-43-2	Benzene	0.73	U	0.73	5.60	ug/Kg
107-06-2	1,2-Dichloroethane	0.94	U	0.94	5.60	ug/Kg
79-01-6	Trichloroethene	0.81	U	0.81	5.60	ug/Kg
78-87-5	1,2-Dichloropropane	0.72	U	0.72	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	27.8	ug/Kg
108-88-3	Toluene	0.70	U	0.70	5.60	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.82	U	0.82	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075161.D	1		01/20/23 18:49	VD012023

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	27.8	ug/Kg
124-48-1	Dibromochloromethane	0.83	U	0.83	5.60	ug/Kg
106-93-4	1,2-Dibromoethane	0.83	U	0.83	5.60	ug/Kg
127-18-4	Tetrachloroethene	0.85	U	0.85	5.60	ug/Kg
108-90-7	Chlorobenzene	0.72	U	0.72	5.60	ug/Kg
100-41-4	Ethyl Benzene	0.78	U	0.78	5.60	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	11.1	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	0.90	U	0.90	5.60	ug/Kg
98-82-8	Isopropylbenzene	0.80	U	0.80	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	0.71	U	0.71	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	1.00	U	1.00	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	90.7	*	50 - 163	181%	SPK: 50
1868-53-7	Dibromofluoromethane	55.9		54 - 147	112%	SPK: 50
2037-26-5	Toluene-d8	55.2		58 - 134	110%	SPK: 50
460-00-4	4-Bromofluorobenzene	56.9		30 - 143	114%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	3460	7.875			
540-36-3	1,4-Difluorobenzene	6980	8.775			
3114-55-4	Chlorobenzene-d5	6960	11.581			
3855-82-1	1,4-Dichlorobenzene-d4	2980	13.516			

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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075161.D	1		01/20/23 18:49	VD012023

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-P38ARE	SDG No.:	O1233
Lab Sample ID:	O1233-08RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.04 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
VY012316.D	1		01/23/23 16:11	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	0.99	U	0.99	5.60	ug/Kg
75-69-4	Trichlorofluoromethane	1.10	U	1.10	5.60	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.80	U	0.80	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	27.8	ug/Kg
75-15-0	Carbon Disulfide	0.83	U	0.83	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	6.60	U	6.60	11.1	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	0.93	U	0.93	5.60	ug/Kg
78-93-3	2-Butanone	8.10	U	8.10	27.8	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	0.90	U	0.90	5.60	ug/Kg
67-66-3	Chloroform	0.74	U	0.74	5.60	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.83	U	0.83	5.60	ug/Kg
108-87-2	Methylcyclohexane	0.89	U	0.89	5.60	ug/Kg
71-43-2	Benzene	0.73	U	0.73	5.60	ug/Kg
107-06-2	1,2-Dichloroethane	0.93	U	0.93	5.60	ug/Kg
79-01-6	Trichloroethene	0.81	U	0.81	5.60	ug/Kg
78-87-5	1,2-Dichloropropane	0.72	U	0.72	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	27.8	ug/Kg
108-88-3	Toluene	0.70	U	0.70	5.60	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.82	U	0.82	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-P38ARE	SDG No.:	O1233
Lab Sample ID:	O1233-08RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.04 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
VY012316.D	1		01/23/23 16:11	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	27.8	ug/Kg
124-48-1	Dibromochloromethane	0.83	U	0.83	5.60	ug/Kg
106-93-4	1,2-Dibromoethane	0.83	U	0.83	5.60	ug/Kg
127-18-4	Tetrachloroethene	0.84	U	0.84	5.60	ug/Kg
108-90-7	Chlorobenzene	0.72	U	0.72	5.60	ug/Kg
100-41-4	Ethyl Benzene	0.78	U	0.78	5.60	ug/Kg
179601-23-1	m/p-Xylenes	1.60	U	1.60	11.1	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	0.90	U	0.90	5.60	ug/Kg
98-82-8	Isopropylbenzene	0.80	U	0.80	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	0.74	U	0.74	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	0.71	U	0.71	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	1.00	U	1.00	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	81.0		50 - 163	162%	SPK: 50
1868-53-7	Dibromofluoromethane	26.2	*	54 - 147	52%	SPK: 50
2037-26-5	Toluene-d8	66.0		58 - 134	132%	SPK: 50
460-00-4	4-Bromofluorobenzene	43.1		30 - 143	86%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	4900	7.795			
540-36-3	1,4-Difluorobenzene	8010	8.691			
3114-55-4	Chlorobenzene-d5	7430	11.496			
3855-82-1	1,4-Dichlorobenzene-d4	2570	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-P38ARE	SDG No.:	O1233
Lab Sample ID:	O1233-08RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	89.3
Sample Wt/Vol:	5.04 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
VY012316.D	1		01/23/23 16:11	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:	B-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075162.D	1		01/20/23 19:17	VD012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	1.10	U	1.10	6.20	ug/Kg
74-87-3	Chloromethane	1.30	U	1.30	6.20	ug/Kg
75-01-4	Vinyl Chloride	1.10	U	1.10	6.20	ug/Kg
74-83-9	Bromomethane	1.40	U	1.40	6.20	ug/Kg
75-00-3	Chloroethane	1.10	U	1.10	6.20	ug/Kg
75-69-4	Trichlorofluoromethane	1.20	U	1.20	6.20	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.89	U	0.89	6.20	ug/Kg
75-35-4	1,1-Dichloroethene	1.10	U	1.10	6.20	ug/Kg
67-64-1	Acetone	15.1	U	15.1	30.9	ug/Kg
75-15-0	Carbon Disulfide	0.93	U	0.93	6.20	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.20	U	1.20	6.20	ug/Kg
79-20-9	Methyl Acetate	1.60	U	1.60	6.20	ug/Kg
75-09-2	Methylene Chloride	7.40	U	7.40	12.4	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.84	U	0.84	6.20	ug/Kg
75-34-3	1,1-Dichloroethane	0.87	U	0.87	6.20	ug/Kg
110-82-7	Cyclohexane	1.00	U	1.00	6.20	ug/Kg
78-93-3	2-Butanone	9.00	U	9.00	30.9	ug/Kg
56-23-5	Carbon Tetrachloride	0.98	U	0.98	6.20	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.84	U	0.84	6.20	ug/Kg
74-97-5	Bromochloromethane	1.00	U	1.00	6.20	ug/Kg
67-66-3	Chloroform	0.83	U	0.83	6.20	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.93	U	0.93	6.20	ug/Kg
108-87-2	Methylcyclohexane	0.99	U	0.99	6.20	ug/Kg
71-43-2	Benzene	0.82	U	0.82	6.20	ug/Kg
107-06-2	1,2-Dichloroethane	1.00	U	1.00	6.20	ug/Kg
79-01-6	Trichloroethene	0.90	U	0.90	6.20	ug/Kg
78-87-5	1,2-Dichloropropane	0.80	U	0.80	6.20	ug/Kg
75-27-4	Bromodichloromethane	0.87	U	0.87	6.20	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.70	U	5.70	30.9	ug/Kg
108-88-3	Toluene	0.78	U	0.78	6.20	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.92	U	0.92	6.20	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.88	U	0.88	6.20	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075162.D	1		01/20/23 19:17	VD012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1.10	U	1.10	6.20	ug/Kg
591-78-6	2-Hexanone	5.80	U	5.80	30.9	ug/Kg
124-48-1	Dibromochloromethane	0.93	U	0.93	6.20	ug/Kg
106-93-4	1,2-Dibromoethane	0.93	U	0.93	6.20	ug/Kg
127-18-4	Tetrachloroethene	0.94	U	0.94	6.20	ug/Kg
108-90-7	Chlorobenzene	0.80	U	0.80	6.20	ug/Kg
100-41-4	Ethyl Benzene	0.87	U	0.87	6.20	ug/Kg
179601-23-1	m/p-Xylenes	1.80	U	1.80	12.4	ug/Kg
95-47-6	o-Xylene	0.98	U	0.98	6.20	ug/Kg
100-42-5	Styrene	0.98	U	0.98	6.20	ug/Kg
75-25-2	Bromoform	1.00	U	1.00	6.20	ug/Kg
98-82-8	Isopropylbenzene	0.89	U	0.89	6.20	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.40	U	1.40	6.20	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.83	U	0.83	6.20	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.78	U	0.78	6.20	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.79	U	0.79	6.20	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.50	U	1.50	6.20	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.20	U	1.20	6.20	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.20	U	1.20	6.20	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	74.0		50 - 163	148%	SPK: 50
1868-53-7	Dibromofluoromethane	54.8		54 - 147	110%	SPK: 50
2037-26-5	Toluene-d8	54.3		58 - 134	109%	SPK: 50
460-00-4	4-Bromofluorobenzene	60.4		30 - 143	121%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	41900	7.881			
540-36-3	1,4-Difluorobenzene	88400	8.781			
3114-55-4	Chlorobenzene-d5	88300	11.586			
3855-82-1	1,4-Dichlorobenzene-d4	40700	13.522			
TENTATIVE IDENTIFIED COMPOUNDS						
000111-65-9	Octane	6.70	J		10.5	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075162.D	1		01/20/23 19:17	VD012023

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-P38BRE	SDG No.:	O1233
Lab Sample ID:	O1233-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075178.D	1		01/23/23 16:23	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	1.10	U	1.10	6.10	ug/Kg
74-87-3	Chloromethane	1.30	U	1.30	6.10	ug/Kg
75-01-4	Vinyl Chloride	1.10	U	1.10	6.10	ug/Kg
74-83-9	Bromomethane	1.40	U	1.40	6.10	ug/Kg
75-00-3	Chloroethane	1.10	U	1.10	6.10	ug/Kg
75-69-4	Trichlorofluoromethane	1.20	U	1.20	6.10	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.88	U	0.88	6.10	ug/Kg
75-35-4	1,1-Dichloroethene	1.10	U	1.10	6.10	ug/Kg
67-64-1	Acetone	15.0	U	15.0	30.7	ug/Kg
75-15-0	Carbon Disulfide	0.92	U	0.92	6.10	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.10	U	1.10	6.10	ug/Kg
79-20-9	Methyl Acetate	1.50	U	1.50	6.10	ug/Kg
75-09-2	Methylene Chloride	7.30	U	7.30	12.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.83	U	0.83	6.10	ug/Kg
75-34-3	1,1-Dichloroethane	0.86	U	0.86	6.10	ug/Kg
110-82-7	Cyclohexane	1.00	U	1.00	6.10	ug/Kg
78-93-3	2-Butanone	8.90	U	8.90	30.7	ug/Kg
56-23-5	Carbon Tetrachloride	0.97	U	0.97	6.10	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.83	U	0.83	6.10	ug/Kg
74-97-5	Bromochloromethane	0.99	U	0.99	6.10	ug/Kg
67-66-3	Chloroform	0.82	U	0.82	6.10	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.92	U	0.92	6.10	ug/Kg
108-87-2	Methylcyclohexane	0.98	U	0.98	6.10	ug/Kg
71-43-2	Benzene	0.81	U	0.81	6.10	ug/Kg
107-06-2	1,2-Dichloroethane	1.00	U	1.00	6.10	ug/Kg
79-01-6	Trichloroethene	0.90	U	0.90	6.10	ug/Kg
78-87-5	1,2-Dichloropropane	0.80	U	0.80	6.10	ug/Kg
75-27-4	Bromodichloromethane	0.86	U	0.86	6.10	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5.60	U	5.60	30.7	ug/Kg
108-88-3	Toluene	0.77	U	0.77	6.10	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.91	U	0.91	6.10	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.87	U	0.87	6.10	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-P38BRE	SDG No.:	O1233
Lab Sample ID:	O1233-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075178.D	1		01/23/23 16:23	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1.10	U	1.10	6.10	ug/Kg
591-78-6	2-Hexanone	5.70	U	5.70	30.7	ug/Kg
124-48-1	Dibromochloromethane	0.92	U	0.92	6.10	ug/Kg
106-93-4	1,2-Dibromoethane	0.92	U	0.92	6.10	ug/Kg
127-18-4	Tetrachloroethene	0.93	U	0.93	6.10	ug/Kg
108-90-7	Chlorobenzene	0.80	U	0.80	6.10	ug/Kg
100-41-4	Ethyl Benzene	0.86	U	0.86	6.10	ug/Kg
179601-23-1	m/p-Xylenes	1.80	U	1.80	12.3	ug/Kg
95-47-6	o-Xylene	0.97	U	0.97	6.10	ug/Kg
100-42-5	Styrene	0.97	U	0.97	6.10	ug/Kg
75-25-2	Bromoform	0.99	U	0.99	6.10	ug/Kg
98-82-8	Isopropylbenzene	0.88	U	0.88	6.10	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.40	U	1.40	6.10	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.82	U	0.82	6.10	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.77	U	0.77	6.10	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.79	U	0.79	6.10	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1.50	U	1.50	6.10	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1.20	U	1.20	6.10	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.20	U	1.20	6.10	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	59.5		50 - 163	119%	SPK: 50
1868-53-7	Dibromofluoromethane	48.3		54 - 147	97%	SPK: 50
2037-26-5	Toluene-d8	56.8		58 - 134	114%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.4		30 - 143	101%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	1300	7.875			
540-36-3	1,4-Difluorobenzene	2140	8.775			
3114-55-4	Chlorobenzene-d5	1970	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	699	13.528			

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-P38BRE	SDG No.:	O1233
Lab Sample ID:	O1233-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	80.7
Sample Wt/Vol:	5.05 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-TCLVOA-10
GC Column:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075178.D	1		01/23/23 16:23	VD012323

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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076364.D	1		01/23/23 14:12	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	99.5	U	99.5	580	ug/Kg
74-87-3	Chloromethane	120	U	120	580	ug/Kg
75-01-4	Vinyl Chloride	110	U	110	580	ug/Kg
74-83-9	Bromomethane	130	U	130	580	ug/Kg
75-00-3	Chloroethane	100	U	100	580	ug/Kg
75-69-4	Trichlorofluoromethane	110	U	110	580	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	83.3	U	83.3	580	ug/Kg
75-35-4	1,1-Dichloroethene	99.5	U	99.5	580	ug/Kg
67-64-1	Acetone	1400	U	1400	2900	ug/Kg
75-15-0	Carbon Disulfide	86.8	U	86.8	580	ug/Kg
1634-04-4	Methyl tert-butyl Ether	110	U	110	580	ug/Kg
79-20-9	Methyl Acetate	150	U	150	580	ug/Kg
75-09-2	Methylene Chloride	690	U	690	1200	ug/Kg
156-60-5	trans-1,2-Dichloroethene	78.7	U	78.7	580	ug/Kg
75-34-3	1,1-Dichloroethane	81.0	U	81.0	580	ug/Kg
110-82-7	Cyclohexane	4600		97.2	580	ug/Kg
78-93-3	2-Butanone	840	U	840	2900	ug/Kg
56-23-5	Carbon Tetrachloride	91.4	U	91.4	580	ug/Kg
156-59-2	cis-1,2-Dichloroethene	78.7	U	78.7	580	ug/Kg
74-97-5	Bromochloromethane	93.7	U	93.7	580	ug/Kg
67-66-3	Chloroform	77.5	U	77.5	580	ug/Kg
71-55-6	1,1,1-Trichloroethane	86.8	U	86.8	580	ug/Kg
108-87-2	Methylcyclohexane	31500	E	92.6	580	ug/Kg
71-43-2	Benzene	76.4	U	76.4	580	ug/Kg
107-06-2	1,2-Dichloroethane	97.2	U	97.2	580	ug/Kg
79-01-6	Trichloroethene	84.5	U	84.5	580	ug/Kg
78-87-5	1,2-Dichloropropane	75.2	U	75.2	580	ug/Kg
75-27-4	Bromodichloromethane	81.0	U	81.0	580	ug/Kg
108-10-1	4-Methyl-2-Pentanone	530	U	530	2900	ug/Kg
108-88-3	Toluene	72.9	U	72.9	580	ug/Kg
10061-02-6	t-1,3-Dichloropropene	85.6	U	85.6	580	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	82.2	U	82.2	580	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076364.D	1		01/23/23 14:12	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	99.5	U	99.5	580	ug/Kg
591-78-6	2-Hexanone	540	U	540	2900	ug/Kg
124-48-1	Dibromochloromethane	86.8	U	86.8	580	ug/Kg
106-93-4	1,2-Dibromoethane	86.8	U	86.8	580	ug/Kg
127-18-4	Tetrachloroethene	87.9	U	87.9	580	ug/Kg
108-90-7	Chlorobenzene	75.2	U	75.2	580	ug/Kg
100-41-4	Ethyl Benzene	860		81.0	580	ug/Kg
179601-23-1	m/p-Xylenes	2400		170	1200	ug/Kg
95-47-6	o-Xylene	320	J	91.4	580	ug/Kg
100-42-5	Styrene	91.4	U	91.4	580	ug/Kg
75-25-2	Bromoform	93.7	U	93.7	580	ug/Kg
98-82-8	Isopropylbenzene	1500		83.3	580	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	130	U	130	580	ug/Kg
541-73-1	1,3-Dichlorobenzene	77.5	U	77.5	580	ug/Kg
106-46-7	1,4-Dichlorobenzene	72.9	U	72.9	580	ug/Kg
95-50-1	1,2-Dichlorobenzene	74.1	U	74.1	580	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	140	U	140	580	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	110	U	110	580	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	120	U	120	580	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	47.8		50 - 163	96%	SPK: 50
1868-53-7	Dibromofluoromethane	45.9		54 - 147	92%	SPK: 50
2037-26-5	Toluene-d8	65.5		58 - 134	131%	SPK: 50
460-00-4	4-Bromofluorobenzene	91.1	*	30 - 143	182%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	380000	8.224			
540-36-3	1,4-Difluorobenzene	594000	9.1			
3114-55-4	Chlorobenzene-d5	545000	11.871			
3855-82-1	1,4-Dichlorobenzene-d4	319000	13.794			
TENTATIVE IDENTIFIED COMPOUNDS						
000142-82-5	Heptane	22000	J		8.96	ug/Kg
000592-27-8	Heptane, 2-methyl-	38200	J		10.2	ug/Kg
000589-81-1	Heptane, 3-methyl-	22900	J		10.3	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076364.D	1		01/23/23 14:12	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
000111-65-9	Octane	54700	J		10.7	ug/Kg
003221-61-2	Octane, 2-methyl-	49000	J		11.6	ug/Kg
002216-33-3	Octane, 3-methyl-	30700	J		11.7	ug/Kg
005911-04-6	Nonane, 3-methyl-	28400	J		12.5	ug/Kg
	unknown12.600	47300	J		12.6	ug/Kg
017301-94-9	Nonane, 4-methyl-	27300	J		12.8	ug/Kg
103-65-1	n-propylbenzene	3300	J		13.0	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	4000	J		13.2	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	7700	J		13.5	ug/Kg
135-98-8	sec-Butylbenzene	1300	J		13.6	ug/Kg
99-87-6	p-Isopropyltoluene	2600	J		13.7	ug/Kg
104-51-8	n-Butylbenzene	3700	J		14.1	ug/Kg
000824-90-8	1-Phenyl-1-butene	31200	J		15.0	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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076367.D	10		01/23/23 15:25	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	1000	UD	1000	5800	ug/Kg
74-87-3	Chloromethane	1200	UD	1200	5800	ug/Kg
75-01-4	Vinyl Chloride	1100	UD	1100	5800	ug/Kg
74-83-9	Bromomethane	1300	UD	1300	5800	ug/Kg
75-00-3	Chloroethane	1000	UD	1000	5800	ug/Kg
75-69-4	Trichlorofluoromethane	1100	UD	1100	5800	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	830	UD	830	5800	ug/Kg
75-35-4	1,1-Dichloroethene	1000	UD	1000	5800	ug/Kg
67-64-1	Acetone	14100	UD	14100	28900	ug/Kg
75-15-0	Carbon Disulfide	870	UD	870	5800	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1100	UD	1100	5800	ug/Kg
79-20-9	Methyl Acetate	1500	UD	1500	5800	ug/Kg
75-09-2	Methylene Chloride	6900	UD	6900	11600	ug/Kg
156-60-5	trans-1,2-Dichloroethene	790	UD	790	5800	ug/Kg
75-34-3	1,1-Dichloroethane	810	UD	810	5800	ug/Kg
110-82-7	Cyclohexane	6300	D	970	5800	ug/Kg
78-93-3	2-Butanone	8400	UD	8400	28900	ug/Kg
56-23-5	Carbon Tetrachloride	910	UD	910	5800	ug/Kg
156-59-2	cis-1,2-Dichloroethene	790	UD	790	5800	ug/Kg
74-97-5	Bromochloromethane	940	UD	940	5800	ug/Kg
67-66-3	Chloroform	780	UD	780	5800	ug/Kg
71-55-6	1,1,1-Trichloroethane	870	UD	870	5800	ug/Kg
108-87-2	Methylcyclohexane	33800	D	930	5800	ug/Kg
71-43-2	Benzene	760	UD	760	5800	ug/Kg
107-06-2	1,2-Dichloroethane	970	UD	970	5800	ug/Kg
79-01-6	Trichloroethene	840	UD	840	5800	ug/Kg
78-87-5	1,2-Dichloropropane	750	UD	750	5800	ug/Kg
75-27-4	Bromodichloromethane	810	UD	810	5800	ug/Kg
108-10-1	4-Methyl-2-Pentanone	5300	UD	5300	28900	ug/Kg
108-88-3	Toluene	730	UD	730	5800	ug/Kg
10061-02-6	t-1,3-Dichloropropene	860	UD	860	5800	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	820	UD	820	5800	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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076367.D	10		01/23/23 15:25	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1000	UD	1000	5800	ug/Kg
591-78-6	2-Hexanone	5400	UD	5400	28900	ug/Kg
124-48-1	Dibromochloromethane	870	UD	870	5800	ug/Kg
106-93-4	1,2-Dibromoethane	870	UD	870	5800	ug/Kg
127-18-4	Tetrachloroethene	880	UD	880	5800	ug/Kg
108-90-7	Chlorobenzene	750	UD	750	5800	ug/Kg
100-41-4	Ethyl Benzene	1000	JD	810	5800	ug/Kg
179601-23-1	m/p-Xylenes	2800	JD	1700	11600	ug/Kg
95-47-6	o-Xylene	910	UD	910	5800	ug/Kg
100-42-5	Styrene	910	UD	910	5800	ug/Kg
75-25-2	Bromoform	940	UD	940	5800	ug/Kg
98-82-8	Isopropylbenzene	2100	JD	830	5800	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1300	UD	1300	5800	ug/Kg
541-73-1	1,3-Dichlorobenzene	780	UD	780	5800	ug/Kg
106-46-7	1,4-Dichlorobenzene	730	UD	730	5800	ug/Kg
95-50-1	1,2-Dichlorobenzene	740	UD	740	5800	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1400	UD	1400	5800	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1100	UD	1100	5800	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1200	UD	1200	5800	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	48.6		50 - 163	97%	SPK: 50
1868-53-7	Dibromofluoromethane	46.8		54 - 147	94%	SPK: 50
2037-26-5	Toluene-d8	52.4		58 - 134	105%	SPK: 50
460-00-4	4-Bromofluorobenzene	56.2		30 - 143	112%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	385000	8.23			
540-36-3	1,4-Difluorobenzene	613000	9.106			
3114-55-4	Chlorobenzene-d5	549000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	255000	13.794			

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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	85.9
Sample Wt/Vol:	5.03 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076367.D	10		01/23/23 15:25	VN012323

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:	FB01	SDG No.:	O1233
Lab Sample ID:	O1233-12	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076347.D	1		01/20/23 14:49	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	0.17	1.00	ug/L
74-87-3	Chloromethane	0.20	U	0.20	1.00	ug/L
75-01-4	Vinyl Chloride	0.22	U	0.22	1.00	ug/L
74-83-9	Bromomethane	1.60	U	1.60	5.00	ug/L
75-00-3	Chloroethane	0.26	U	0.26	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.20	U	0.20	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.17	U	0.17	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.23	U	0.23	1.00	ug/L
67-64-1	Acetone	1.20	U	1.20	5.00	ug/L
75-15-0	Carbon Disulfide	0.26	U	0.26	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.18	U	0.18	1.00	ug/L
79-20-9	Methyl Acetate	0.53	U	0.53	1.00	ug/L
75-09-2	Methylene Chloride	2.80		0.18	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.20	U	0.20	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.20	U	0.20	1.00	ug/L
110-82-7	Cyclohexane	1.20	U	1.20	5.00	ug/L
78-93-3	2-Butanone	0.82	U	0.82	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.18	U	0.18	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.17	U	0.17	1.00	ug/L
74-97-5	Bromochloromethane	0.19	U	0.19	1.00	ug/L
67-66-3	Chloroform	0.18	U	0.18	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.18	U	0.18	1.00	ug/L
108-87-2	Methylcyclohexane	0.13	U	0.13	1.00	ug/L
71-43-2	Benzene	0.16	U	0.16	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.18	U	0.18	1.00	ug/L
79-01-6	Trichloroethene	0.27	U	0.27	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.17	U	0.17	1.00	ug/L
75-27-4	Bromodichloromethane	0.18	U	0.18	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	0.87	U	0.87	5.00	ug/L
108-88-3	Toluene	0.17	U	0.17	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.14	U	0.14	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.16	U	0.16	1.00	ug/L

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:	FB01	SDG No.:	O1233
Lab Sample ID:	O1233-12	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076347.D	1		01/20/23 14:49	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	0.19	U	0.19	1.00	ug/L
591-78-6	2-Hexanone	0.76	U	0.76	5.00	ug/L
124-48-1	Dibromochloromethane	0.18	U	0.18	1.00	ug/L
106-93-4	1,2-Dibromoethane	0.14	U	0.14	1.00	ug/L
127-18-4	Tetrachloroethene	0.18	U	0.18	1.00	ug/L
108-90-7	Chlorobenzene	0.17	U	0.17	1.00	ug/L
100-41-4	Ethyl Benzene	0.17	U	0.17	1.00	ug/L
179601-23-1	m/p-Xylenes	0.33	U	0.33	2.00	ug/L
95-47-6	o-Xylene	0.18	U	0.18	1.00	ug/L
100-42-5	Styrene	0.13	U	0.13	1.00	ug/L
75-25-2	Bromoform	0.16	U	0.16	1.00	ug/L
98-82-8	Isopropylbenzene	0.19	U	0.19	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.23	U	0.23	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.20	U	0.20	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.19	U	0.19	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.17	U	0.17	1.00	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.42	U	0.42	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.23	U	0.23	1.00	ug/L
87-61-6	1,2,3-Trichlorobenzene	0.33	U	0.33	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	49.1		74 - 125	98%	SPK: 50
1868-53-7	Dibromofluoromethane	48.1		75 - 124	96%	SPK: 50
2037-26-5	Toluene-d8	49.6		86 - 113	99%	SPK: 50
460-00-4	4-Bromofluorobenzene	48.0		64 - 133	96%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	370000	8.23			
540-36-3	1,4-Difluorobenzene	596000	9.106			
3114-55-4	Chlorobenzene-d5	524000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	212000	13.794			

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:	FB01	SDG No.:	O1233
Lab Sample ID:	O1233-12	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076347.D	1		01/20/23 14:49	VN012023

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.: O1233

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

Analytical Method: SW8260D

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
O1233-02	B-P34A	1,2-Dichloroethane-d4	50	58.5	117		50	163
		Dibromofluoromethane	50	51.4	103		54	147
		Toluene-d8	50	52.1	104		58	134
		4-Bromofluorobenzene	50	53.8	108		30	143
O1233-03	B-P34B	1,2-Dichloroethane-d4	50	66.4	133		50	163
		Dibromofluoromethane	50	53.5	107		54	147
		Toluene-d8	50	52.7	105		58	134
		4-Bromofluorobenzene	50	56.2	112		30	143
O1233-04	B-P36A	1,2-Dichloroethane-d4	50	49.8	100		50	163
		Dibromofluoromethane	50	47.1	94		54	147
		Toluene-d8	50	51.5	103		58	134
		4-Bromofluorobenzene	50	50.5	101		30	143
O1233-05	B-P36B	1,2-Dichloroethane-d4	50	92.5	185	*	50	163
		Dibromofluoromethane	50	56.1	112		54	147
		Toluene-d8	50	51.5	103		58	134
		4-Bromofluorobenzene	50	60.1	120		30	143
O1233-05RE	B-P36BRE	1,2-Dichloroethane-d4	50	68.1	136		50	163
		Dibromofluoromethane	50	52.3	105		54	147
		Toluene-d8	50	48.9	98		58	134
		4-Bromofluorobenzene	50	45.8	92		30	143
O1233-06	B-P37A	1,2-Dichloroethane-d4	50	50.8	102		50	163
		Dibromofluoromethane	50	48.2	96		54	147
		Toluene-d8	50	51.4	103		58	134
		4-Bromofluorobenzene	50	50.0	100		30	143
O1233-07	B-P37B	1,2-Dichloroethane-d4	50	83.0	166	*	50	163
		Dibromofluoromethane	50	60.1	120		54	147
		Toluene-d8	50	66.9	134		58	134
		4-Bromofluorobenzene	50	48.8	98		30	143
O1233-08	B-P38A	1,2-Dichloroethane-d4	50	90.7	181	*	50	163
		Dibromofluoromethane	50	55.9	112		54	147
		Toluene-d8	50	55.2	110		58	134
		4-Bromofluorobenzene	50	56.9	114		30	143
O1233-08RE	B-P38ARE	1,2-Dichloroethane-d4	50	81.0	162		50	163
		Dibromofluoromethane	50	26.2	52	*	54	147
		Toluene-d8	50	66.0	132		58	134
		4-Bromofluorobenzene	50	43.1	86		30	143
O1233-09	B-P38B	1,2-Dichloroethane-d4	50	74.0	148		50	163
		Dibromofluoromethane	50	54.8	110		54	147
		Toluene-d8	50	54.3	109		58	134
		4-Bromofluorobenzene	50	60.4	121		30	143
O1233-09RE	B-P38BRE	1,2-Dichloroethane-d4	50	59.5	119		50	163
		Dibromofluoromethane	50	48.3	97		54	147
		Toluene-d8	50	56.8	114		58	134
		4-Bromofluorobenzene	50	50.4	101		30	143
O1233-11	B-P38C	1,2-Dichloroethane-d4	50	47.8	96		50	163
		Dibromofluoromethane	50	45.9	92		54	147
		Toluene-d8	50	65.5	131		58	134
		4-Bromofluorobenzene	50	91.1	182	*	30	143
O1233-11DL	B-P38CDL	1,2-Dichloroethane-d4	50	48.6	97		50	163
		Dibromofluoromethane	50	46.9	94		54	147
		Toluene-d8	50	52.4	105		58	134
		4-Bromofluorobenzene	50	56.2	112		30	143

Surrogate Summary

SDG No.: O1233

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
VD0120SBL04	VD0120SBL04	1,2-Dichloroethane-d4	50	57.2	114	50	163
		Dibromofluoromethane	50	50.7	101	54	147
		Toluene-d8	50	52.1	104	58	134
		4-Bromofluorobenzene	50	53.6	107	30	143
VD0120SBS02	VD0120SBS02	1,2-Dichloroethane-d4	50	56.1	112	50	163
		Dibromofluoromethane	50	53.0	106	54	147
		Toluene-d8	50	53.3	107	58	134
		4-Bromofluorobenzene	50	53.5	107	30	143
VD0123SBL01	VD0123SBL01	1,2-Dichloroethane-d4	50	51.9	104	50	163
		Dibromofluoromethane	50	48.5	97	54	147
		Toluene-d8	50	50.8	102	58	134
		4-Bromofluorobenzene	50	50.5	101	30	143
VD0123SBS01	VD0123SBS01	1,2-Dichloroethane-d4	50	54.9	110	50	163
		Dibromofluoromethane	50	53.1	106	54	147
		Toluene-d8	50	53.7	107	58	134
		4-Bromofluorobenzene	50	51.6	103	30	143
VD0123SBSD01	VD0123SBSD01	1,2-Dichloroethane-d4	50	53.7	107	50	163
		Dibromofluoromethane	50	51.7	103	54	147
		Toluene-d8	50	52.9	106	58	134
		4-Bromofluorobenzene	50	51.2	102	30	143
VN0123MBL01	VN0123MBL01	1,2-Dichloroethane-d4	50	49.9	100	50	163
		Dibromofluoromethane	50	49.5	99	54	147
		Toluene-d8	50	48.9	98	58	134
		4-Bromofluorobenzene	50	44.4	89	30	143
VN0123MBS01	VN0123MBS01	1,2-Dichloroethane-d4	50	52.1	104	50	163
		Dibromofluoromethane	50	51.5	103	54	147
		Toluene-d8	50	50.9	102	58	134
		4-Bromofluorobenzene	50	51.3	103	30	143
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

Surrogate Summary

SDG No.: O1233

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

Analytical Method: SW8260-Low

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
O1233-12	FB01	1,2-Dichloroethane-d4	50	49.1	98	74	125
		Dibromofluoromethane	50	48.1	96	75	124
		Toluene-d8	50	49.6	99	86	113
		4-Bromofluorobenzene	50	48.0	96	64	133
VN0120WBL01	VN0120WBL01	1,2-Dichloroethane-d4	50	47.5	95	74	125
		Dibromofluoromethane	50	48.7	97	75	124
		Toluene-d8	50	49.7	99	86	113
		4-Bromofluorobenzene	50	45.5	91	64	133
VN0120WBS01	VN0120WBS01	1,2-Dichloroethane-d4	50	49.0	98	74	125
		Dibromofluoromethane	50	50.3	101	75	124
		Toluene-d8	50	50.7	101	86	113
		4-Bromofluorobenzene	50	50.9	102	64	133
VN0120WBSD0	VN0120WBSD01	1,2-Dichloroethane-d4	50	51.3	103	74	125
		Dibromofluoromethane	50	52.0	104	75	124
		Toluene-d8	50	51.4	103	86	113
		4-Bromofluorobenzene	50	53.4	107	64	133

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075150.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0120SBS02	Dichlorodifluoromethane	20	25.8	ug/Kg	129			64	136	
	Chloromethane	20	22.6	ug/Kg	113			70	130	
	Vinyl chloride	20	20.1	ug/Kg	101			72	129	
	Bromomethane	20	21.1	ug/Kg	106			58	141	
	Chloroethane	20	20.7	ug/Kg	104			69	130	
	Trichlorofluoromethane	20	21.2	ug/Kg	106			69	134	
	1,1,2-Trichlorotrifluoroethane	20	21.7	ug/Kg	109			81	123	
	1,1-Dichloroethene	20	22.5	ug/Kg	113			79	121	
	Acetone	100	99.8	ug/Kg	100			60	131	
	Carbon disulfide	20	21.8	ug/Kg	109			45	154	
	Methyl tert-butyl Ether	20	21.8	ug/Kg	109			77	129	
	Methyl Acetate	20	22.8	ug/Kg	114			69	149	
	Methylene Chloride	20	20.1	ug/Kg	101			39	175	
	trans-1,2-Dichloroethene	20	21.1	ug/Kg	106			80	123	
	1,1-Dichloroethane	20	21.6	ug/Kg	108			82	123	
	Cyclohexane	20	21.7	ug/Kg	109			76	122	
	2-Butanone	100	110	ug/Kg	110			69	131	
	Carbon Tetrachloride	20	20.0	ug/Kg	100			76	129	
	cis-1,2-Dichloroethene	20	21.6	ug/Kg	108			82	123	
	Bromochloromethane	20	24.1	ug/Kg	121			62	134	
	Chloroform	20	21.5	ug/Kg	108			82	125	
	1,1,1-Trichloroethane	20	20.8	ug/Kg	104			80	126	
	Methylcyclohexane	20	21.0	ug/Kg	105			77	123	
	Benzene	20	21.4	ug/Kg	107			84	121	
	1,2-Dichloroethane	20	20.9	ug/Kg	104			81	126	
	Trichloroethene	20	20.6	ug/Kg	103			83	122	
	1,2-Dichloropropane	20	20.7	ug/Kg	104			83	122	
	Bromodichloromethane	20	20.4	ug/Kg	102			82	123	
	4-Methyl-2-Pentanone	100	110	ug/Kg	110			70	135	
	Toluene	20	20.7	ug/Kg	104			83	122	
	t-1,3-Dichloropropene	20	20.0	ug/Kg	100			78	124	
	cis-1,3-Dichloropropene	20	20.7	ug/Kg	104			81	122	
	1,1,2-Trichloroethane	20	20.9	ug/Kg	104			82	125	
	2-Hexanone	100	110	ug/Kg	110			66	138	
	Dibromochloromethane	20	20.0	ug/Kg	100			79	125	
	1,2-Dibromoethane	20	21.0	ug/Kg	105			80	125	
	Tetrachloroethene	20	19.2	ug/Kg	96			83	125	
	Chlorobenzene	20	20.4	ug/Kg	102			84	122	
	Ethyl Benzene	20	20.4	ug/Kg	102			82	124	
	m/p-Xylenes	40	41.6	ug/Kg	104			83	124	
	o-Xylene	20	20.9	ug/Kg	104			83	123	
	Styrene	20	20.7	ug/Kg	104			82	124	
	Bromoform	20	19.9	ug/Kg	100			75	127	
	Isopropylbenzene	20	20.1	ug/Kg	101			82	124	
	1,1,2,2-Tetrachloroethane	20	21.7	ug/Kg	109			77	127	
	1,3-Dichlorobenzene	20	19.8	ug/Kg	99			83	122	
	1,4-Dichlorobenzene	20	20.8	ug/Kg	104			84	121	
	1,2-Dichlorobenzene	20	20.4	ug/Kg	102			83	124	
	1,2-Dibromo-3-Chloropropane	20	21.7	ug/Kg	109			66	134	

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075150.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VD0120SBS02	1,2,4-Trichlorobenzene	20	18.2	ug/Kg	91			78	127	
	1,2,3-Trichlorobenzene	20	18.4	ug/Kg	92			70	137	

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075170.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0123SBS01	Dichlorodifluoromethane	20	24.9	ug/Kg	125			64	136	
	Chloromethane	20	22.7	ug/Kg	114			70	130	
	Vinyl chloride	20	20.4	ug/Kg	102			72	129	
	Bromomethane	20	19.9	ug/Kg	100			58	141	
	Chloroethane	20	19.7	ug/Kg	99			69	130	
	Trichlorofluoromethane	20	21.3	ug/Kg	106			69	134	
	1,1,2-Trichlorotrifluoroethane	20	22.1	ug/Kg	111			81	123	
	1,1-Dichloroethene	20	21.7	ug/Kg	109			79	121	
	Acetone	100	100	ug/Kg	100			60	131	
	Carbon disulfide	20	21.8	ug/Kg	109			45	154	
	Methyl tert-butyl Ether	20	21.1	ug/Kg	106			77	129	
	Methyl Acetate	20	22.0	ug/Kg	110			69	149	
	Methylene Chloride	20	16.3	ug/Kg	81			39	175	
	trans-1,2-Dichloroethene	20	21.2	ug/Kg	106			80	123	
	1,1-Dichloroethane	20	21.5	ug/Kg	108			82	123	
	Cyclohexane	20	22.0	ug/Kg	110			76	122	
	2-Butanone	100	100	ug/Kg	100			69	131	
	Carbon Tetrachloride	20	20.3	ug/Kg	102			76	129	
	cis-1,2-Dichloroethene	20	20.8	ug/Kg	104			82	123	
	Bromochloromethane	20	23.2	ug/Kg	116			62	134	
	Chloroform	20	20.9	ug/Kg	104			82	125	
	1,1,1-Trichloroethane	20	21.0	ug/Kg	105			80	126	
	Methylcyclohexane	20	20.8	ug/Kg	104			77	123	
	Benzene	20	21.1	ug/Kg	106			84	121	
	1,2-Dichloroethane	20	21.3	ug/Kg	106			81	126	
	Trichloroethene	20	19.8	ug/Kg	99			83	122	
	1,2-Dichloropropane	20	19.9	ug/Kg	100			83	122	
	Bromodichloromethane	20	20.8	ug/Kg	104			82	123	
	4-Methyl-2-Pentanone	100	110	ug/Kg	110			70	135	
	Toluene	20	20.8	ug/Kg	104			83	122	
	t-1,3-Dichloropropene	20	19.8	ug/Kg	99			78	124	
	cis-1,3-Dichloropropene	20	20.3	ug/Kg	102			81	122	
	1,1,2-Trichloroethane	20	21.7	ug/Kg	109			82	125	
	2-Hexanone	100	110	ug/Kg	110			66	138	
	Dibromochloromethane	20	21.3	ug/Kg	106			79	125	
	1,2-Dibromoethane	20	20.6	ug/Kg	103			80	125	
	Tetrachloroethene	20	19.7	ug/Kg	99			83	125	
	Chlorobenzene	20	20.6	ug/Kg	103			84	122	
	Ethyl Benzene	20	20.9	ug/Kg	104			82	124	
	m/p-Xylenes	40	41.1	ug/Kg	103			83	124	
	o-Xylene	20	20.8	ug/Kg	104			83	123	
	Styrene	20	20.7	ug/Kg	104			82	124	
	Bromoform	20	20.2	ug/Kg	101			75	127	
	Isopropylbenzene	20	19.9	ug/Kg	100			82	124	
	1,1,2,2-Tetrachloroethane	20	20.7	ug/Kg	104			77	127	
	1,3-Dichlorobenzene	20	19.9	ug/Kg	100			83	122	
	1,4-Dichlorobenzene	20	20.1	ug/Kg	101			84	121	
	1,2-Dichlorobenzene	20	19.7	ug/Kg	99			83	124	
	1,2-Dibromo-3-Chloropropane	20	20.7	ug/Kg	104			66	134	

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075170.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0123SBS01	1,2,4-Trichlorobenzene	20	18.2	ug/Kg	91			78	127	
	1,2,3-Trichlorobenzene	20	18.1	ug/Kg	91			70	137	

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075171.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VD0123SBSD01	Dichlorodifluoromethane	20	26.4	ug/Kg	132	5		64	136	20
	Chloromethane	20	22.1	ug/Kg	111	3		70	130	20
	Vinyl chloride	20	20.9	ug/Kg	104	2		72	129	20
	Bromomethane	20	20.4	ug/Kg	102	2		58	141	20
	Chloroethane	20	21.5	ug/Kg	108	9		69	130	20
	Trichlorofluoromethane	20	22.5	ug/Kg	113	6		69	134	20
	1,1,2-Trichlorotrifluoroethane	20	22.5	ug/Kg	113	2		81	123	20
	1,1-Dichloroethene	20	22.4	ug/Kg	112	3		79	121	20
	Acetone	100	100	ug/Kg	100	0		60	131	20
	Carbon disulfide	20	22.3	ug/Kg	112	3		45	154	20
	Methyl tert-butyl Ether	20	21.2	ug/Kg	106	0		77	129	20
	Methyl Acetate	20	22.9	ug/Kg	115	4		69	149	20
	Methylene Chloride	20	16.9	ug/Kg	85	5		39	175	20
	trans-1,2-Dichloroethene	20	21.8	ug/Kg	109	3		80	123	20
	1,1-Dichloroethane	20	21.7	ug/Kg	109	1		82	123	20
	Cyclohexane	20	21.6	ug/Kg	108	2		76	122	20
	2-Butanone	100	110	ug/Kg	110	10		69	131	20
	Carbon Tetrachloride	20	20.2	ug/Kg	101	1		76	129	20
	cis-1,2-Dichloroethene	20	21.5	ug/Kg	108	4		82	123	20
	Bromochloromethane	20	24.2	ug/Kg	121	4		62	134	20
	Chloroform	20	21.3	ug/Kg	106	2		82	125	20
	1,1,1-Trichloroethane	20	21.3	ug/Kg	106	1		80	126	20
	Methylcyclohexane	20	21.1	ug/Kg	106	2		77	123	20
	Benzene	20	21.6	ug/Kg	108	2		84	121	20
	1,2-Dichloroethane	20	21.1	ug/Kg	106	0		81	126	20
	Trichloroethene	20	20.0	ug/Kg	100	1		83	122	20
	1,2-Dichloropropane	20	21.3	ug/Kg	106	6		83	122	20
	Bromodichloromethane	20	21.5	ug/Kg	108	4		82	123	20
	4-Methyl-2-Pentanone	100	110	ug/Kg	110	0		70	135	20
	Toluene	20	21.3	ug/Kg	106	2		83	122	20
	t-1,3-Dichloropropene	20	19.7	ug/Kg	99	0		78	124	20
	cis-1,3-Dichloropropene	20	20.4	ug/Kg	102	0		81	122	20
	1,1,2-Trichloroethane	20	21.3	ug/Kg	106	3		82	125	20
	2-Hexanone	100	110	ug/Kg	110	0		66	138	20
	Dibromochloromethane	20	20.9	ug/Kg	104	2		79	125	20
	1,2-Dibromoethane	20	21.2	ug/Kg	106	3		80	125	20
	Tetrachloroethene	20	20.1	ug/Kg	101	2		83	125	20
	Chlorobenzene	20	20.5	ug/Kg	103	0		84	122	20
	Ethyl Benzene	20	21.0	ug/Kg	105	1		82	124	20
	m/p-Xylenes	40	42.9	ug/Kg	107	4		83	124	20
	o-Xylene	20	20.4	ug/Kg	102	2		83	123	20
	Styrene	20	21.5	ug/Kg	108	4		82	124	20
	Bromoform	20	20.2	ug/Kg	101	0		75	127	20
	Isopropylbenzene	20	20.1	ug/Kg	101	1		82	124	20
	1,1,2,2-Tetrachloroethane	20	21.6	ug/Kg	108	4		77	127	20
	1,3-Dichlorobenzene	20	20.2	ug/Kg	101	1		83	122	20
	1,4-Dichlorobenzene	20	20.6	ug/Kg	103	2		84	121	20
	1,2-Dichlorobenzene	20	20.6	ug/Kg	103	4		83	124	20
	1,2-Dibromo-3-Chloropropane	20	22.7	ug/Kg	114	9		66	134	20

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VD075171.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VD0123SBSD01	1,2,4-Trichlorobenzene	20	19.0	ug/Kg	95	4		78	127	20
	1,2,3-Trichlorobenzene	20	18.8	ug/Kg	94	3		70	137	20

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

SDG No.: O1233

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

Analytical Method: SW8260-Low **Datafile :** VN076340.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0120WBS01	Dichlorodifluoromethane	20	17.4	ug/L	87			69	116	
	Chloromethane	20	16.6	ug/L	83			65	116	
	Vinyl chloride	20	17.5	ug/L	88			65	117	
	Bromomethane	20	17.6	ug/L	88			42	173	
	Chloroethane	20	18.8	ug/L	94			44	165	
	Trichlorofluoromethane	20	16.9	ug/L	85			73	115	
	1,1,2-Trichlorotrifluoroethane	20	17.2	ug/L	86			80	112	
	1,1-Dichloroethene	20	16.8	ug/L	84			74	110	
	Acetone	100	85.8	ug/L	86			60	125	
	Carbon disulfide	20	15.2	ug/L	76			64	112	
	Methyl tert-butyl Ether	20	17.6	ug/L	88			78	114	
	Methyl Acetate	20	16.4	ug/L	82			67	125	
	Methylene Chloride	20	18.5	ug/L	93			72	114	
	trans-1,2-Dichloroethene	20	16.2	ug/L	81			75	108	
	1,1-Dichloroethane	20	16.8	ug/L	84			78	112	
	Cyclohexane	20	16.2	ug/L	81			75	110	
	2-Butanone	100	83.8	ug/L	84			65	122	
	Carbon Tetrachloride	20	17.2	ug/L	86			77	113	
	cis-1,2-Dichloroethene	20	17.3	ug/L	86			77	110	
	Bromochloromethane	20	18.8	ug/L	94			70	124	
	Chloroform	20	17.0	ug/L	85			79	113	
	1,1,1-Trichloroethane	20	17.5	ug/L	88			80	108	
	Methylcyclohexane	20	17.6	ug/L	88			72	115	
	Benzene	20	17.2	ug/L	86			82	109	
	1,2-Dichloroethane	20	17.3	ug/L	86			80	115	
	Trichloroethene	20	16.7	ug/L	84			77	113	
	1,2-Dichloropropane	20	17.0	ug/L	85			83	111	
	Bromodichloromethane	20	17.6	ug/L	88			83	110	
	4-Methyl-2-Pentanone	100	88.6	ug/L	89			74	118	
	Toluene	20	16.7	ug/L	84			82	110	
	t-1,3-Dichloropropene	20	17.9	ug/L	90			79	110	
	cis-1,3-Dichloropropene	20	17.3	ug/L	86			82	110	
	1,1,2-Trichloroethane	20	17.5	ug/L	88			83	112	
	2-Hexanone	100	88.3	ug/L	88			73	117	
	Dibromochloromethane	20	18.0	ug/L	90			82	110	
	1,2-Dibromoethane	20	17.8	ug/L	89			81	110	
	Tetrachloroethene	20	17.6	ug/L	88			67	123	
	Chlorobenzene	20	17.8	ug/L	89			82	109	
	Ethyl Benzene	20	18.3	ug/L	92			83	109	
	m/p-Xylenes	40	36.8	ug/L	92			82	110	
	o-Xylene	20	18.5	ug/L	93			83	109	
	Styrene	20	18.3	ug/L	92			80	111	
	Bromoform	20	18.1	ug/L	91			79	109	
	Isopropylbenzene	20	19.4	ug/L	97			83	112	
	1,1,2,2-Tetrachloroethane	20	18.1	ug/L	91			76	118	
	1,3-Dichlorobenzene	20	17.6	ug/L	88			82	108	
	1,4-Dichlorobenzene	20	18.0	ug/L	90			82	107	
	1,2-Dichlorobenzene	20	17.4	ug/L	87			82	109	
	1,2-Dibromo-3-Chloropropane	20	17.9	ug/L	90			68	112	

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

SDG No.: O1233

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

Analytical Method: SW8260-Low **Datafile :** VN076340.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0120WBS01	1,2,4-Trichlorobenzene	20	16.7	ug/L	84			74	114	
	1,2,3-Trichlorobenzene	20	17.1	ug/L	86			77	113	

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

SDG No.: O1233

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

Analytical Method: SW8260-Low **Datafile :** VN076341.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0120WBSD01	Dichlorodifluoromethane	20	18.1	ug/L	91	4		69	116	20
	Chloromethane	20	17.3	ug/L	86	4		65	116	20
	Vinyl chloride	20	18.3	ug/L	92	4		65	117	20
	Bromomethane	20	18.7	ug/L	94	7		42	173	20
	Chloroethane	20	18.9	ug/L	95	1		44	165	20
	Trichlorofluoromethane	20	18.0	ug/L	90	6		73	115	20
	1,1,2-Trichlorotrifluoroethane	20	18.7	ug/L	94	9		80	112	20
	1,1-Dichloroethene	20	17.4	ug/L	87	4		74	110	20
	Acetone	100	91.0	ug/L	91	6		60	125	20
	Carbon disulfide	20	16.3	ug/L	81	6		64	112	20
	Methyl tert-butyl Ether	20	19.9	ug/L	100	13		78	114	20
	Methyl Acetate	20	18.5	ug/L	93	13		67	125	20
	Methylene Chloride	20	20.5	ug/L	103	10		72	114	20
	trans-1,2-Dichloroethene	20	18.0	ug/L	90	11		75	108	20
	1,1-Dichloroethane	20	18.4	ug/L	92	9		78	112	20
	Cyclohexane	20	17.4	ug/L	87	7		75	110	20
	2-Butanone	100	92.2	ug/L	92	9		65	122	20
	Carbon Tetrachloride	20	18.7	ug/L	94	9		77	113	20
	cis-1,2-Dichloroethene	20	18.6	ug/L	93	8		77	110	20
	Bromochloromethane	20	20.4	ug/L	102	8		70	124	20
	Chloroform	20	18.8	ug/L	94	10		79	113	20
	1,1,1-Trichloroethane	20	18.5	ug/L	93	6		80	108	20
	Methylcyclohexane	20	19.1	ug/L	96	9		72	115	20
	Benzene	20	18.8	ug/L	94	9		82	109	20
	1,2-Dichloroethane	20	19.5	ug/L	98	13		80	115	20
	Trichloroethene	20	18.0	ug/L	90	7		77	113	20
	1,2-Dichloropropane	20	19.2	ug/L	96	12		83	111	20
	Bromodichloromethane	20	19.5	ug/L	98	11		83	110	20
	4-Methyl-2-Pentanone	100	98.9	ug/L	99	11		74	118	20
	Toluene	20	18.5	ug/L	93	10		82	110	20
	t-1,3-Dichloropropene	20	19.8	ug/L	99	10		79	110	20
	cis-1,3-Dichloropropene	20	19.4	ug/L	97	12		82	110	20
	1,1,2-Trichloroethane	20	19.5	ug/L	98	11		83	112	20
	2-Hexanone	100	98.1	ug/L	98	11		73	117	20
	Dibromochloromethane	20	20.2	ug/L	101	12		82	110	20
	1,2-Dibromoethane	20	19.4	ug/L	97	9		81	110	20
	Tetrachloroethene	20	18.4	ug/L	92	4		67	123	20
	Chlorobenzene	20	18.8	ug/L	94	5		82	109	20
	Ethyl Benzene	20	19.1	ug/L	96	4		83	109	20
	m/p-Xylenes	40	38.2	ug/L	96	4		82	110	20
	o-Xylene	20	19.2	ug/L	96	3		83	109	20
	Styrene	20	19.4	ug/L	97	5		80	111	20
	Bromoform	20	19.8	ug/L	99	8		79	109	20
	Isopropylbenzene	20	19.9	ug/L	100	3		83	112	20
	1,1,2,2-Tetrachloroethane	20	19.3	ug/L	97	6		76	118	20
	1,3-Dichlorobenzene	20	18.1	ug/L	91	3		82	108	20
	1,4-Dichlorobenzene	20	18.8	ug/L	94	4		82	107	20
	1,2-Dichlorobenzene	20	18.1	ug/L	91	4		82	109	20
	1,2-Dibromo-3-Chloropropane	20	19.9	ug/L	100	11		68	112	20

CHEMTECH

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

SDG No.: O1233

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

Analytical Method: SW8260-Low **Datafile :** VN076341.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VN0120WBSD01	1,2,4-Trichlorobenzene	20	18.4	ug/L	92	9		74	114	20
	1,2,3-Trichlorobenzene	20	18.5	ug/L	93	8		77	113	20

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VN076358.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0123MBS01	Dichlorodifluoromethane	2000	1800	ug/Kg	90			64	136	
	Chloromethane	2000	1800	ug/Kg	90			70	130	
	Vinyl chloride	2000	2000	ug/Kg	100			72	129	
	Bromomethane	2000	1900	ug/Kg	95			58	141	
	Chloroethane	2000	2000	ug/Kg	100			69	130	
	Trichlorofluoromethane	2000	1700	ug/Kg	85			69	134	
	1,1,2-Trichlorotrifluoroethane	2000	1800	ug/Kg	90			81	123	
	1,1-Dichloroethene	2000	1700	ug/Kg	85			79	121	
	Acetone	10000	10700	ug/Kg	107			60	131	
	Carbon disulfide	2000	1700	ug/Kg	85			45	154	
	Methyl tert-butyl Ether	2000	1800	ug/Kg	90			77	129	
	Methyl Acetate	2000	1800	ug/Kg	90			69	149	
	Methylene Chloride	2000	1700	ug/Kg	85			39	175	
	trans-1,2-Dichloroethene	2000	1700	ug/Kg	85			80	123	
	1,1-Dichloroethane	2000	1800	ug/Kg	90			82	123	
	Cyclohexane	2000	1700	ug/Kg	85			76	122	
	2-Butanone	10000	9300	ug/Kg	93			69	131	
	Carbon Tetrachloride	2000	1900	ug/Kg	95			76	129	
	cis-1,2-Dichloroethene	2000	1700	ug/Kg	85			82	123	
	Bromochloromethane	2000	2100	ug/Kg	105			62	134	
	Chloroform	2000	1800	ug/Kg	90			82	125	
	1,1,1-Trichloroethane	2000	1800	ug/Kg	90			80	126	
	Methylcyclohexane	2000	1700	ug/Kg	85			77	123	
	Benzene	2000	1800	ug/Kg	90			84	121	
	1,2-Dichloroethane	2000	1800	ug/Kg	90			81	126	
	Trichloroethene	2000	1700	ug/Kg	85			83	122	
	1,2-Dichloropropane	2000	1800	ug/Kg	90			83	122	
	Bromodichloromethane	2000	1900	ug/Kg	95			82	123	
	4-Methyl-2-Pentanone	10000	9500	ug/Kg	95			70	135	
	Toluene	2000	1700	ug/Kg	85			83	122	
	t-1,3-Dichloropropene	2000	1900	ug/Kg	95			78	124	
	cis-1,3-Dichloropropene	2000	1900	ug/Kg	95			81	122	
	1,1,2-Trichloroethane	2000	1800	ug/Kg	90			82	125	
	2-Hexanone	10000	9400	ug/Kg	94			66	138	
	Dibromochloromethane	2000	2000	ug/Kg	100			79	125	
	1,2-Dibromoethane	2000	1800	ug/Kg	90			80	125	
	Tetrachloroethene	2000	1700	ug/Kg	85			83	125	
	Chlorobenzene	2000	1800	ug/Kg	90			84	122	
	Ethyl Benzene	2000	1900	ug/Kg	95			82	124	
	m/p-Xylenes	4000	3700	ug/Kg	93			83	124	
	o-Xylene	2000	1800	ug/Kg	90			83	123	
	Styrene	2000	1900	ug/Kg	95			82	124	
	Bromoform	2000	2100	ug/Kg	105			75	127	
	Isopropylbenzene	2000	2000	ug/Kg	100			82	124	
	1,1,2,2-Tetrachloroethane	2000	1900	ug/Kg	95			77	127	
	1,3-Dichlorobenzene	2000	1800	ug/Kg	90			83	122	
	1,4-Dichlorobenzene	2000	1800	ug/Kg	90			84	121	
	1,2-Dichlorobenzene	2000	1700	ug/Kg	85			83	124	
	1,2-Dibromo-3-Chloropropane	2000	1800	ug/Kg	90			66	134	

CHEMTECH

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

SDG No.: O1233

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

Analytical Method: SW8260D **Datafile :** VN076358.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VN0123MBS01	1,2,4-Trichlorobenzene	2000	1700	ug/Kg	85			78	127	
	1,2,3-Trichlorobenzene	2000	1700	ug/Kg	85			70	137	

CHEMTECH

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

SDG No.: O1233

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.: O1233

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	

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VD0120SBL04

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075147.D Lab Sample ID: VD0120SBL04

Date Analyzed: 01/20/2023 Time Analyzed: 12:23

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

Instrument ID: MSVOA_D

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VD0120SBS02	VD0120SBS02	VD075150.D	01/20/2023
B-P36B	O1233-05	VD075158.D	01/20/2023
B-P38A	O1233-08	VD075161.D	01/20/2023
B-P38B	O1233-09	VD075162.D	01/20/2023

COMMENTS:

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VD0123SBL01

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075169.D Lab Sample ID: VD0123SBL01

Date Analyzed: 01/23/2023 Time Analyzed: 12:14

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

Instrument ID: MSVOA_D

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VD0123SBS01	VD0123SBS01	VD075170.D	01/23/2023
VD0123SBSD01	VD0123SBSD01	VD075171.D	01/23/2023
B-P34A	O1233-02	VD075172.D	01/23/2023
B-P34B	O1233-03	VD075173.D	01/23/2023
B-P36A	O1233-04	VD075174.D	01/23/2023
B-P36BRE	O1233-05RE	VD075175.D	01/23/2023
B-P37A	O1233-06	VD075176.D	01/23/2023
B-P38BRE	O1233-09RE	VD075178.D	01/23/2023

COMMENTS:

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

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0123MBL01

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076356.D Lab Sample ID: VN0123MBL01

Date Analyzed: 01/23/2023 Time Analyzed: 10:51

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

Instrument ID: MSVOA_N

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VN0123MBS01	VN0123MBS01	VN076358.D	01/23/2023
B-P38C	O1233-11	VN076364.D	01/23/2023
B-P38CDL	O1233-11DL	VN076367.D	01/23/2023

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.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P37B	O1233-07	VY012315.D	01/23/2023
B-P38ARE	O1233-08RE	VY012316.D	01/23/2023

COMMENTS:

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

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0120WBL01

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076339.D Lab Sample ID: VN0120WBL01

Date Analyzed: 01/20/2023 Time Analyzed: 11:25

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

Instrument ID: MSVOA_N

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VN0120WBS01	VN0120WBS01	VN076340.D	01/20/2023
VN0120WBSD01	VN0120WBSD01	VN076341.D	01/20/2023
FB01	O1233-12	VN076347.D	01/20/2023

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.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075123.D BFB Injection Date: 01/18/2023

Instrument ID: MSVOA_D BFB Injection Time: 09:22

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 60.0% of mass 95	52.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	1 (1.3) 1
174	50.0 - 100.0% of mass 95	80.6
175	5.0 - 9.0% of mass 174	6.5 (8.1) 1
176	95.0 - 101.0% of mass 174	77.5 (96.1) 1
177	5.0 - 9.0% of mass 176	5.4 (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
VSTDICC005	VSTDICC005	VD075124.D	01/18/2023	10:25
VSTDICC010	VSTDICC010	VD075125.D	01/18/2023	11:20
VSTDICC020	VSTDICC020	VD075126.D	01/18/2023	11:48
VSTDICCC050	VSTDICCC050	VD075127.D	01/18/2023	12:15
VSTDICC100	VSTDICC100	VD075128.D	01/18/2023	12:42
VSTDICC150	VSTDICC150	VD075129.D	01/18/2023	13:10

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.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075145.D BFB Injection Date: 01/20/2023

Instrument ID: MSVOA_D BFB Injection Time: 10:40

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.1
75	30.0 - 60.0% of mass 95	52.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	1.2 (1.6) 1
174	50.0 - 100.0% of mass 95	74
175	5.0 - 9.0% of mass 174	5.8 (7.9) 1
176	95.0 - 101.0% of mass 174	72.5 (98) 1
177	5.0 - 9.0% of mass 176	4.6 (6.4) 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	VD075146.D	01/20/2023	11:13
VD0120SBL04	VD0120SBL04	VD075147.D	01/20/2023	12:23
VD0120SBS02	VD0120SBS02	VD075150.D	01/20/2023	13:45
B-P36B	O1233-05	VD075158.D	01/20/2023	17:26
B-P38A	O1233-08	VD075161.D	01/20/2023	18:49
B-P38B	O1233-09	VD075162.D	01/20/2023	19:17

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075167.D BFB Injection Date: 01/23/2023

Instrument ID: MSVOA_D BFB Injection Time: 09:38

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	53.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1.2 (1.5) 1
174	50.0 - 100.0% of mass 95	77.3
175	5.0 - 9.0% of mass 174	5.8 (7.5) 1
176	95.0 - 101.0% of mass 174	74.3 (96.1) 1
177	5.0 - 9.0% of mass 176	4.5 (6.1) 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	VD075168.D	01/23/2023	10:15
VD0123SBL01	VD0123SBL01	VD075169.D	01/23/2023	12:14
VD0123SBS01	VD0123SBS01	VD075170.D	01/23/2023	12:41
VD0123SBSD01	VD0123SBSD01	VD075171.D	01/23/2023	13:08
B-P34A	O1233-02	VD075172.D	01/23/2023	13:36
B-P34B	O1233-03	VD075173.D	01/23/2023	14:04
B-P36A	O1233-04	VD075174.D	01/23/2023	14:32
B-P36BRE	O1233-05RE	VD075175.D	01/23/2023	15:00
B-P37A	O1233-06	VD075176.D	01/23/2023	15:27
B-P38BRE	O1233-09RE	VD075178.D	01/23/2023	16:23

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076259.D BFB Injection Date: 01/16/2023

Instrument ID: MSVOA_N BFB Injection Time: 09:57

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.7
75	30.0 - 60.0% of mass 95	53.4
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7
173	Less than 2.0% of mass 174	1.2 (1.4) 1
174	50.0 - 100.0% of mass 95	88.5
175	5.0 - 9.0% of mass 174	6 (6.7) 1
176	95.0 - 101.0% of mass 174	86.5 (97.7) 1
177	5.0 - 9.0% of mass 176	5.1 (5.9) 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	VN076261.D	01/16/2023	10:54
VSTDICC010	VSTDICC010	VN076262.D	01/16/2023	11:18
VSTDICC020	VSTDICC020	VN076263.D	01/16/2023	11:42
VSTDICCC050	VSTDICCC050	VN076264.D	01/16/2023	12:06
VSTDICC075	VSTDICC075	VN076265.D	01/16/2023	12:30
VSTDICC001	VSTDICC001	VN076267.D	01/16/2023	13:17

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076336.D BFB Injection Date: 01/20/2023

Instrument ID: MSVOA_N BFB Injection Time: 09:54

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.9
75	30.0 - 60.0% of mass 95	51.9
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7
173	Less than 2.0% of mass 174	1.1 (1.3) 1
174	50.0 - 100.0% of mass 95	87.5
175	5.0 - 9.0% of mass 174	6.6 (7.5) 1
176	95.0 - 101.0% of mass 174	84.4 (96.5) 1
177	5.0 - 9.0% of mass 176	5.8 (6.8) 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	VN076337.D	01/20/2023	10:27
VN0120WBL01	VN0120WBL01	VN076339.D	01/20/2023	11:25
VN0120WBS01	VN0120WBS01	VN076340.D	01/20/2023	11:49
VN0120WBSD01	VN0120WBSD01	VN076341.D	01/20/2023	12:25
FB01	O1233-12	VN076347.D	01/20/2023	14:49

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076354.D BFB Injection Date: 01/23/2023

Instrument ID: MSVOA_N BFB Injection Time: 09:44

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.8
75	30.0 - 60.0% of mass 95	52.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1 (1.1) 1
174	50.0 - 100.0% of mass 95	86.3
175	5.0 - 9.0% of mass 174	6.5 (7.6) 1
176	95.0 - 101.0% of mass 174	84.7 (98.1) 1
177	5.0 - 9.0% of mass 176	5.5 (6.5) 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	VN076355.D	01/23/2023	10:17
VN0123MBL01	VN0123MBL01	VN076356.D	01/23/2023	10:51
VN0123MBS01	VN0123MBS01	VN076358.D	01/23/2023	11:39
B-P38C	O1233-11	VN076364.D	01/23/2023	14:12
B-P38CDL	O1233-11DL	VN076367.D	01/23/2023	15:25

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P37B	O1233-07	VY012315.D	01/23/2023	15:48
B-P38ARE	O1233-08RE	VY012316.D	01/23/2023	16:11

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075146.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_D Time Analyzed: 11:13

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	87549	7.88	150535	8.78	130836	11.59
UPPER LIMIT	175098	8.375	301070	9.281	261672	12.087
LOWER LIMIT	43774.5	7.375	75267.5	8.281	65418	11.087
EPA SAMPLE NO.						
B-P36B	4925 *	7.88	11060 *	8.78	10688 *	11.59
B-P38A	3464 *	7.88	6979 *	8.78	6961 *	11.58
B-P38B	41902 *	7.88	88407	8.78	88309	11.59
VD0120SBL04	86545	7.88	180550	8.78	168873	11.58
VD0120SBS02	78332	7.88	142964	8.78	128592	11.59

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075146.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_D Time Analyzed: 11:13

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #		RT #				
12 HOUR STD	59366		13.522				
UPPER LIMIT	118732		14.022				
LOWER LIMIT	29683		13.022				
EPA SAMPLE NO.							
B-P36B	5310	*	13.52				
B-P38A	2980	*	13.52				
B-P38B	40736		13.52				
VD0120SBL04	72499		13.52				
VD0120SBS02	58018		13.52				

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.**

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075168.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_D Time Analyzed: 10:15

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	83058	7.88	142829	8.78	124569	11.59
UPPER LIMIT	166116	8.375	285658	9.281	249138	12.087
LOWER LIMIT	41529	7.375	71414.5	8.281	62284.5	11.087
EPA SAMPLE NO.						
B-P34A	67921	7.88	129748	8.78	124838	11.59
B-P34B	49085	7.88	95032	8.78	93578	11.59
B-P36A	87972	7.88	171041	8.78	157598	11.59
B-P36BRE	2289 *	7.88	4728 *	8.78	4222 *	11.58
B-P37A	85119	7.88	168462	8.78	154125	11.59
B-P38BRE	1300 *	7.88	2143 *	8.78	1966 *	11.59
VD0123SBL01	95373	7.88	184136	8.78	168096	11.59
VD0123SBS01	75965	7.88	134615	8.78	120882	11.59
VD0123SBSD01	72362	7.88	130215	8.78	115554	11.59

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VD075168.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_D Time Analyzed: 10:15

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #		RT #				
12 HOUR STD	56972		13.522				
UPPER LIMIT	113944		14.022				
LOWER LIMIT	28486		13.022				
EPA SAMPLE NO.							
B-P34A	54879		13.52				
B-P34B	41757		13.52				
B-P36A	64243		13.52				
B-P36BRE	1552	*	13.52				
B-P37A	63432		13.52				
B-P38BRE	699	*	13.53				
VD0123SBL01	71751		13.52				
VD0123SBS01	55819		13.52				
VD0123SBSD01	53241		13.52				

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076337.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_N Time Analyzed: 10:27

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

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	383049	8.23	610968	9.11	549444	11.87
UPPER LIMIT	766098	8.73	1221940	9.606	1098890	12.365
LOWER LIMIT	191525	7.73	305484	8.606	274722	11.365
EPA SAMPLE NO.						
FB01	370105	8.23	595933	9.11	523917	11.87
VN0120WBL01	490775	8.23	773684	9.11	657515	11.87
VN0120WBS01	434458	8.23	686884	9.11	590812	11.87
VN0120WBSD01	359856	8.23	567895	9.11	510094	11.87

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076337.D Date Analyzed: 01/20/2023

Instrument ID: MSVOA_N Time Analyzed: 10:27

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

	IS4 AREA #	RT #				
12 HOUR STD	272155	13.794				
UPPER LIMIT	544310	14.294				
LOWER LIMIT	136078	13.294				
EPA SAMPLE NO.						
FB01	212240	13.79				
VN0120WBL01	251353	13.79				
VN0120WBS01	268276	13.79				
VN0120WBSD01	238179	13.79				

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076355.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_N Time Analyzed: 10:17

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

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	360494	8.23	576114	9.11	518968	11.87
UPPER LIMIT	720988	8.73	1152230	9.606	1037940	12.37
LOWER LIMIT	180247	7.73	288057	8.606	259484	11.37
EPA SAMPLE NO.						
B-P38C	380260	8.22	594043	9.10	544762	11.87
B-P38CDL	384506	8.23	612820	9.11	549267	11.87
VN0123MBL01	303559	8.23	491398	9.11	403787	11.87
VN0123MBS01	381993	8.23	609908	9.11	527333	11.87

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: VN076355.D Date Analyzed: 01/23/2023

Instrument ID: MSVOA_N Time Analyzed: 10:17

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

	IS4 AREA #	RT #				
12 HOUR STD	248688	13.794				
UPPER LIMIT	497376	14.294				
LOWER LIMIT	124344	13.294				
EPA SAMPLE NO.						
B-P38C	318779	13.79				
B-P38CDL	255428	13.79				
VN0123MBL01	158993	13.79				
VN0123MBS01	238215	13.79				

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.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P37B	35937 *	7.79	57297 *	8.69	55952 *	11.49
B-P38ARE	4898 *	7.80	8005 *	8.69	7433 *	11.50
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.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P37B	24351	*	13.43				
B-P38ARE	2570	*	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:	VD0120SBL04	SDG No.:	O1233
Lab Sample ID:	VD0120SBL04	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075147.D	1		01/20/23 12:23	VD012023

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:	VD0120SBL04	SDG No.:	O1233
Lab Sample ID:	VD0120SBL04	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075147.D	1		01/20/23 12:23	VD012023

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	57.2		50 - 163	114%	SPK: 50
1868-53-7	Dibromofluoromethane	50.7		54 - 147	101%	SPK: 50
2037-26-5	Toluene-d8	52.1		58 - 134	104%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.6		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	86500	7.875			
540-36-3	1,4-Difluorobenzene	181000	8.781			
3114-55-4	Chlorobenzene-d5	169000	11.581			
3855-82-1	1,4-Dichlorobenzene-d4	72500	13.522			

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:	VD0120SBL04	SDG No.:	O1233
Lab Sample ID:	VD0120SBL04	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075147.D	1		01/20/23 12:23	VD012023

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:	VD0123SBL01	SDG No.:	O1233
Lab Sample ID:	VD0123SBL01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075169.D	1		01/23/23 12:14	VD012323

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:	VD0123SBL01	SDG No.:	O1233
Lab Sample ID:	VD0123SBL01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075169.D	1		01/23/23 12:14	VD012323

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	51.9		50 - 163	104%	SPK: 50
1868-53-7	Dibromofluoromethane	48.5		54 - 147	97%	SPK: 50
2037-26-5	Toluene-d8	50.8		58 - 134	102%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.4		30 - 143	101%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	95400	7.875			
540-36-3	1,4-Difluorobenzene	184000	8.781			
3114-55-4	Chlorobenzene-d5	168000	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	71800	13.522			

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:	VD0123SBL01	SDG No.:	O1233
Lab Sample ID:	VD0123SBL01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075169.D	1		01/23/23 12:14	VD012323

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:	VN0120WBL01	SDG No.:	O1233
Lab Sample ID:	VN0120WBL01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076339.D	1		01/20/23 11:25	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	0.17	1.00	ug/L
74-87-3	Chloromethane	0.20	U	0.20	1.00	ug/L
75-01-4	Vinyl Chloride	0.22	U	0.22	1.00	ug/L
74-83-9	Bromomethane	1.60	U	1.60	5.00	ug/L
75-00-3	Chloroethane	0.26	U	0.26	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.20	U	0.20	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.17	U	0.17	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.23	U	0.23	1.00	ug/L
67-64-1	Acetone	1.20	U	1.20	5.00	ug/L
75-15-0	Carbon Disulfide	0.26	U	0.26	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.18	U	0.18	1.00	ug/L
79-20-9	Methyl Acetate	0.53	U	0.53	1.00	ug/L
75-09-2	Methylene Chloride	0.18	U	0.18	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.20	U	0.20	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.20	U	0.20	1.00	ug/L
110-82-7	Cyclohexane	1.20	U	1.20	5.00	ug/L
78-93-3	2-Butanone	0.82	U	0.82	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.18	U	0.18	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.17	U	0.17	1.00	ug/L
74-97-5	Bromochloromethane	0.19	U	0.19	1.00	ug/L
67-66-3	Chloroform	0.18	U	0.18	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.18	U	0.18	1.00	ug/L
108-87-2	Methylcyclohexane	0.13	U	0.13	1.00	ug/L
71-43-2	Benzene	0.16	U	0.16	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.18	U	0.18	1.00	ug/L
79-01-6	Trichloroethene	0.27	U	0.27	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.17	U	0.17	1.00	ug/L
75-27-4	Bromodichloromethane	0.18	U	0.18	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	0.87	U	0.87	5.00	ug/L
108-88-3	Toluene	0.17	U	0.17	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.14	U	0.14	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.16	U	0.16	1.00	ug/L

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:	VN0120WBL01	SDG No.:	O1233
Lab Sample ID:	VN0120WBL01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076339.D	1		01/20/23 11:25	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	0.19	U	0.19	1.00	ug/L
591-78-6	2-Hexanone	0.76	U	0.76	5.00	ug/L
124-48-1	Dibromochloromethane	0.18	U	0.18	1.00	ug/L
106-93-4	1,2-Dibromoethane	0.14	U	0.14	1.00	ug/L
127-18-4	Tetrachloroethene	0.18	U	0.18	1.00	ug/L
108-90-7	Chlorobenzene	0.17	U	0.17	1.00	ug/L
100-41-4	Ethyl Benzene	0.17	U	0.17	1.00	ug/L
179601-23-1	m/p-Xylenes	0.33	U	0.33	2.00	ug/L
95-47-6	o-Xylene	0.18	U	0.18	1.00	ug/L
100-42-5	Styrene	0.13	U	0.13	1.00	ug/L
75-25-2	Bromoform	0.16	U	0.16	1.00	ug/L
98-82-8	Isopropylbenzene	0.19	U	0.19	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.23	U	0.23	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.20	U	0.20	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.19	U	0.19	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.17	U	0.17	1.00	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.42	U	0.42	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.23	U	0.23	1.00	ug/L
87-61-6	1,2,3-Trichlorobenzene	0.33	U	0.33	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	47.5		74 - 125	95%	SPK: 50
1868-53-7	Dibromofluoromethane	48.7		75 - 124	97%	SPK: 50
2037-26-5	Toluene-d8	49.7		86 - 113	99%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.5		64 - 133	91%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	491000	8.23			
540-36-3	1,4-Difluorobenzene	774000	9.106			
3114-55-4	Chlorobenzene-d5	658000	11.871			
3855-82-1	1,4-Dichlorobenzene-d4	251000	13.794			

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:	VN0120WBL01	SDG No.:	O1233
Lab Sample ID:	VN0120WBL01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076339.D	1		01/20/23 11:25	VN012023

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:	VN0123MBL01	SDG No.:	O1233
Lab Sample ID:	VN0123MBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076356.D	1		01/23/23 10:51	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	86.0	U	86.0	500	ug/Kg
74-87-3	Chloromethane	110	U	110	500	ug/Kg
75-01-4	Vinyl Chloride	91.0	U	91.0	500	ug/Kg
74-83-9	Bromomethane	120	U	120	500	ug/Kg
75-00-3	Chloroethane	89.0	U	89.0	500	ug/Kg
75-69-4	Trichlorofluoromethane	97.0	U	97.0	500	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	72.0	U	72.0	500	ug/Kg
75-35-4	1,1-Dichloroethene	86.0	U	86.0	500	ug/Kg
67-64-1	Acetone	1200	U	1200	2500	ug/Kg
75-15-0	Carbon Disulfide	75.0	U	75.0	500	ug/Kg
1634-04-4	Methyl tert-butyl Ether	93.0	U	93.0	500	ug/Kg
79-20-9	Methyl Acetate	130	U	130	500	ug/Kg
75-09-2	Methylene Chloride	600	U	600	1000	ug/Kg
156-60-5	trans-1,2-Dichloroethene	68.0	U	68.0	500	ug/Kg
75-34-3	1,1-Dichloroethane	70.0	U	70.0	500	ug/Kg
110-82-7	Cyclohexane	84.0	U	84.0	500	ug/Kg
78-93-3	2-Butanone	730	U	730	2500	ug/Kg
56-23-5	Carbon Tetrachloride	79.0	U	79.0	500	ug/Kg
156-59-2	cis-1,2-Dichloroethene	68.0	U	68.0	500	ug/Kg
74-97-5	Bromochloromethane	81.0	U	81.0	500	ug/Kg
67-66-3	Chloroform	67.0	U	67.0	500	ug/Kg
71-55-6	1,1,1-Trichloroethane	75.0	U	75.0	500	ug/Kg
108-87-2	Methylcyclohexane	80.0	U	80.0	500	ug/Kg
71-43-2	Benzene	66.0	U	66.0	500	ug/Kg
107-06-2	1,2-Dichloroethane	84.0	U	84.0	500	ug/Kg
79-01-6	Trichloroethene	73.0	U	73.0	500	ug/Kg
78-87-5	1,2-Dichloropropane	65.0	U	65.0	500	ug/Kg
75-27-4	Bromodichloromethane	70.0	U	70.0	500	ug/Kg
108-10-1	4-Methyl-2-Pentanone	460	U	460	2500	ug/Kg
108-88-3	Toluene	63.0	U	63.0	500	ug/Kg
10061-02-6	t-1,3-Dichloropropene	74.0	U	74.0	500	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	71.0	U	71.0	500	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:	VN0123MBL01	SDG No.:	O1233
Lab Sample ID:	VN0123MBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076356.D	1		01/23/23 10:51	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	86.0	U	86.0	500	ug/Kg
591-78-6	2-Hexanone	470	U	470	2500	ug/Kg
124-48-1	Dibromochloromethane	75.0	U	75.0	500	ug/Kg
106-93-4	1,2-Dibromoethane	75.0	U	75.0	500	ug/Kg
127-18-4	Tetrachloroethene	76.0	U	76.0	500	ug/Kg
108-90-7	Chlorobenzene	65.0	U	65.0	500	ug/Kg
100-41-4	Ethyl Benzene	70.0	U	70.0	500	ug/Kg
179601-23-1	m/p-Xylenes	150	U	150	1000	ug/Kg
95-47-6	o-Xylene	79.0	U	79.0	500	ug/Kg
100-42-5	Styrene	79.0	U	79.0	500	ug/Kg
75-25-2	Bromoform	81.0	U	81.0	500	ug/Kg
98-82-8	Isopropylbenzene	72.0	U	72.0	500	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	110	U	110	500	ug/Kg
541-73-1	1,3-Dichlorobenzene	67.0	U	67.0	500	ug/Kg
106-46-7	1,4-Dichlorobenzene	63.0	U	63.0	500	ug/Kg
95-50-1	1,2-Dichlorobenzene	64.0	U	64.0	500	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	120	U	120	500	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	94.0	U	94.0	500	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	100	U	100	500	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	49.9		50 - 163	100%	SPK: 50
1868-53-7	Dibromofluoromethane	49.5		54 - 147	99%	SPK: 50
2037-26-5	Toluene-d8	48.9		58 - 134	98%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.4		30 - 143	89%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	304000	8.23			
540-36-3	1,4-Difluorobenzene	491000	9.106			
3114-55-4	Chlorobenzene-d5	404000	11.87			
3855-82-1	1,4-Dichlorobenzene-d4	159000	13.794			

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:	VN0123MBL01	SDG No.:	O1233
Lab Sample ID:	VN0123MBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076356.D	1		01/23/23 10:51	VN012323

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.:	O1233
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.:	O1233
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.:	O1233
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:	VD0120SBS02	SDG No.:	O1233
Lab Sample ID:	VD0120SBS02	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075150.D	1		01/20/23 13:45	VD012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	25.8		0.86	5.00	ug/Kg
74-87-3	Chloromethane	22.6		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	20.1		0.91	5.00	ug/Kg
74-83-9	Bromomethane	21.1		1.20	5.00	ug/Kg
75-00-3	Chloroethane	20.7		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	21.7		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	22.5		0.86	5.00	ug/Kg
67-64-1	Acetone	99.8		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	21.8		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	21.8		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	22.8		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	20.1		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	21.1		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	21.6		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	21.7		0.84	5.00	ug/Kg
78-93-3	2-Butanone	110		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	20.0		0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	21.6		0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	24.1		0.81	5.00	ug/Kg
67-66-3	Chloroform	21.5		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	20.8		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	21.0		0.80	5.00	ug/Kg
71-43-2	Benzene	21.4		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	20.9		0.84	5.00	ug/Kg
79-01-6	Trichloroethene	20.6		0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	20.7		0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	20.4		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	110		4.60	25.0	ug/Kg
108-88-3	Toluene	20.7		0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	20.0		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:	VD0120SBS02	SDG No.:	O1233
Lab Sample ID:	VD0120SBS02	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075150.D	1		01/20/23 13:45	VD012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	20.9		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	110		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	20.0		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	21.0		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	19.2		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	20.4		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	20.4		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	41.6		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.9		0.79	5.00	ug/Kg
100-42-5	Styrene	20.7		0.79	5.00	ug/Kg
75-25-2	Bromoform	19.9		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	20.1		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	21.7		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	20.8		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	20.4		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	21.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	18.2		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	18.4		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	56.1		50 - 163	112%	SPK: 50
1868-53-7	Dibromofluoromethane	53.0		54 - 147	106%	SPK: 50
2037-26-5	Toluene-d8	53.3		58 - 134	107%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.5		30 - 143	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	78300	7.875			
540-36-3	1,4-Difluorobenzene	143000	8.781			
3114-55-4	Chlorobenzene-d5	129000	11.586			
3855-82-1	1,4-Dichlorobenzene-d4	58000	13.522			

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:	VD0120SBS02	SDG No.:	O1233
Lab Sample ID:	VD0120SBS02	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075150.D	1		01/20/23 13:45	VD012023

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:	VD0123SBS01	SDG No.:	O1233
Lab Sample ID:	VD0123SBS01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075170.D	1		01/23/23 12:41	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	24.9		0.86	5.00	ug/Kg
74-87-3	Chloromethane	22.7		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	20.4		0.91	5.00	ug/Kg
74-83-9	Bromomethane	19.9		1.20	5.00	ug/Kg
75-00-3	Chloroethane	19.7		0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	21.3		0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	22.1		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	21.7		0.86	5.00	ug/Kg
67-64-1	Acetone	100		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	21.8		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	21.1		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	22.0		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	16.3		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	21.2		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	21.5		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	22.0		0.84	5.00	ug/Kg
78-93-3	2-Butanone	100		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	20.3		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	23.2		0.81	5.00	ug/Kg
67-66-3	Chloroform	20.9		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	21.0		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	20.8		0.80	5.00	ug/Kg
71-43-2	Benzene	21.1		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	21.3		0.84	5.00	ug/Kg
79-01-6	Trichloroethene	19.8		0.73	5.00	ug/Kg
78-87-5	1,2-Dichloropropane	19.9		0.65	5.00	ug/Kg
75-27-4	Bromodichloromethane	20.8		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	110		4.60	25.0	ug/Kg
108-88-3	Toluene	20.8		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	20.3		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:	VD0123SBS01	SDG No.:	O1233
Lab Sample ID:	VD0123SBS01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075170.D	1		01/23/23 12:41	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	21.7		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	110		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	21.3		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	20.6		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	19.7		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	20.6		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	20.9		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	41.1		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.8		0.79	5.00	ug/Kg
100-42-5	Styrene	20.7		0.79	5.00	ug/Kg
75-25-2	Bromoform	20.2		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	19.9		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	20.7		1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	19.9		0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	20.1		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	19.7		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	20.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	18.2		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	18.1		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	54.9		50 - 163	110%	SPK: 50
1868-53-7	Dibromofluoromethane	53.1		54 - 147	106%	SPK: 50
2037-26-5	Toluene-d8	53.7		58 - 134	107%	SPK: 50
460-00-4	4-Bromofluorobenzene	51.6		30 - 143	103%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	76000	7.881			
540-36-3	1,4-Difluorobenzene	135000	8.781			
3114-55-4	Chlorobenzene-d5	121000	11.586			
3855-82-1	1,4-Dichlorobenzene-d4	55800	13.522			

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:	VD0123SBS01	SDG No.:	O1233
Lab Sample ID:	VD0123SBS01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075170.D	1		01/23/23 12:41	VD012323

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:	VN0120WBS01	SDG No.:	O1233
Lab Sample ID:	VN0120WBS01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076340.D	1		01/20/23 11:49	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	17.4		0.17	1.00	ug/L
74-87-3	Chloromethane	16.6		0.20	1.00	ug/L
75-01-4	Vinyl Chloride	17.5		0.22	1.00	ug/L
74-83-9	Bromomethane	17.6		1.60	5.00	ug/L
75-00-3	Chloroethane	18.8		0.26	1.00	ug/L
75-69-4	Trichlorofluoromethane	16.9		0.20	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	17.2		0.17	1.00	ug/L
75-35-4	1,1-Dichloroethene	16.8		0.23	1.00	ug/L
67-64-1	Acetone	85.8		1.20	5.00	ug/L
75-15-0	Carbon Disulfide	15.2		0.26	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	17.6		0.18	1.00	ug/L
79-20-9	Methyl Acetate	16.4		0.53	1.00	ug/L
75-09-2	Methylene Chloride	18.5		0.18	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	16.2		0.20	1.00	ug/L
75-34-3	1,1-Dichloroethane	16.8		0.20	1.00	ug/L
110-82-7	Cyclohexane	16.2		1.20	5.00	ug/L
78-93-3	2-Butanone	83.8		0.82	5.00	ug/L
56-23-5	Carbon Tetrachloride	17.2		0.18	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	17.3		0.17	1.00	ug/L
74-97-5	Bromochloromethane	18.8		0.19	1.00	ug/L
67-66-3	Chloroform	17.0		0.18	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	17.5		0.18	1.00	ug/L
108-87-2	Methylcyclohexane	17.6		0.13	1.00	ug/L
71-43-2	Benzene	17.2		0.16	1.00	ug/L
107-06-2	1,2-Dichloroethane	17.3		0.18	1.00	ug/L
79-01-6	Trichloroethene	16.7		0.27	1.00	ug/L
78-87-5	1,2-Dichloropropane	17.0		0.17	1.00	ug/L
75-27-4	Bromodichloromethane	17.6		0.18	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	88.6		0.87	5.00	ug/L
108-88-3	Toluene	16.7		0.17	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	17.9		0.14	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	17.3		0.16	1.00	ug/L

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:	VN0120WBS01	SDG No.:	O1233
Lab Sample ID:	VN0120WBS01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076340.D	1		01/20/23 11:49	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	17.5		0.19	1.00	ug/L
591-78-6	2-Hexanone	88.3		0.76	5.00	ug/L
124-48-1	Dibromochloromethane	18.0		0.18	1.00	ug/L
106-93-4	1,2-Dibromoethane	17.8		0.14	1.00	ug/L
127-18-4	Tetrachloroethene	17.6		0.18	1.00	ug/L
108-90-7	Chlorobenzene	17.8		0.17	1.00	ug/L
100-41-4	Ethyl Benzene	18.3		0.17	1.00	ug/L
179601-23-1	m/p-Xylenes	36.8		0.33	2.00	ug/L
95-47-6	o-Xylene	18.5		0.18	1.00	ug/L
100-42-5	Styrene	18.3		0.13	1.00	ug/L
75-25-2	Bromoform	18.1		0.16	1.00	ug/L
98-82-8	Isopropylbenzene	19.4		0.19	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	18.1		0.23	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	17.6		0.20	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	18.0		0.19	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	17.4		0.17	1.00	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	17.9		0.42	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	16.7		0.23	1.00	ug/L
87-61-6	1,2,3-Trichlorobenzene	17.1		0.33	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	49.0		74 - 125	98%	SPK: 50
1868-53-7	Dibromofluoromethane	50.3		75 - 124	101%	SPK: 50
2037-26-5	Toluene-d8	50.7		86 - 113	101%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.9		64 - 133	102%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	434000	8.23			
540-36-3	1,4-Difluorobenzene	687000	9.106			
3114-55-4	Chlorobenzene-d5	591000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	268000	13.794			

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:	VN0120WBS01	SDG No.:	O1233
Lab Sample ID:	VN0120WBS01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076340.D	1		01/20/23 11:49	VN012023

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:	VN0123MBS01	SDG No.:	O1233
Lab Sample ID:	VN0123MBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076358.D	1		01/23/23 11:39	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	1800		86.0	500	ug/Kg
74-87-3	Chloromethane	1800		110	500	ug/Kg
75-01-4	Vinyl Chloride	2000		91.0	500	ug/Kg
74-83-9	Bromomethane	1900		120	500	ug/Kg
75-00-3	Chloroethane	2000		89.0	500	ug/Kg
75-69-4	Trichlorofluoromethane	1700		97.0	500	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	1800		72.0	500	ug/Kg
75-35-4	1,1-Dichloroethene	1700		86.0	500	ug/Kg
67-64-1	Acetone	10700		1200	2500	ug/Kg
75-15-0	Carbon Disulfide	1700		75.0	500	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1800		93.0	500	ug/Kg
79-20-9	Methyl Acetate	1800		130	500	ug/Kg
75-09-2	Methylene Chloride	1700		600	1000	ug/Kg
156-60-5	trans-1,2-Dichloroethene	1700		68.0	500	ug/Kg
75-34-3	1,1-Dichloroethane	1800		70.0	500	ug/Kg
110-82-7	Cyclohexane	1700		84.0	500	ug/Kg
78-93-3	2-Butanone	9300		730	2500	ug/Kg
56-23-5	Carbon Tetrachloride	1900		79.0	500	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1700		68.0	500	ug/Kg
74-97-5	Bromochloromethane	2100		81.0	500	ug/Kg
67-66-3	Chloroform	1800		67.0	500	ug/Kg
71-55-6	1,1,1-Trichloroethane	1800		75.0	500	ug/Kg
108-87-2	Methylcyclohexane	1700		80.0	500	ug/Kg
71-43-2	Benzene	1800		66.0	500	ug/Kg
107-06-2	1,2-Dichloroethane	1800		84.0	500	ug/Kg
79-01-6	Trichloroethene	1700		73.0	500	ug/Kg
78-87-5	1,2-Dichloropropane	1800		65.0	500	ug/Kg
75-27-4	Bromodichloromethane	1900		70.0	500	ug/Kg
108-10-1	4-Methyl-2-Pentanone	9500		460	2500	ug/Kg
108-88-3	Toluene	1700		63.0	500	ug/Kg
10061-02-6	t-1,3-Dichloropropene	1900		74.0	500	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1900		71.0	500	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:	VN0123MBS01	SDG No.:	O1233
Lab Sample ID:	VN0123MBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076358.D	1		01/23/23 11:39	VN012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1800		86.0	500	ug/Kg
591-78-6	2-Hexanone	9400		470	2500	ug/Kg
124-48-1	Dibromochloromethane	2000		75.0	500	ug/Kg
106-93-4	1,2-Dibromoethane	1800		75.0	500	ug/Kg
127-18-4	Tetrachloroethene	1700		76.0	500	ug/Kg
108-90-7	Chlorobenzene	1800		65.0	500	ug/Kg
100-41-4	Ethyl Benzene	1900		70.0	500	ug/Kg
179601-23-1	m/p-Xylenes	3700		150	1000	ug/Kg
95-47-6	o-Xylene	1800		79.0	500	ug/Kg
100-42-5	Styrene	1900		79.0	500	ug/Kg
75-25-2	Bromoform	2100		81.0	500	ug/Kg
98-82-8	Isopropylbenzene	2000		72.0	500	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1900		110	500	ug/Kg
541-73-1	1,3-Dichlorobenzene	1800		67.0	500	ug/Kg
106-46-7	1,4-Dichlorobenzene	1800		63.0	500	ug/Kg
95-50-1	1,2-Dichlorobenzene	1700		64.0	500	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	1800		120	500	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	1700		94.0	500	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1700		100	500	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.1		50 - 163	104%	SPK: 50
1868-53-7	Dibromofluoromethane	51.4		54 - 147	103%	SPK: 50
2037-26-5	Toluene-d8	50.9		58 - 134	102%	SPK: 50
460-00-4	4-Bromofluorobenzene	51.3		30 - 143	103%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	382000	8.23			
540-36-3	1,4-Difluorobenzene	610000	9.106			
3114-55-4	Chlorobenzene-d5	527000	11.865			
3855-82-1	1,4-Dichlorobenzene-d4	238000	13.794			

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:	VN0123MBS01	SDG No.:	O1233
Lab Sample ID:	VN0123MBS01	Matrix:	SOIL
Analytical Method:	SW8260	% Solid:	100
Sample Wt/Vol:	5 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	100 uL	Test:	VOC-TCLVOA-10
GC Column:	RXI-624 ID : 0.25	Level :	MED
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN076358.D	1		01/23/23 11:39	VN012323

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.:	O1233
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.:	O1233
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.:	O1233
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:	VD0123SBSD01	SDG No.:	O1233
Lab Sample ID:	VD0123SBSD01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075171.D	1		01/23/23 13:08	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
75-71-8	Dichlorodifluoromethane	26.4		0.86	5.00	ug/Kg
74-87-3	Chloromethane	22.1		1.10	5.00	ug/Kg
75-01-4	Vinyl Chloride	20.9		0.91	5.00	ug/Kg
74-83-9	Bromomethane	20.4		1.20	5.00	ug/Kg
75-00-3	Chloroethane	21.5		0.89	5.00	ug/Kg
75-69-4	Trichlorofluoromethane	22.5		0.97	5.00	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	22.5		0.72	5.00	ug/Kg
75-35-4	1,1-Dichloroethene	22.4		0.86	5.00	ug/Kg
67-64-1	Acetone	100		12.2	25.0	ug/Kg
75-15-0	Carbon Disulfide	22.3		0.75	5.00	ug/Kg
1634-04-4	Methyl tert-butyl Ether	21.2		0.93	5.00	ug/Kg
79-20-9	Methyl Acetate	22.9		1.30	5.00	ug/Kg
75-09-2	Methylene Chloride	16.9		6.00	10.0	ug/Kg
156-60-5	trans-1,2-Dichloroethene	21.8		0.68	5.00	ug/Kg
75-34-3	1,1-Dichloroethane	21.7		0.70	5.00	ug/Kg
110-82-7	Cyclohexane	21.6		0.84	5.00	ug/Kg
78-93-3	2-Butanone	110		7.30	25.0	ug/Kg
56-23-5	Carbon Tetrachloride	20.2		0.79	5.00	ug/Kg
156-59-2	cis-1,2-Dichloroethene	21.5		0.68	5.00	ug/Kg
74-97-5	Bromochloromethane	24.2		0.81	5.00	ug/Kg
67-66-3	Chloroform	21.3		0.67	5.00	ug/Kg
71-55-6	1,1,1-Trichloroethane	21.3		0.75	5.00	ug/Kg
108-87-2	Methylcyclohexane	21.1		0.80	5.00	ug/Kg
71-43-2	Benzene	21.6		0.66	5.00	ug/Kg
107-06-2	1,2-Dichloroethane	21.1		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	21.5		0.70	5.00	ug/Kg
108-10-1	4-Methyl-2-Pentanone	110		4.60	25.0	ug/Kg
108-88-3	Toluene	21.3		0.63	5.00	ug/Kg
10061-02-6	t-1,3-Dichloropropene	19.7		0.74	5.00	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	20.4		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:	VD0123SBSD01	SDG No.:	O1233
Lab Sample ID:	VD0123SBSD01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075171.D	1		01/23/23 13:08	VD012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	21.3		0.86	5.00	ug/Kg
591-78-6	2-Hexanone	110		4.70	25.0	ug/Kg
124-48-1	Dibromochloromethane	20.9		0.75	5.00	ug/Kg
106-93-4	1,2-Dibromoethane	21.2		0.75	5.00	ug/Kg
127-18-4	Tetrachloroethene	20.1		0.76	5.00	ug/Kg
108-90-7	Chlorobenzene	20.5		0.65	5.00	ug/Kg
100-41-4	Ethyl Benzene	21.0		0.70	5.00	ug/Kg
179601-23-1	m/p-Xylenes	42.9		1.50	10.0	ug/Kg
95-47-6	o-Xylene	20.4		0.79	5.00	ug/Kg
100-42-5	Styrene	21.5		0.79	5.00	ug/Kg
75-25-2	Bromoform	20.2		0.81	5.00	ug/Kg
98-82-8	Isopropylbenzene	20.1		0.72	5.00	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	21.6		1.10	5.00	ug/Kg
541-73-1	1,3-Dichlorobenzene	20.2		0.67	5.00	ug/Kg
106-46-7	1,4-Dichlorobenzene	20.6		0.63	5.00	ug/Kg
95-50-1	1,2-Dichlorobenzene	20.6		0.64	5.00	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	22.7		1.20	5.00	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	19.0		0.94	5.00	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	18.8		1.00	5.00	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	53.7		50 - 163	107%	SPK: 50
1868-53-7	Dibromofluoromethane	51.7		54 - 147	103%	SPK: 50
2037-26-5	Toluene-d8	52.9		58 - 134	106%	SPK: 50
460-00-4	4-Bromofluorobenzene	51.2		30 - 143	102%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	72400	7.875			
540-36-3	1,4-Difluorobenzene	130000	8.781			
3114-55-4	Chlorobenzene-d5	116000	11.587			
3855-82-1	1,4-Dichlorobenzene-d4	53200	13.522			

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:	VD0123SBSD01	SDG No.:	O1233
Lab Sample ID:	VD0123SBSD01	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:	RTX-VMS ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD075171.D	1		01/23/23 13:08	VD012323

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:	VN0120WBSD01	SDG No.:	O1233
Lab Sample ID:	VN0120WBSD01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076341.D	1		01/20/23 12:25	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	18.1		0.17	1.00	ug/L
74-87-3	Chloromethane	17.3		0.20	1.00	ug/L
75-01-4	Vinyl Chloride	18.3		0.22	1.00	ug/L
74-83-9	Bromomethane	18.7		1.60	5.00	ug/L
75-00-3	Chloroethane	18.9		0.26	1.00	ug/L
75-69-4	Trichlorofluoromethane	18.0		0.20	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	18.7		0.17	1.00	ug/L
75-35-4	1,1-Dichloroethene	17.4		0.23	1.00	ug/L
67-64-1	Acetone	91.0		1.20	5.00	ug/L
75-15-0	Carbon Disulfide	16.3		0.26	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	19.9		0.18	1.00	ug/L
79-20-9	Methyl Acetate	18.5		0.53	1.00	ug/L
75-09-2	Methylene Chloride	20.5		0.18	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	18.0		0.20	1.00	ug/L
75-34-3	1,1-Dichloroethane	18.4		0.20	1.00	ug/L
110-82-7	Cyclohexane	17.4		1.20	5.00	ug/L
78-93-3	2-Butanone	92.2		0.82	5.00	ug/L
56-23-5	Carbon Tetrachloride	18.7		0.18	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	18.6		0.17	1.00	ug/L
74-97-5	Bromochloromethane	20.4		0.19	1.00	ug/L
67-66-3	Chloroform	18.8		0.18	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	18.5		0.18	1.00	ug/L
108-87-2	Methylcyclohexane	19.1		0.13	1.00	ug/L
71-43-2	Benzene	18.8		0.16	1.00	ug/L
107-06-2	1,2-Dichloroethane	19.5		0.18	1.00	ug/L
79-01-6	Trichloroethene	18.0		0.27	1.00	ug/L
78-87-5	1,2-Dichloropropane	19.2		0.17	1.00	ug/L
75-27-4	Bromodichloromethane	19.5		0.18	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	98.9		0.87	5.00	ug/L
108-88-3	Toluene	18.5		0.17	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	19.8		0.14	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	19.4		0.16	1.00	ug/L

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:	VN0120WBSD01	SDG No.:	O1233
Lab Sample ID:	VN0120WBSD01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076341.D	1		01/20/23 12:25	VN012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	19.5		0.19	1.00	ug/L
591-78-6	2-Hexanone	98.1		0.76	5.00	ug/L
124-48-1	Dibromochloromethane	20.2		0.18	1.00	ug/L
106-93-4	1,2-Dibromoethane	19.4		0.14	1.00	ug/L
127-18-4	Tetrachloroethene	18.4		0.18	1.00	ug/L
108-90-7	Chlorobenzene	18.8		0.17	1.00	ug/L
100-41-4	Ethyl Benzene	19.1		0.17	1.00	ug/L
179601-23-1	m/p-Xylenes	38.2		0.33	2.00	ug/L
95-47-6	o-Xylene	19.2		0.18	1.00	ug/L
100-42-5	Styrene	19.4		0.13	1.00	ug/L
75-25-2	Bromoform	19.8		0.16	1.00	ug/L
98-82-8	Isopropylbenzene	19.9		0.19	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	19.3		0.23	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	18.1		0.20	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	18.8		0.19	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	18.1		0.17	1.00	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	19.9		0.42	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	18.4		0.23	1.00	ug/L
87-61-6	1,2,3-Trichlorobenzene	18.5		0.33	1.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	51.3		74 - 125	103%	SPK: 50
1868-53-7	Dibromofluoromethane	51.9		75 - 124	104%	SPK: 50
2037-26-5	Toluene-d8	51.4		86 - 113	103%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.4		64 - 133	107%	SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	360000	8.23			
540-36-3	1,4-Difluorobenzene	568000	9.106			
3114-55-4	Chlorobenzene-d5	510000	11.871			
3855-82-1	1,4-Dichlorobenzene-d4	238000	13.794			

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:	VN0120WBSD01	SDG No.:	O1233
Lab Sample ID:	VN0120WBSD01	Matrix:	Water
Analytical Method:	SW8260	% Solid:	0
Sample Wt/Vol:	5 Units: mL	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
VN076341.D	1		01/20/23 12:25	VN012023

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.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Calibration Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VD075124.D RRF010 = VD075125.D RRF020 = VD075126.D
RRF050 = VD075127.D RRF100 = VD075128.D RRF150 = VD075129.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.476	0.507	0.518	0.365	0.373	0.374	0.435	16.6
Chloromethane	0.725	0.734	0.686	0.608	0.556	0.566	0.646	12.3
Vinyl Chloride	0.741	0.724	0.728	0.656	0.641	0.668	0.693	6.2
Bromomethane	0.534	0.516	0.461	0.451	0.415	0.451	0.471	9.5
Chloroethane	0.496	0.511	0.487	0.473	0.445	0.471	0.481	4.7
Trichlorofluoromethane	0.959	0.897	0.901	0.850	0.832	0.847	0.881	5.4
1,1,2-Trichlorotrifluoroethane	0.580	0.547	0.579	0.517	0.519	0.521	0.544	5.5
1,1-Dichloroethene	0.596	0.603	0.595	0.563	0.537	0.541	0.573	5.2
Acetone	0.109	0.139	0.126	0.160	0.136	0.138	0.135	12.6
Carbon Disulfide	1.982	1.978	1.942	1.832	1.710	1.698	1.857	7
Methyl tert-butyl Ether	1.168	1.255	1.164	1.290	1.128	1.170	1.196	5.2
Methyl Acetate	0.390	0.401	0.353	0.387	0.325	0.338	0.366	8.5
Methylene Chloride	0.972	1.161	0.911	0.794	0.629	0.625	0.849	24.6
trans-1,2-Dichloroethene	0.695	0.676	0.631	0.657	0.583	0.583	0.637	7.4
1,1-Dichloroethane	1.130	1.181	1.083	1.112	1.002	1.012	1.087	6.4
Cyclohexane	1.295	1.059	1.049	0.935	0.895	0.907	1.023	14.7
2-Butanone	0.159	0.176	0.150	0.182	0.151	0.158	0.163	8.2
Carbon Tetrachloride	0.398	0.375	0.404	0.406	0.434	0.435	0.409	5.6
cis-1,2-Dichloroethene	0.720	0.728	0.707	0.726	0.648	0.640	0.695	5.8
Bromochloromethane	0.312	0.338	0.320	0.297	0.258	0.255	0.297	11.3
Chloroform	1.169	1.159	1.067	1.122	0.986	0.999	1.084	7.3
1,1,1-Trichloroethane	0.981	0.987	0.926	0.937	0.878	0.894	0.934	4.7
Methylcyclohexane	0.646	0.590	0.599	0.570	0.597	0.588	0.598	4.2
Benzene	1.458	1.425	1.368	1.438	1.328	1.290	1.384	4.8
1,2-Dichloroethane	0.359	0.376	0.350	0.384	0.355	0.358	0.364	3.6
Trichloroethene	0.410	0.401	0.373	0.400	0.376	0.374	0.389	4.2
1,2-Dichloropropane	0.365	0.355	0.323	0.355	0.327	0.321	0.341	5.7
Bromodichloromethane	0.449	0.455	0.417	0.473	0.443	0.440	0.446	4.2
4-Methyl-2-Pentanone	0.171	0.192	0.172	0.192	0.180	0.190	0.183	5.4
Toluene	0.912	0.906	0.864	0.916	0.829	0.822	0.875	4.9
t-1,3-Dichloropropene	0.402	0.426	0.399	0.447	0.426	0.433	0.422	4.4
cis-1,3-Dichloropropene	0.486	0.519	0.501	0.556	0.511	0.521	0.516	4.6
1,1,2-Trichloroethane	0.243	0.245	0.229	0.255	0.225	0.232	0.238	4.7

* 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.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Calibration Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VD075124.D RRF010 = VD075125.D RRF020 = VD075126.D
RRF050 = VD075127.D RRF100 = VD075128.D RRF150 = VD075129.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
2-Hexanone	0.115	0.140	0.123	0.144	0.131	0.140	0.132	8.7
Dibromochloromethane	0.279	0.299	0.262	0.310	0.283	0.288	0.287	5.7
1,2-Dibromoethane	0.234	0.228	0.221	0.242	0.217	0.222	0.227	4
Tetrachloroethene	0.380	0.363	0.358	0.350	0.346	0.344	0.357	3.8
Chlorobenzene	1.129	1.025	1.005	1.054	0.972	0.962	1.025	6
Ethyl Benzene	1.914	1.826	1.855	1.865	1.805	1.800	1.844	2.3
m/p-Xylenes	0.755	0.701	0.722	0.718	0.689	0.690	0.712	3.5
o-Xylene	0.687	0.668	0.661	0.696	0.647	0.651	0.668	2.9
Styrene	1.119	1.139	1.102	1.153	1.073	1.079	1.111	2.9
Bromoform	0.166	0.176	0.166	0.188	0.184	0.187	0.178	5.7
Isopropylbenzene	4.215	3.842	3.974	3.847	3.954	3.864	3.949	3.6
1,1,2,2-Tetrachloroethane	0.601	0.674	0.626	0.645	0.614	0.615	0.629	4.2
1,3-Dichlorobenzene	1.817	1.801	1.783	1.756	1.684	1.651	1.749	3.8
1,4-Dichlorobenzene	1.818	1.764	1.700	1.721	1.676	1.644	1.720	3.6
1,2-Dichlorobenzene	1.532	1.491	1.515	1.532	1.454	1.453	1.496	2.4
1,2-Dibromo-3-Chloropropane	0.084	0.095	0.095	0.102	0.097	0.104	0.096	7.4
1,2,4-Trichlorobenzene	0.983	0.990	0.933	0.997	0.987	1.005	0.982	2.6
1,2,3-Trichlorobenzene	0.813	0.833	0.820	0.854	0.847	0.863	0.838	2.3
1,2-Dichloroethane-d4	0.524	0.543	0.501	0.537	0.472	0.485	0.510	5.7
Dibromofluoromethane	0.288	0.312	0.301	0.322	0.297	0.293	0.302	4.2
Toluene-d8	1.228	1.239	1.152	1.232	1.153	1.133	1.190	4.1
4-Bromofluorobenzene	0.409	0.376	0.363	0.397	0.357	0.363	0.378	5.6

* 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.: O1233 SAS No.: O1233 SDG No.: O1233

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

Heated Purge: (Y/N) N Calibration Time(s): 10:54 13:17

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

LAB FILE ID: RRF005 = VN076261.D RRF010 = VN076262.D RRF020 = VN076263.D
RRF050 = VN076264.D RRF075 = VN076265.D RRF001 = VN076267.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF001	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.452	0.537	0.523	0.526	0.541	0.496	0.512	6.6
Chloromethane	0.503	0.544	0.523	0.522	0.522	0.569	0.531	4.3
Vinyl Chloride	0.658	0.653	0.644	0.644	0.657	0.647	0.650	1
Bromomethane	0.558	0.534	0.525	0.515	0.532		0.533	3
Chloroethane	0.475	0.484	0.471	0.457	0.487	0.553	0.488	6.9
Trichlorofluoromethane	0.887	0.887	0.880	0.875	0.898	0.942	0.895	2.7
1,1,2-Trichlorotrifluoroethane	0.511	0.531	0.502	0.498	0.511	0.487	0.507	3
1,1-Dichloroethene	0.470	0.479	0.459	0.477	0.486	0.503	0.479	3.1
Acetone	0.187	0.185	0.173	0.175	0.182	0.269	0.195	18.8
Carbon Disulfide	1.073	1.179	1.141	1.184	1.228	1.350	1.192	7.8
Methyl tert-butyl Ether	1.517	1.535	1.537	1.597	1.633	1.535	1.559	2.9
Methyl Acetate	0.618	0.606	0.574	0.588	0.599	0.664	0.608	5.1
Methylene Chloride	0.579	0.550	0.543	0.517	0.535	1.144	0.645	38.1
trans-1,2-Dichloroethene	0.520	0.501	0.500	0.506	0.513	0.573	0.519	5.4
1,1-Dichloroethane	0.910	0.897	0.854	0.868	0.893	0.842	0.877	3.1
Cyclohexane	1.007	0.875	0.833	0.787	0.798		0.860	10.4
2-Butanone	0.265	0.275	0.263	0.273	0.278	0.290	0.274	3.5
Carbon Tetrachloride	0.489	0.490	0.486	0.499	0.514	0.496	0.496	2
cis-1,2-Dichloroethene	0.615	0.591	0.597	0.599	0.614	0.614	0.605	1.7
Bromochloromethane	0.364	0.333	0.353	0.362	0.380	0.342	0.356	4.7
Chloroform	0.966	0.972	0.931	0.965	0.978	1.013	0.971	2.7
1,1,1-Trichloroethane	0.885	0.878	0.870	0.884	0.924	0.876	0.886	2.2
Methylcyclohexane	0.532	0.525	0.557	0.572	0.597	0.474	0.543	7.9
Benzene	1.325	1.322	1.316	1.333	1.358	1.320	1.329	1.1
1,2-Dichloroethane	0.458	0.448	0.441	0.450	0.460	0.471	0.455	2.4
Trichloroethene	0.398	0.372	0.354	0.361	0.370	0.399	0.376	5
1,2-Dichloropropane	0.326	0.315	0.314	0.315	0.325	0.315	0.318	1.8
Bromodichloromethane	0.450	0.459	0.456	0.474	0.486	0.471	0.466	2.8
4-Methyl-2-Pentanone	0.327	0.341	0.341	0.356	0.367	0.310	0.340	5.9
Toluene	0.891	0.894	0.870	0.885	0.909	0.883	0.889	1.5
t-1,3-Dichloropropene	0.409	0.426	0.442	0.489	0.514	0.386	0.444	10.9
cis-1,3-Dichloropropene	0.468	0.506	0.505	0.531	0.565	0.490	0.511	6.6
1,1,2-Trichloroethane	0.340	0.336	0.330	0.331	0.350	0.350	0.340	2.6

* 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.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

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

Heated Purge: (Y/N) N Calibration Time(s): 10:54 13:17

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

LAB FILE ID: RRF005 = VN076261.D RRF010 = VN076262.D RRF020 = VN076263.D
RRF050 = VN076264.D RRF075 = VN076265.D RRF001 = VN076267.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF075	RRF001	$\overline{RRF}$	% RSD
2-Hexanone	0.232	0.242	0.249	0.261	0.269	0.228	0.247	6.5
Dibromochloromethane	0.342	0.354	0.358	0.382	0.400	0.310	0.358	8.8
1,2-Dibromoethane	0.334	0.340	0.335	0.350	0.361	0.314	0.339	4.7
Tetrachloroethene	0.501	0.460	0.422	0.393	0.388	0.541	0.451	13.6
Chlorobenzene	1.040	1.054	1.017	1.034	1.051	1.146	1.057	4.3
Ethyl Benzene	1.707	1.820	1.814	1.880	1.921	1.711	1.809	4.8
m/p-Xylenes	0.678	0.727	0.721	0.745	0.771	0.710	0.725	4.4
o-Xylene	0.670	0.706	0.710	0.739	0.751	0.699	0.712	4.1
Styrene	1.037	1.097	1.137	1.206	1.250	1.096	1.137	6.9
Bromoform	0.252	0.270	0.282	0.304	0.323	0.273	0.284	9
Isopropylbenzene	3.802	4.040	3.943	3.806	3.824	3.793	3.868	2.6
1,1,2,2-Tetrachloroethane	1.108	1.079	1.071	1.057	1.047	1.309	1.112	8.9
1,3-Dichlorobenzene	1.692	1.760	1.675	1.724	1.759	2.328	1.823	13.7
1,4-Dichlorobenzene	1.740	1.728	1.692	1.701	1.752	2.439	1.842	15.9
1,2-Dichlorobenzene	1.766	1.760	1.703	1.716	1.725	2.224	1.816	11.1
1,2-Dibromo-3-Chloropropane	0.182	0.180	0.187	0.207	0.201	0.204	0.193	6.2
1,2,4-Trichlorobenzene	0.652	0.757	0.760	0.875	0.892	1.282	0.870	25.3
1,2,3-Trichlorobenzene	0.648	0.758	0.730	0.832	0.850	1.121	0.823	19.8
1,2-Dichloroethane-d4	0.584	0.526	0.549	0.554	0.586		0.560	4.5
Dibromofluoromethane	0.331	0.295	0.312	0.306	0.321		0.313	4.4
Toluene-d8	1.176	1.062	1.151	1.165	1.222		1.155	5.1
4-Bromofluorobenzene	0.356	0.334	0.371	0.393	0.431		0.377	9.8

* 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.: O1233 SAS No.: O1233 SDG No.: O1233

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.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

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.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date/Time: 01/20/2023 11:13

Lab File ID: VD075146.D Init. Calib. Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.435	0.403		-7.36	20
Chloromethane	0.646	0.592	0.1	-8.36	20
Vinyl Chloride	0.693	0.650		-6.2	20
Bromomethane	0.471	0.446		-5.31	20
Chloroethane	0.481	0.471		-2.08	20
Trichlorofluoromethane	0.881	0.908		3.07	20
1,1,2-Trichlorotrifluoroethane	0.544	0.579		6.43	20
1,1-Dichloroethene	0.573	0.596		4.01	20
Acetone	0.135	0.162		20	20
Carbon Disulfide	1.857	1.937		4.31	20
Methyl tert-butyl Ether	1.196	1.225		2.42	20
Methyl Acetate	0.366	0.370		1.09	20
Methylene Chloride	0.849	0.689		-18.85	20
trans-1,2-Dichloroethene	0.637	0.665		4.4	20
1,1-Dichloroethane	1.087	1.152	0.1	5.98	20
Cyclohexane	1.023	1.045		2.15	20
2-Butanone	0.163	0.183		12.27	20
Carbon Tetrachloride	0.409	0.449		9.78	20
cis-1,2-Dichloroethene	0.695	0.719		3.45	20
Bromochloromethane	0.297	0.289		-2.69	20
Chloroform	1.084	1.111		2.49	20
1,1,1-Trichloroethane	0.934	0.984		5.35	20
Methylcyclohexane	0.598	0.658		10.03	20
Benzene	1.384	1.453		4.99	20
1,2-Dichloroethane	0.364	0.387		6.32	20
Trichloroethene	0.389	0.402		3.34	20
1,2-Dichloropropane	0.341	0.366		7.33	20
Bromodichloromethane	0.446	0.473		6.05	20
4-Methyl-2-Pentanone	0.183	0.194		6.01	20
Toluene	0.875	0.922		5.37	20
t-1,3-Dichloropropene	0.422	0.441		4.5	20
cis-1,3-Dichloropropene	0.516	0.551		6.78	20
1,1,2-Trichloroethane	0.238	0.249		4.62	20
2-Hexanone	0.132	0.152		15.15	20
Dibromochloromethane	0.287	0.301		4.88	20
1,2-Dibromoethane	0.227	0.233		2.64	20
Tetrachloroethene	0.357	0.381		6.72	20
Chlorobenzene	1.025	1.070	0.3	4.39	20
Ethyl Benzene	1.844	1.986		7.7	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date/Time: 01/20/2023 11:13

Lab File ID: VD075146.D Init. Calib. Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.712	0.763		7.16	20
o-Xylene	0.668	0.712		6.59	20
Styrene	1.111	1.175		5.76	20
Bromoform	0.178	0.191	0.1	7.3	20
Isopropylbenzene	3.949	4.198		6.3	20
1,1,2,2-Tetrachloroethane	0.629	0.668	0.3	6.2	20
1,3-Dichlorobenzene	1.749	1.801		2.97	20
1,4-Dichlorobenzene	1.720	1.777		3.31	20
1,2-Dichlorobenzene	1.496	1.536		2.67	20
1,2-Dibromo-3-Chloropropane	0.096	0.100		4.17	20
1,2,4-Trichlorobenzene	0.982	0.996		1.43	20
1,2,3-Trichlorobenzene	0.838	0.846		0.95	20
1,2-Dichloroethane-d4	0.510	0.508		-0.39	20
Dibromofluoromethane	0.302	0.312		3.31	20
Toluene-d8	1.190	1.231		3.44	20
4-Bromofluorobenzene	0.378	0.382		1.06	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date/Time: 01/23/2023 10:15

Lab File ID: VD075168.D Init. Calib. Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.435	0.374		-14.02	20
Chloromethane	0.646	0.586	0.1	-9.29	20
Vinyl Chloride	0.693	0.633		-8.66	20
Bromomethane	0.471	0.424		-9.98	20
Chloroethane	0.481	0.441		-8.32	20
Trichlorofluoromethane	0.881	0.868		-1.48	20
1,1,2-Trichlorotrifluoroethane	0.544	0.536		-1.47	20
1,1-Dichloroethene	0.573	0.563		-1.75	20
Acetone	0.135	0.184		36.3	20
Carbon Disulfide	1.857	1.830		-1.45	20
Methyl tert-butyl Ether	1.196	1.193		-0.25	20
Methyl Acetate	0.366	0.363		-0.82	20
Methylene Chloride	0.849	0.628		-26.03	20
trans-1,2-Dichloroethene	0.637	0.641		0.63	20
1,1-Dichloroethane	1.087	1.102	0.1	1.38	20
Cyclohexane	1.023	0.970		-5.18	20
2-Butanone	0.163	0.195		19.63	20
Carbon Tetrachloride	0.409	0.430		5.13	20
cis-1,2-Dichloroethene	0.695	0.694		-0.14	20
Bromochloromethane	0.297	0.283		-4.71	20
Chloroform	1.084	1.088		0.37	20
1,1,1-Trichloroethane	0.934	0.931		-0.32	20
Methylcyclohexane	0.598	0.611		2.17	20
Benzene	1.384	1.437		3.83	20
1,2-Dichloroethane	0.364	0.373		2.47	20
Trichloroethene	0.389	0.385		-1.03	20
1,2-Dichloropropane	0.341	0.349		2.35	20
Bromodichloromethane	0.446	0.463		3.81	20
4-Methyl-2-Pentanone	0.183	0.190		3.83	20
Toluene	0.875	0.902		3.09	20
t-1,3-Dichloropropene	0.422	0.432		2.37	20
cis-1,3-Dichloropropene	0.516	0.533		3.3	20
1,1,2-Trichloroethane	0.238	0.242		1.68	20
2-Hexanone	0.132	0.157		18.94	20
Dibromochloromethane	0.287	0.288		0.35	20
1,2-Dibromoethane	0.227	0.226		-0.44	20
Tetrachloroethene	0.357	0.356		-0.28	20
Chlorobenzene	1.025	1.046	0.3	2.05	20
Ethyl Benzene	1.844	1.911		3.63	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_D Calibration Date/Time: 01/23/2023 10:15

Lab File ID: VD075168.D Init. Calib. Date(s): 01/18/2023 01/18/2023

Heated Purge: (Y/N) Y Init. Calib. Time(s): 10:25 13:10

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.712	0.735		3.23	20
o-Xylene	0.668	0.697		4.34	20
Styrene	1.111	1.138		2.43	20
Bromoform	0.178	0.184	0.1	3.37	20
Isopropylbenzene	3.949	3.967		0.46	20
1,1,2,2-Tetrachloroethane	0.629	0.641	0.3	1.91	20
1,3-Dichlorobenzene	1.749	1.721		-1.6	20
1,4-Dichlorobenzene	1.720	1.704		-0.93	20
1,2-Dichlorobenzene	1.496	1.503		0.47	20
1,2-Dibromo-3-Chloropropane	0.096	0.097		1.04	20
1,2,4-Trichlorobenzene	0.982	0.896		-8.76	20
1,2,3-Trichlorobenzene	0.838	0.768		-8.35	20
1,2-Dichloroethane-d4	0.510	0.517		1.37	20
Dibromofluoromethane	0.302	0.318		5.3	20
Toluene-d8	1.190	1.250		5.04	20
4-Bromofluorobenzene	0.378	0.377		-0.26	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_N Calibration Date/Time: 01/20/2023 10:27

Lab File ID: VN076337.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:54 13:17

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

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.512	0.472		-7.81	20
Chloromethane	0.531	0.468	0.1	-11.86	20
Vinyl Chloride	0.650	0.587		-9.69	20
Bromomethane	0.533	0.487		-8.63	20
Chloroethane	0.488	0.443		-9.22	20
Trichlorofluoromethane	0.895	0.825		-7.82	20
1,1,2-Trichlorotrifluoroethane	0.507	0.479		-5.52	20
1,1-Dichloroethene	0.479	0.448		-6.47	20
Acetone	0.195	0.184		-5.64	20
Carbon Disulfide	1.192	1.019		-14.51	20
Methyl tert-butyl Ether	1.559	1.530		-1.86	20
Methyl Acetate	0.608	0.535		-12.01	20
Methylene Chloride	0.645	0.515		-20.16	20
trans-1,2-Dichloroethene	0.519	0.471		-9.25	20
1,1-Dichloroethane	0.877	0.813	0.1	-7.3	20
Cyclohexane	0.860	0.733		-14.77	20
2-Butanone	0.274	0.255		-6.93	20
Carbon Tetrachloride	0.496	0.476		-4.03	20
cis-1,2-Dichloroethene	0.605	0.578		-4.46	20
Bromochloromethane	0.356	0.353		-0.84	20
Chloroform	0.971	0.919		-5.36	20
1,1,1-Trichloroethane	0.886	0.851		-3.95	20
Methylcyclohexane	0.543	0.530		-2.39	20
Benzene	1.329	1.262		-5.04	20
1,2-Dichloroethane	0.455	0.425		-6.59	20
Trichloroethene	0.376	0.353		-6.12	20
1,2-Dichloropropane	0.318	0.300		-5.66	20
Bromodichloromethane	0.466	0.454		-2.58	20
4-Methyl-2-Pentanone	0.340	0.325		-4.41	20
Toluene	0.889	0.843		-5.17	20
t-1,3-Dichloropropene	0.444	0.470		5.86	20
cis-1,3-Dichloropropene	0.511	0.511		0	20
1,1,2-Trichloroethane	0.340	0.322		-5.29	20
2-Hexanone	0.247	0.242		-2.02	20
Dibromochloromethane	0.358	0.371		3.63	20
1,2-Dibromoethane	0.339	0.338		-0.29	20
Tetrachloroethene	0.451	0.415		-7.98	20
Chlorobenzene	1.057	1.011	0.3	-4.35	20
Ethyl Benzene	1.809	1.805		-0.22	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_N Calibration Date/Time: 01/20/2023 10:27

Lab File ID: VN076337.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:54 13:17

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

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.725	0.724		-0.14	20
o-Xylene	0.712	0.712		0	20
Styrene	1.137	1.175		3.34	20
Bromoform	0.284	0.293	0.1	3.17	20
Isopropylbenzene	3.868	3.769		-2.56	20
1,1,2,2-Tetrachloroethane	1.112	0.997	0.3	-10.34	20
1,3-Dichlorobenzene	1.823	1.710		-6.2	20
1,4-Dichlorobenzene	1.842	1.691		-8.2	20
1,2-Dichlorobenzene	1.816	1.687		-7.1	20
1,2-Dibromo-3-Chloropropane	0.193	0.185		-4.14	20
1,2,4-Trichlorobenzene	0.870	0.848		-2.53	20
1,2,3-Trichlorobenzene	0.823	0.806		-2.07	20
1,2-Dichloroethane-d4	0.560	0.568		1.43	20
Dibromofluoromethane	0.313	0.326		4.15	20
Toluene-d8	1.155	1.207		4.5	20
4-Bromofluorobenzene	0.377	0.435		15.39	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.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_N Calibration Date/Time: 01/23/2023 10:17

Lab File ID: VN076355.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:54 13:17

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

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.512	0.458		-10.55	20
Chloromethane	0.531	0.476	0.1	-10.36	20
Vinyl Chloride	0.650	0.625		-3.85	20
Bromomethane	0.533	0.520		-2.44	20
Chloroethane	0.488	0.479		-1.84	20
Trichlorofluoromethane	0.895	0.812		-9.27	20
1,1,2-Trichlorotrifluoroethane	0.507	0.467		-7.89	20
1,1-Dichloroethene	0.479	0.428		-10.65	20
Acetone	0.195	0.177		-9.23	20
Carbon Disulfide	1.192	1.088		-8.73	20
Methyl tert-butyl Ether	1.559	1.510		-3.14	20
Methyl Acetate	0.608	0.533		-12.34	20
Methylene Chloride	0.645	0.523		-18.92	20
trans-1,2-Dichloroethene	0.519	0.463		-10.79	20
1,1-Dichloroethane	0.877	0.828	0.1	-5.59	20
Cyclohexane	0.860	0.717		-16.63	20
2-Butanone	0.274	0.251		-8.39	20
Carbon Tetrachloride	0.496	0.489		-1.41	20
cis-1,2-Dichloroethene	0.605	0.565		-6.61	20
Bromochloromethane	0.356	0.387		8.71	20
Chloroform	0.971	0.932		-4.02	20
1,1,1-Trichloroethane	0.886	0.858		-3.16	20
Methylcyclohexane	0.543	0.526		-3.13	20
Benzene	1.329	1.247		-6.17	20
1,2-Dichloroethane	0.455	0.430		-5.49	20
Trichloroethene	0.376	0.335		-10.9	20
1,2-Dichloropropane	0.318	0.300		-5.66	20
Bromodichloromethane	0.466	0.475		1.93	20
4-Methyl-2-Pentanone	0.340	0.330		-2.94	20
Toluene	0.889	0.825		-7.2	20
t-1,3-Dichloropropene	0.444	0.477		7.43	20
cis-1,3-Dichloropropene	0.511	0.524		2.54	20
1,1,2-Trichloroethane	0.340	0.319		-6.18	20
2-Hexanone	0.247	0.234		-5.26	20
Dibromochloromethane	0.358	0.384		7.26	20
1,2-Dibromoethane	0.339	0.327		-3.54	20
Tetrachloroethene	0.451	0.385		-14.63	20
Chlorobenzene	1.057	0.969	0.3	-8.32	20
Ethyl Benzene	1.809	1.778		-1.71	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.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: MSVOA_N Calibration Date/Time: 01/23/2023 10:17

Lab File ID: VN076355.D Init. Calib. Date(s): 01/16/2023 01/16/2023

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:54 13:17

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

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.725	0.699		-3.59	20
o-Xylene	0.712	0.691		-2.95	20
Styrene	1.137	1.135		-0.18	20
Bromoform	0.284	0.309	0.1	8.8	20
Isopropylbenzene	3.868	3.758		-2.84	20
1,1,2,2-Tetrachloroethane	1.112	1.010	0.3	-9.17	20
1,3-Dichlorobenzene	1.823	1.657		-9.11	20
1,4-Dichlorobenzene	1.842	1.609		-12.65	20
1,2-Dichlorobenzene	1.816	1.613		-11.18	20
1,2-Dibromo-3-Chloropropane	0.193	0.183		-5.18	20
1,2,4-Trichlorobenzene	0.870	0.821		-5.63	20
1,2,3-Trichlorobenzene	0.823	0.789		-4.13	20
1,2-Dichloroethane-d4	0.560	0.565		0.89	20
Dibromofluoromethane	0.313	0.314		0.32	20
Toluene-d8	1.155	1.173		1.56	20
4-Bromofluorobenzene	0.377	0.403		6.9	20

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

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

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.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

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:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/23/23	
			Gasoline Range Organics	8015D			01/23/23	

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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	8015D GRO	% Solid:	84.9 Decanted:
Sample Wt/Vol:	5.01 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
FB029159.D	500	01/23/23 13:02	FB012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	142000		2130	26400	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	29.7		50 - 150	148%	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.: O1233 SAS No.: O1233 SDG No.: O1233

EPA SAMPLE NO.	S1 AAA-TFT	S2	S3	S4	TOT OUT
VBF0123S2	94				0
BSF0123S1	93				0
WC-38	148				0
BSF0123S2	91				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

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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:** O1233 **SAS No :** O1233 **SDG No:** O1233

Matrix Spike - EPA Sample No : BSF0123S1 **Datafile:** FB029158.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
GRO	180	0	150	83	50-150

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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:** O1233 **SAS No :** O1233 **SDG No:** O1233

Matrix Spike - EPA Sample No : BSF0123S2 **Datafile:** FB029160.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
GRO	180	0	162	90	50-150

LCS/LCSD % Recovery RPD : 7.7

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

METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBF0123S2

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

Lab File ID: FB029157.D Lab Sample ID: VBF0123S2

Date Analyzed: 01/23/23 Time Analyzed: 11:45

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
BSF0123S1	BSF0123S1	FB029158.D	01/23/23
WC-38	O1233-10	FB029159.D	01/23/23
BSF0123S2	BSF0123S2	FB029160.D	01/23/23

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:	VBF0123S2	SDG No.:	O1233
Lab Sample ID:	VBF0123S2	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
FB029157.D	50	01/23/23 11:45	FB012323

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	18.7		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
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:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	BSF0123S1	SDG No.:	O1233
Lab Sample ID:	BSF0123S1	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
FB029158.D	1	01/23/23 12:22	FB012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	150		4.00	45.0	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	18.6		50 - 150	93%	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:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	BSF0123S2	SDG No.:	O1233
Lab Sample ID:	BSF0123S2	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
FB029160.D	1	01/23/23 13:39	FB012323

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
GRO	GRO	162		4.00	45.0	ug/kg
SURROGATES						
98-08-8	Alpha,Alpha,Alpha-Trifluoroto	18.1		50 - 150	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
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

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.: O1233 SAS No.: O1233 SDG No.: O1233

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.: O1233 SAS No.: O1233 SDG No.: O1233

DataFile: FB029155.D Analyst Name: AJ/MA Analyst Date: 01-23-2023

Conc. (PPB)	Area Count	RF	Average RF	%D
180	2892916	16072	17678	9.085

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

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.: O1233 SAS No.: O1233 SDG No.: O1233

DataFile: FB029161.D Analyst Name: AJ/MA Analyst Date: 01-23-2023

Conc. (PPB)	Area Count	RF	Average RF	%D
180	2573729	14298	17678	19.12

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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	23 Jan 2023 10:27	FB029155.D	8.792	
VBF0123S2	VBF0123S2	23 Jan 2023 11:45	FB029157.D	8.794	
BSF0123S1	BSF0123S1	23 Jan 2023 12:22	FB029158.D	8.793	
WC-38	O1233-10	23 Jan 2023 13:02	FB029159.D	8.804	
BSF0123S2	BSF0123S2	23 Jan 2023 13:39	FB029160.D	8.795	
20 PPB GRO STD	20 PPB GRO STD	23 Jan 2023 14:16	FB029161.D	8.794	

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

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

CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

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

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/23/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1233-08	**B-P38A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/23/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-PAH	8270E		01/20/23	01/24/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-11DL	**B-P38CDL**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/25/23	

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Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
Client ID : B-P34A									
O1233-02	B-P34A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,800.000	AB	0	0	ug/Kg
O1233-02	B-P34A	SOIL	Benzophenone	*	790.000	J	0	0	ug/Kg
O1233-02	B-P34A	SOIL	Heptafluorobutyric acid, n-octade	*	300.000	J	0	0	ug/Kg
O1233-02	B-P34A	SOIL	Methanone, (1-hydroxycyclohexy	*	100.000	J	0	0	ug/Kg
O1233-02	B-P34A	SOIL	n-Hexadecanoic acid	*	220.000	J	0	0	ug/Kg
			Total Tics :		**3,210.00**				
			Total Concentration:		**3,210.00**				
Client ID : B-P34B									
O1233-03	B-P34B	SOIL	1-Dodecanol, 2-octyl-	*	190.000	J	0	0	ug/Kg
O1233-03	B-P34B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,300.000	AB	0	0	ug/Kg
O1233-03	B-P34B	SOIL	Benzophenone	*	130.000	J	0	0	ug/Kg
O1233-03	B-P34B	SOIL	n-Hexadecanoic acid	*	170.000	J	0	0	ug/Kg
			Total Tics :		**1,790.00**				
			Total Concentration:		**1,790.00**				
Client ID : B-P36A									
O1233-04	B-P36A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,400.000	AB	0	0	ug/Kg
O1233-04	B-P36A	SOIL	Benzophenone	*	140.000	J	0	0	ug/Kg
O1233-04	B-P36A	SOIL	n-Hexadecanoic acid	*	160.000	J	0	0	ug/Kg
O1233-04	B-P36A	SOIL	Pentadecafluorooctanoic acid, oct	*	160.000	J	0	0	ug/Kg
			Total Tics :		**1,860.00**				
			Total Concentration:		**1,860.00**				
Client ID : B-P36B									
O1233-05	B-P36B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,400.000	AB	0	0	ug/Kg
O1233-05	B-P36B	SOIL	3-Hexen-2-one	*	79.300	J	0	0	ug/Kg
O1233-05	B-P36B	SOIL	Benzophenone	*	99.200	J	0	0	ug/Kg
O1233-05	B-P36B	SOIL	Pentadecafluorooctanoic acid, oct	*	95.800	J	0	0	ug/Kg
			Total Tics :		**1,674.30**				
			Total Concentration:		**1,674.30**				
Client ID : B-P37A									
O1233-06	B-P37A	SOIL	Phenanthrene		120.000	J	95	190	ug/Kg
O1233-06	B-P37A	SOIL	Fluoranthene		220.000		90.7	190	ug/Kg
O1233-06	B-P37A	SOIL	Pyrene		190.000		84.3	190	ug/Kg
O1233-06	B-P37A	SOIL	Chrysene		110.000	J	97.1	190	ug/Kg
O1233-06	B-P37A	SOIL	Bis(2-ethylhexyl)phthalate		110.000	J	100	190	ug/Kg
O1233-06	B-P37A	SOIL	Benzo(b)fluoranthene		140.000	J	78.4	190	ug/Kg
O1233-06	B-P37A	SOIL	Benzo(a)pyrene		92.400	J	76.9	190	ug/Kg
			Total Svoc :		**982.40**				
O1233-06	B-P37A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	630.000	AB	0	0	ug/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
O1233-06	B-P37A	SOIL	Benzophenone	*	160.000	J	0	0	ug/Kg
O1233-06	B-P37A	SOIL	unknown21.522	*	110.000	J	0	0	ug/Kg
			Total Tics :		**900.00**				
			Total Concentration:		**1,882.40**				
Client ID :	**B-P37B**								
O1233-07	B-P37B	SOIL	Bis(2-ethylhexyl)phthalate		150.000	J	110	200	ug/Kg
			Total Svoc :		**150.00**				
O1233-07	B-P37B	SOIL	n-Hexadecanoic acid	*	310.000	J	0	0	ug/Kg
O1233-07	B-P37B	SOIL	Octadecanoic acid	*	130.000	J	0	0	ug/Kg
O1233-07	B-P37B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,400.000	AB	0	0	ug/Kg
O1233-07	B-P37B	SOIL	Benzophenone	*	210.000	J	0	0	ug/Kg
			Total Tics :		**2,050.00**				
			Total Concentration:		**2,200.00**				
Client ID :	**B-P38A**								
O1233-08	B-P38A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	660.000	AB	0	0	ug/Kg
O1233-08	B-P38A	SOIL	Benzophenone	*	180.000	J	0	0	ug/Kg
O1233-08	B-P38A	SOIL	Cyclotetradecane	*	140.000	J	0	0	ug/Kg
			Total Tics :		**980.00**				
			Total Concentration:		**980.00**				
Client ID :	**B-P38B**								
O1233-09	B-P38B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,600.000	AB	0	0	ug/Kg
O1233-09	B-P38B	SOIL	Benzophenone	*	240.000	J	0	0	ug/Kg
O1233-09	B-P38B	SOIL	n-Hexadecanoic acid	*	160.000	J	0	0	ug/Kg
O1233-09	B-P38B	SOIL	Oxalic acid, cyclobutyl hexadecyl	*	220.000	J	0	0	ug/Kg
O1233-09	B-P38B	SOIL	Supraene	*	140.000	J	0	0	ug/Kg
O1233-09	B-P38B	SOIL	unknown12.807	*	380.000	J	0	0	ug/Kg
			Total Tics :		**2,740.00**				
			Total Concentration:		**2,740.00**				
Client ID :	**B-P38C**								
O1233-11	B-P38C	SOIL	Naphthalene		4,600.000	E	85.9	200	ug/Kg
O1233-11	B-P38C	SOIL	2-Methylnaphthalene		4,300.000	E	87.2	200	ug/Kg
O1233-11	B-P38C	SOIL	Bis(2-ethylhexyl)phthalate		150.000	J	100	200	ug/Kg
			Total Svoc :		**9,050.00**				
O1233-11	B-P38C	SOIL	Cyclohexane, 1-ethyl-2-methyl-	*	860.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Decane, 3-methyl-	*	1,000.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Heptane, 2,5-dimethyl-	*	800.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Heptane, 2-methyl-	*	910.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 1,2,3-trimethyl-	*	2,100.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 1,3-diethyl-5-methyl-	*	990.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 1-ethyl-2-methyl-	*	1,100.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 1-ethyl-3,5-dimethyl-	*	1,400.000	J	0	0	ug/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	RDL	Units
O1233-11	B-P38C	SOIL	Benzene, 1-ethyl-3-methyl-	*	800.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 1-methyl-4-(1-methylpr	*	950.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 2-butenyl-	*	1,300.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Benzene, 4-ethyl-1,2-dimethyl-	*	890.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	1-Phenyl-1-butene	*	2,300.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Nonane	*	1,400.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Octane	*	1,400.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	Octane, 2,6-dimethyl-	*	1,900.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	o-Cymene	*	840.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	unknown7.748	*	1,600.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	unknown8.666	*	1,000.000	J	0	0	ug/Kg
O1233-11	B-P38C	SOIL	1-Methylnaphthalene	*	2,000.000	J	92.3	200	ug/Kg
			Total Tics :		**25,540.00**				
			Total Concentration:		**34,590.00**				

Client ID : B-P38CDL

O1233-11DL	B-P38CDL	SOIL	Naphthalene		4,300.000	D	430	990	ug/Kg
O1233-11DL	B-P38CDL	SOIL	2-Methylnaphthalene		3,600.000	D	440	990	ug/Kg
			Total Svoc :		**7,900.00**				
			Total Concentration:		**7,900.00**				

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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
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
BF132170.D	1	01/20/23 12:30	01/20/23 20:03	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	170	U	170	390	ug/Kg
108-95-2	Phenol	79.3	U	79.3	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	94.1	U	94.1	200	ug/Kg
95-57-8	2-Chlorophenol	80.0	U	80.0	200	ug/Kg
95-48-7	2-Methylphenol	130	U	130	200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	200	ug/Kg
98-86-2	Acetophenone	93.9	U	93.9	200	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	390	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	89.2	U	89.2	93.8	ug/Kg
67-72-1	Hexachloroethane	86.4	U	86.4	200	ug/Kg
98-95-3	Nitrobenzene	86.6	U	86.6	200	ug/Kg
78-59-1	Isophorone	78.1	U	78.1	200	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	200	ug/Kg
105-67-9	2,4-Dimethylphenol	120	U	120	200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	130	U	130	200	ug/Kg
120-83-2	2,4-Dichlorophenol	95.7	U	95.7	200	ug/Kg
91-20-3	Naphthalene	86.6	U	86.6	200	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	200	ug/Kg
87-68-3	Hexachlorobutadiene	120	U	120	200	ug/Kg
105-60-2	Caprolactam	120	U	120	390	ug/Kg
59-50-7	4-Chloro-3-methylphenol	92.2	U	92.2	200	ug/Kg
91-57-6	2-Methylnaphthalene	87.9	U	87.9	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	390	ug/Kg
88-06-2	2,4,6-Trichlorophenol	100	U	100	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	98.0	U	98.0	200	ug/Kg
92-52-4	1,1-Biphenyl	100	U	100	200	ug/Kg
91-58-7	2-Chloronaphthalene	100	U	100	200	ug/Kg
88-74-4	2-Nitroaniline	130	U	130	200	ug/Kg
131-11-3	Dimethylphthalate	94.8	U	94.8	200	ug/Kg
208-96-8	Acenaphthylene	80.5	U	80.5	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	91.5	U	91.5	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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
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
BF132170.D	1	01/20/23 12:30	01/20/23 20:03	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	92.5	U	92.5	200	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	390	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	390	ug/Kg
132-64-9	Dibenzofuran	87.0	U	87.0	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	99.1	U	99.1	200	ug/Kg
84-66-2	Diethylphthalate	94.3	U	94.3	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	200	ug/Kg
86-73-7	Fluorene	92.3	U	92.3	200	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	100	U	100	390	ug/Kg
86-30-6	n-Nitrosodiphenylamine	96.3	U	96.3	200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	120	U	120	200	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	200	ug/Kg
1912-24-9	Atrazine	110	U	110	200	ug/Kg
87-86-5	Pentachlorophenol	140	U	140	390	ug/Kg
85-01-8	Phenanthrene	98.0	U	98.0	200	ug/Kg
120-12-7	Anthracene	98.4	U	98.4	200	ug/Kg
86-74-8	Carbazole	98.7	U	98.7	200	ug/Kg
84-74-2	Di-n-butylphthalate	100	U	100	200	ug/Kg
206-44-0	Fluoranthene	93.5	U	93.5	200	ug/Kg
129-00-0	Pyrene	87.0	U	87.0	200	ug/Kg
85-68-7	Butylbenzylphthalate	96.9	U	96.9	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	390	ug/Kg
56-55-3	Benzo(a)anthracene	100	U	100	200	ug/Kg
218-01-9	Chrysene	100	U	100	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	100	U	100	200	ug/Kg
117-84-0	Di-n-octyl phthalate	110	U	110	390	ug/Kg
205-99-2	Benzo(b)fluoranthene	80.9	U	80.9	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	86.3	U	86.3	200	ug/Kg
50-32-8	Benzo(a)pyrene	79.3	U	79.3	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

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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.3
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
BF132170.D	1	01/20/23 12:30	01/20/23 20:03	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	110	U	110	200	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	95.2	U	95.2	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	140		18 - 112	93%	SPK: 150
13127-88-3	Phenol-d6	149		21 - 104	99%	SPK: 150
4165-60-0	Nitrobenzene-d5	102		27 - 109	102%	SPK: 100
321-60-8	2-Fluorobiphenyl	81.2		30 - 103	81%	SPK: 100
118-79-6	2,4,6-Tribromophenol	163		10 - 121	109%	SPK: 150
1718-51-0	Terphenyl-d14	79.7		21 - 107	80%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	166000	7.09			
1146-65-2	Naphthalene-d8	608000	8.378			
15067-26-2	Acenaphthene-d10	329000	10.142			
1517-22-2	Phenanthrene-d10	655000	11.636			
1719-03-5	Chrysene-d12	483000	14.301			
1520-96-3	Perylene-d12	385000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1800	AB		5.34	ug/Kg
000119-61-9	Benzophenone	790	J		10.9	ug/Kg
000947-19-3	Methanone, (1-hydroxycyclohexyl)ph	100	J		11.2	ug/Kg
000057-10-3	n-Hexadecanoic acid	220	J		12.1	ug/Kg
000400-57-7	Heptafluorobutyric acid, n-octadec	300	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.7
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
BF132178.D	1	01/20/23 12:30	01/21/23 00:23	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	74.4	U	74.4	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	88.3	U	88.3	190	ug/Kg
95-57-8	2-Chlorophenol	75.1	U	75.1	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	88.0	U	88.0	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	360	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	83.7	U	83.7	87.9	ug/Kg
67-72-1	Hexachloroethane	81.0	U	81.0	190	ug/Kg
98-95-3	Nitrobenzene	81.2	U	81.2	190	ug/Kg
78-59-1	Isophorone	73.2	U	73.2	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	89.8	U	89.8	190	ug/Kg
91-20-3	Naphthalene	81.2	U	81.2	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	360	ug/Kg
59-50-7	4-Chloro-3-methylphenol	86.5	U	86.5	190	ug/Kg
91-57-6	2-Methylnaphthalene	82.4	U	82.4	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	360	ug/Kg
88-06-2	2,4,6-Trichlorophenol	93.9	U	93.9	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	91.9	U	91.9	190	ug/Kg
92-52-4	1,1-Biphenyl	95.1	U	95.1	190	ug/Kg
91-58-7	2-Chloronaphthalene	94.0	U	94.0	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	88.9	U	88.9	190	ug/Kg
208-96-8	Acenaphthylene	75.5	U	75.5	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	85.9	U	85.9	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.7
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
BF132178.D	1	01/20/23 12:30	01/21/23 00:23	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	86.7	U	86.7	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	81.6	U	81.6	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	93.0	U	93.0	190	ug/Kg
84-66-2	Diethylphthalate	88.5	U	88.5	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	86.6	U	86.6	190	ug/Kg
100-01-6	4-Nitroaniline	110	U	110	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	94.8	U	94.8	360	ug/Kg
86-30-6	n-Nitrosodiphenylamine	90.4	U	90.4	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	98.9	U	98.9	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	360	ug/Kg
85-01-8	Phenanthrene	91.9	U	91.9	190	ug/Kg
120-12-7	Anthracene	92.3	U	92.3	190	ug/Kg
86-74-8	Carbazole	92.6	U	92.6	190	ug/Kg
84-74-2	Di-n-butylphthalate	95.6	U	95.6	190	ug/Kg
206-44-0	Fluoranthene	87.7	U	87.7	190	ug/Kg
129-00-0	Pyrene	81.6	U	81.6	190	ug/Kg
85-68-7	Butylbenzylphthalate	90.9	U	90.9	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	360	ug/Kg
56-55-3	Benzo(a)anthracene	95.4	U	95.4	190	ug/Kg
218-01-9	Chrysene	94.0	U	94.0	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	97.4	U	97.4	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	360	ug/Kg
205-99-2	Benzo(b)fluoranthene	75.8	U	75.8	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	80.9	U	80.9	190	ug/Kg
50-32-8	Benzo(a)pyrene	74.4	U	74.4	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.7
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
BF132178.D	1	01/20/23 12:30	01/21/23 00:23	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	97.9	U	97.9	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	89.3	U	89.3	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	101		18 - 112	67%	SPK: 150
13127-88-3	Phenol-d6	103		21 - 104	69%	SPK: 150
4165-60-0	Nitrobenzene-d5	72.2		27 - 109	72%	SPK: 100
321-60-8	2-Fluorobiphenyl	60.7		30 - 103	61%	SPK: 100
118-79-6	2,4,6-Tribromophenol	108		10 - 121	72%	SPK: 150
1718-51-0	Terphenyl-d14	64.8		21 - 107	65%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	186000	7.089			
1146-65-2	Naphthalene-d8	676000	8.378			
15067-26-2	Acenaphthene-d10	368000	10.142			
1517-22-2	Phenanthrene-d10	733000	11.636			
1719-03-5	Chrysene-d12	480000	14.301			
1520-96-3	Perylene-d12	398000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1300	AB		5.34	ug/Kg
000119-61-9	Benzophenone	130	J		10.9	ug/Kg
000057-10-3	n-Hexadecanoic acid	170	J		12.1	ug/Kg
005333-42-6	1-Dodecanol, 2-octyl-	190	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.6
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
BF132179.D	1	01/20/23 12:30	01/21/23 00:56	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	75.5	U	75.5	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	89.5	U	89.5	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	89.3	U	89.3	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	84.8	U	84.8	89.2	ug/Kg
67-72-1	Hexachloroethane	82.2	U	82.2	190	ug/Kg
98-95-3	Nitrobenzene	82.4	U	82.4	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	91.1	U	91.1	190	ug/Kg
91-20-3	Naphthalene	82.4	U	82.4	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	87.7	U	87.7	190	ug/Kg
91-57-6	2-Methylnaphthalene	83.6	U	83.6	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	95.2	U	95.2	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	93.2	U	93.2	190	ug/Kg
92-52-4	1,1-Biphenyl	96.4	U	96.4	190	ug/Kg
91-58-7	2-Chloronaphthalene	95.3	U	95.3	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	90.2	U	90.2	190	ug/Kg
208-96-8	Acenaphthylene	76.6	U	76.6	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	87.1	U	87.1	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.6
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
BF132179.D	1	01/20/23 12:30	01/21/23 00:56	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	82.7	U	82.7	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	94.3	U	94.3	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	96.1	U	96.1	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	91.6	U	91.6	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	93.2	U	93.2	190	ug/Kg
120-12-7	Anthracene	93.7	U	93.7	190	ug/Kg
86-74-8	Carbazole	93.9	U	93.9	190	ug/Kg
84-74-2	Di-n-butylphthalate	97.0	U	97.0	190	ug/Kg
206-44-0	Fluoranthene	89.0	U	89.0	190	ug/Kg
129-00-0	Pyrene	82.7	U	82.7	190	ug/Kg
85-68-7	Butylbenzylphthalate	92.2	U	92.2	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	150	U	150	370	ug/Kg
56-55-3	Benzo(a)anthracene	96.8	U	96.8	190	ug/Kg
218-01-9	Chrysene	95.3	U	95.3	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	98.8	U	98.8	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	76.9	U	76.9	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	82.1	U	82.1	190	ug/Kg
50-32-8	Benzo(a)pyrene	75.5	U	75.5	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.6
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
BF132179.D	1	01/20/23 12:30	01/21/23 00:56	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	99.3	U	99.3	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	90.5	U	90.5	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	117		18 - 112	78%	SPK: 150
13127-88-3	Phenol-d6	123		21 - 104	82%	SPK: 150
4165-60-0	Nitrobenzene-d5	86.0		27 - 109	86%	SPK: 100
321-60-8	2-Fluorobiphenyl	70.7		30 - 103	71%	SPK: 100
118-79-6	2,4,6-Tribromophenol	136		10 - 121	90%	SPK: 150
1718-51-0	Terphenyl-d14	76.2		21 - 107	76%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	189000	7.089			
1146-65-2	Naphthalene-d8	681000	8.378			
15067-26-2	Acenaphthene-d10	366000	10.142			
1517-22-2	Phenanthrene-d10	725000	11.636			
1719-03-5	Chrysene-d12	477000	14.301			
1520-96-3	Perylene-d12	393000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1400	AB		5.34	ug/Kg
000119-61-9	Benzophenone	140	J		10.9	ug/Kg
000057-10-3	n-Hexadecanoic acid	160	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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.4
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
BF132180.D	1	01/20/23 12:30	01/21/23 01:28	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	160	U	160	360	ug/Kg
108-95-2	Phenol	74.9	U	74.9	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	88.8	U	88.8	190	ug/Kg
95-57-8	2-Chlorophenol	75.5	U	75.5	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	88.6	U	88.6	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	360	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	84.2	U	84.2	88.5	ug/Kg
67-72-1	Hexachloroethane	81.5	U	81.5	190	ug/Kg
98-95-3	Nitrobenzene	81.7	U	81.7	190	ug/Kg
78-59-1	Isophorone	73.6	U	73.6	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	90.3	U	90.3	190	ug/Kg
91-20-3	Naphthalene	81.7	U	81.7	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	87.0	U	87.0	190	ug/Kg
91-57-6	2-Methylnaphthalene	82.9	U	82.9	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	190	U	190	360	ug/Kg
88-06-2	2,4,6-Trichlorophenol	94.4	U	94.4	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	92.4	U	92.4	190	ug/Kg
92-52-4	1,1-Biphenyl	95.7	U	95.7	190	ug/Kg
91-58-7	2-Chloronaphthalene	94.5	U	94.5	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:	B-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.4
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
BF132180.D	1	01/20/23 12:30	01/21/23 01:28	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	87.2	U	87.2	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	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	89.0	U	89.0	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	100	U	100	190	ug/Kg
86-73-7	Fluorene	87.1	U	87.1	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	95.3	U	95.3	360	ug/Kg
86-30-6	n-Nitrosodiphenylamine	90.9	U	90.9	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	99.5	U	99.5	190	ug/Kg
87-86-5	Pentachlorophenol	130	U	130	360	ug/Kg
85-01-8	Phenanthrene	92.4	U	92.4	190	ug/Kg
120-12-7	Anthracene	92.9	U	92.9	190	ug/Kg
86-74-8	Carbazole	93.1	U	93.1	190	ug/Kg
84-74-2	Di-n-butylphthalate	96.2	U	96.2	190	ug/Kg
206-44-0	Fluoranthene	88.2	U	88.2	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	360	ug/Kg
56-55-3	Benzo(a)anthracene	96.0	U	96.0	190	ug/Kg
218-01-9	Chrysene	94.5	U	94.5	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	360	ug/Kg
205-99-2	Benzo(b)fluoranthene	76.3	U	76.3	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:	B-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	90.4
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
BF132180.D	1	01/20/23 12:30	01/21/23 01:28	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	98.5	U	98.5	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	89.8	U	89.8	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	87.7		18 - 112	58%	SPK: 150
13127-88-3	Phenol-d6	98.6		21 - 104	66%	SPK: 150
4165-60-0	Nitrobenzene-d5	69.2		27 - 109	69%	SPK: 100
321-60-8	2-Fluorobiphenyl	57.5		30 - 103	58%	SPK: 100
118-79-6	2,4,6-Tribromophenol	80.4		10 - 121	54%	SPK: 150
1718-51-0	Terphenyl-d14	61.3		21 - 107	61%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	179000	7.09			
1146-65-2	Naphthalene-d8	646000	8.378			
15067-26-2	Acenaphthene-d10	349000	10.142			
1517-22-2	Phenanthrene-d10	668000	11.636			
1719-03-5	Chrysene-d12	443000	14.301			
1520-96-3	Perylene-d12	381000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000763-93-9	3-Hexen-2-one	79.3	J		4.75	ug/Kg
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1400	AB		5.34	ug/Kg
000119-61-9	Benzophenone	99.2	J		10.9	ug/Kg
1000406-04-8	Pentadecafluorooctanoic acid, octa	95.8	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.9
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
BG056390.D	1	01/20/23 12:30	01/23/23 19:09	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	76.9	U	76.9	190	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	91.2	U	91.2	190	ug/Kg
95-57-8	2-Chlorophenol	77.6	U	77.6	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	91.0	U	91.0	190	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	86.5	U	86.5	90.9	ug/Kg
67-72-1	Hexachloroethane	83.7	U	83.7	190	ug/Kg
98-95-3	Nitrobenzene	84.0	U	84.0	190	ug/Kg
78-59-1	Isophorone	75.7	U	75.7	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	92.8	U	92.8	190	ug/Kg
91-20-3	Naphthalene	84.0	U	84.0	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	89.4	U	89.4	190	ug/Kg
91-57-6	2-Methylnaphthalene	85.2	U	85.2	190	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	97.0	U	97.0	190	ug/Kg
95-95-4	2,4,5-Trichlorophenol	95.0	U	95.0	190	ug/Kg
92-52-4	1,1-Biphenyl	98.3	U	98.3	190	ug/Kg
91-58-7	2-Chloronaphthalene	97.1	U	97.1	190	ug/Kg
88-74-4	2-Nitroaniline	120	U	120	190	ug/Kg
131-11-3	Dimethylphthalate	91.9	U	91.9	190	ug/Kg
208-96-8	Acenaphthylene	78.1	U	78.1	190	ug/Kg
606-20-2	2,6-Dinitrotoluene	88.7	U	88.7	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.9
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
BG056390.D	1	01/20/23 12:30	01/23/23 19:09	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	89.6	U	89.6	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	84.3	U	84.3	190	ug/Kg
121-14-2	2,4-Dinitrotoluene	96.1	U	96.1	190	ug/Kg
84-66-2	Diethylphthalate	91.5	U	91.5	190	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	190	ug/Kg
86-73-7	Fluorene	89.5	U	89.5	190	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	190	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	97.9	U	97.9	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	93.4	U	93.4	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	120	J	95.0	190	ug/Kg
120-12-7	Anthracene	95.4	U	95.4	190	ug/Kg
86-74-8	Carbazole	95.7	U	95.7	190	ug/Kg
84-74-2	Di-n-butylphthalate	98.8	U	98.8	190	ug/Kg
206-44-0	Fluoranthene	220		90.7	190	ug/Kg
129-00-0	Pyrene	190		84.3	190	ug/Kg
85-68-7	Butylbenzylphthalate	94.0	U	94.0	190	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	370	ug/Kg
56-55-3	Benzo(a)anthracene	98.6	U	98.6	190	ug/Kg
218-01-9	Chrysene	110	J	97.1	190	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	110	J	100	190	ug/Kg
117-84-0	Di-n-octyl phthalate	100	U	100	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	140	J	78.4	190	ug/Kg
207-08-9	Benzo(k)fluoranthene	83.6	U	83.6	190	ug/Kg
50-32-8	Benzo(a)pyrene	92.4	J	76.9	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	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	87.9
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
BG056390.D	1	01/20/23 12:30	01/23/23 19:09	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	100	U	100	190	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	92.3	U	92.3	190	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	112		18 - 112	75%	SPK: 150
13127-88-3	Phenol-d6	102		21 - 104	68%	SPK: 150
4165-60-0	Nitrobenzene-d5	58.8		27 - 109	59%	SPK: 100
321-60-8	2-Fluorobiphenyl	63.1		30 - 103	63%	SPK: 100
118-79-6	2,4,6-Tribromophenol	101		10 - 121	67%	SPK: 150
1718-51-0	Terphenyl-d14	67.9		21 - 107	68%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	38500	8.296			
1146-65-2	Naphthalene-d8	156000	11.128			
15067-26-2	Acenaphthene-d10	129000	14.912			
1517-22-2	Phenanthrene-d10	336000	17.644			
1719-03-5	Chrysene-d12	299000	21.939			
1520-96-3	Perylene-d12	323000	25.37			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	630	AB		5.34	ug/Kg
000119-61-9	Benzophenone	160	J		16.2	ug/Kg
	unknown21.522	110	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	83.5
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
BF132174.D	1	01/20/23 12:30	01/20/23 22:13	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	170	U	170	390	ug/Kg
108-95-2	Phenol	80.9	U	80.9	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	95.9	U	95.9	200	ug/Kg
95-57-8	2-Chlorophenol	81.6	U	81.6	200	ug/Kg
95-48-7	2-Methylphenol	130	U	130	200	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	110	U	110	200	ug/Kg
98-86-2	Acetophenone	95.7	U	95.7	200	ug/Kg
65794-96-9	3+4-Methylphenols	120	U	120	390	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	90.9	U	90.9	95.6	ug/Kg
67-72-1	Hexachloroethane	88.0	U	88.0	200	ug/Kg
98-95-3	Nitrobenzene	88.3	U	88.3	200	ug/Kg
78-59-1	Isophorone	79.5	U	79.5	200	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	200	ug/Kg
105-67-9	2,4-Dimethylphenol	120	U	120	200	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	130	U	130	200	ug/Kg
120-83-2	2,4-Dichlorophenol	97.6	U	97.6	200	ug/Kg
91-20-3	Naphthalene	88.3	U	88.3	200	ug/Kg
106-47-8	4-Chloroaniline	120	U	120	200	ug/Kg
87-68-3	Hexachlorobutadiene	120	U	120	200	ug/Kg
105-60-2	Caprolactam	120	U	120	390	ug/Kg
59-50-7	4-Chloro-3-methylphenol	94.0	U	94.0	200	ug/Kg
91-57-6	2-Methylnaphthalene	89.6	U	89.6	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	210	U	210	390	ug/Kg
88-06-2	2,4,6-Trichlorophenol	100	U	100	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	99.9	U	99.9	200	ug/Kg
92-52-4	1,1-Biphenyl	100	U	100	200	ug/Kg
91-58-7	2-Chloronaphthalene	100	U	100	200	ug/Kg
88-74-4	2-Nitroaniline	130	U	130	200	ug/Kg
131-11-3	Dimethylphthalate	96.6	U	96.6	200	ug/Kg
208-96-8	Acenaphthylene	82.1	U	82.1	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	93.3	U	93.3	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	83.5
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
BF132174.D	1	01/20/23 12:30	01/20/23 22:13	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	94.2	U	94.2	200	ug/Kg
51-28-5	2,4-Dinitrophenol	150	U	150	390	ug/Kg
100-02-7	4-Nitrophenol	160	U	160	390	ug/Kg
132-64-9	Dibenzofuran	88.6	U	88.6	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	100	U	100	200	ug/Kg
84-66-2	Diethylphthalate	96.2	U	96.2	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	200	ug/Kg
86-73-7	Fluorene	94.1	U	94.1	200	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	100	U	100	390	ug/Kg
86-30-6	n-Nitrosodiphenylamine	98.2	U	98.2	200	ug/Kg
101-55-3	4-Bromophenyl-phenylether	120	U	120	200	ug/Kg
118-74-1	Hexachlorobenzene	120	U	120	200	ug/Kg
1912-24-9	Atrazine	110	U	110	200	ug/Kg
87-86-5	Pentachlorophenol	140	U	140	390	ug/Kg
85-01-8	Phenanthrene	99.9	U	99.9	200	ug/Kg
120-12-7	Anthracene	100	U	100	200	ug/Kg
86-74-8	Carbazole	100	U	100	200	ug/Kg
84-74-2	Di-n-butylphthalate	100	U	100	200	ug/Kg
206-44-0	Fluoranthene	95.3	U	95.3	200	ug/Kg
129-00-0	Pyrene	88.6	U	88.6	200	ug/Kg
85-68-7	Butylbenzylphthalate	98.8	U	98.8	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	390	ug/Kg
56-55-3	Benzo(a)anthracene	100	U	100	200	ug/Kg
218-01-9	Chrysene	100	U	100	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	150	J	110	200	ug/Kg
117-84-0	Di-n-octyl phthalate	110	U	110	390	ug/Kg
205-99-2	Benzo(b)fluoranthene	82.4	U	82.4	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	87.9	U	87.9	200	ug/Kg
50-32-8	Benzo(a)pyrene	80.9	U	80.9	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

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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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	83.5
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
BF132174.D	1	01/20/23 12:30	01/20/23 22:13	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	120	U	120	200	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	110	U	110	200	ug/Kg
123-91-1	1,4-Dioxane	110	U	110	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	97.0	U	97.0	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	104		18 - 112	69%	SPK: 150
13127-88-3	Phenol-d6	106		21 - 104	71%	SPK: 150
4165-60-0	Nitrobenzene-d5	75.7		27 - 109	76%	SPK: 100
321-60-8	2-Fluorobiphenyl	63.8		30 - 103	64%	SPK: 100
118-79-6	2,4,6-Tribromophenol	114		10 - 121	76%	SPK: 150
1718-51-0	Terphenyl-d14	67.0		21 - 107	67%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	178000	7.089			
1146-65-2	Naphthalene-d8	632000	8.378			
15067-26-2	Acenaphthene-d10	342000	10.142			
1517-22-2	Phenanthrene-d10	670000	11.636			
1719-03-5	Chrysene-d12	444000	14.301			
1520-96-3	Perylene-d12	376000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1400	AB		5.34	ug/Kg
000119-61-9	Benzophenone	210	J		10.9	ug/Kg
000057-10-3	n-Hexadecanoic acid	310	J		12.1	ug/Kg
000057-11-4	Octadecanoic acid	130	J		12.9	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.3
Sample Wt/Vol:	30.1 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
BG056392.D	1	01/20/23 12:30	01/23/23 20:31	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	82.3	U	82.3	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.3
Sample Wt/Vol:	30.1 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
BG056392.D	1	01/20/23 12:30	01/23/23 20:31	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	88.1	U	88.1	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	93.8	U	93.8	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	89.3
Sample Wt/Vol:	30.1 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
BG056392.D	1	01/20/23 12:30	01/23/23 20:31	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	135		18 - 112	90%	SPK: 150
13127-88-3	Phenol-d6	119		21 - 104	80%	SPK: 150
4165-60-0	Nitrobenzene-d5	63.8		27 - 109	64%	SPK: 100
321-60-8	2-Fluorobiphenyl	65.9		30 - 103	66%	SPK: 100
118-79-6	2,4,6-Tribromophenol	94.2		10 - 121	63%	SPK: 150
1718-51-0	Terphenyl-d14	71.2		21 - 107	71%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	36800	8.3			
1146-65-2	Naphthalene-d8	158000	11.126			
15067-26-2	Acenaphthene-d10	127000	14.91			
1517-22-2	Phenanthrene-d10	313000	17.648			
1719-03-5	Chrysene-d12	276000	21.937			
1520-96-3	Perylene-d12	296000	25.362			
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
000295-17-0	Cyclotetradecane	140	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	80.7
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
BF132181.D	1	01/20/23 12:30	01/21/23 02:00	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	170	U	170	410	ug/Kg
108-95-2	Phenol	83.8	U	83.8	210	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	99.3	U	99.3	210	ug/Kg
95-57-8	2-Chlorophenol	84.5	U	84.5	210	ug/Kg
95-48-7	2-Methylphenol	130	U	130	210	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	120	U	120	210	ug/Kg
98-86-2	Acetophenone	99.1	U	99.1	210	ug/Kg
65794-96-9	3+4-Methylphenols	120	U	120	410	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	94.1	U	94.1	99.0	ug/Kg
67-72-1	Hexachloroethane	91.2	U	91.2	210	ug/Kg
98-95-3	Nitrobenzene	91.4	U	91.4	210	ug/Kg
78-59-1	Isophorone	82.4	U	82.4	210	ug/Kg
88-75-5	2-Nitrophenol	110	U	110	210	ug/Kg
105-67-9	2,4-Dimethylphenol	120	U	120	210	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	130	U	130	210	ug/Kg
120-83-2	2,4-Dichlorophenol	100	U	100	210	ug/Kg
91-20-3	Naphthalene	91.4	U	91.4	210	ug/Kg
106-47-8	4-Chloroaniline	120	U	120	210	ug/Kg
87-68-3	Hexachlorobutadiene	120	U	120	210	ug/Kg
105-60-2	Caprolactam	120	U	120	410	ug/Kg
59-50-7	4-Chloro-3-methylphenol	97.4	U	97.4	210	ug/Kg
91-57-6	2-Methylnaphthalene	92.8	U	92.8	210	ug/Kg
77-47-4	Hexachlorocyclopentadiene	220	U	220	410	ug/Kg
88-06-2	2,4,6-Trichlorophenol	110	U	110	210	ug/Kg
95-95-4	2,4,5-Trichlorophenol	100	U	100	210	ug/Kg
92-52-4	1,1-Biphenyl	110	U	110	210	ug/Kg
91-58-7	2-Chloronaphthalene	110	U	110	210	ug/Kg
88-74-4	2-Nitroaniline	130	U	130	210	ug/Kg
131-11-3	Dimethylphthalate	100	U	100	210	ug/Kg
208-96-8	Acenaphthylene	85.0	U	85.0	210	ug/Kg
606-20-2	2,6-Dinitrotoluene	96.6	U	96.6	210	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	80.7
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
BF132181.D	1	01/20/23 12:30	01/21/23 02:00	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	120	U	120	210	ug/Kg
83-32-9	Acenaphthene	97.6	U	97.6	210	ug/Kg
51-28-5	2,4-Dinitrophenol	160	U	160	410	ug/Kg
100-02-7	4-Nitrophenol	170	U	170	410	ug/Kg
132-64-9	Dibenzofuran	91.8	U	91.8	210	ug/Kg
121-14-2	2,4-Dinitrotoluene	100	U	100	210	ug/Kg
84-66-2	Diethylphthalate	99.6	U	99.6	210	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	120	U	120	210	ug/Kg
86-73-7	Fluorene	97.5	U	97.5	210	ug/Kg
100-01-6	4-Nitroaniline	130	U	130	210	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	110	U	110	410	ug/Kg
86-30-6	n-Nitrosodiphenylamine	100	U	100	210	ug/Kg
101-55-3	4-Bromophenyl-phenylether	120	U	120	210	ug/Kg
118-74-1	Hexachlorobenzene	130	U	130	210	ug/Kg
1912-24-9	Atrazine	110	U	110	210	ug/Kg
87-86-5	Pentachlorophenol	140	U	140	410	ug/Kg
85-01-8	Phenanthrene	100	U	100	210	ug/Kg
120-12-7	Anthracene	100	U	100	210	ug/Kg
86-74-8	Carbazole	100	U	100	210	ug/Kg
84-74-2	Di-n-butylphthalate	110	U	110	210	ug/Kg
206-44-0	Fluoranthene	98.7	U	98.7	210	ug/Kg
129-00-0	Pyrene	91.8	U	91.8	210	ug/Kg
85-68-7	Butylbenzylphthalate	100	U	100	210	ug/Kg
91-94-1	3,3-Dichlorobenzidine	170	U	170	410	ug/Kg
56-55-3	Benzo(a)anthracene	110	U	110	210	ug/Kg
218-01-9	Chrysene	110	U	110	210	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	110	U	110	210	ug/Kg
117-84-0	Di-n-octyl phthalate	110	U	110	410	ug/Kg
205-99-2	Benzo(b)fluoranthene	85.4	U	85.4	210	ug/Kg
207-08-9	Benzo(k)fluoranthene	91.1	U	91.1	210	ug/Kg
50-32-8	Benzo(a)pyrene	83.8	U	83.8	210	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	120	U	120	210	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	130	U	130	210	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	80.7
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
BF132181.D	1	01/20/23 12:30	01/21/23 02:00	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	120	U	120	210	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	110	U	110	210	ug/Kg
123-91-1	1,4-Dioxane	110	U	110	210	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	100	U	100	210	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	125		18 - 112	84%	SPK: 150
13127-88-3	Phenol-d6	131		21 - 104	87%	SPK: 150
4165-60-0	Nitrobenzene-d5	92.0		27 - 109	92%	SPK: 100
321-60-8	2-Fluorobiphenyl	73.8		30 - 103	74%	SPK: 100
118-79-6	2,4,6-Tribromophenol	139		10 - 121	93%	SPK: 150
1718-51-0	Terphenyl-d14	76.1		21 - 107	76%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	175000	7.09			
1146-65-2	Naphthalene-d8	627000	8.378			
15067-26-2	Acenaphthene-d10	339000	10.142			
1517-22-2	Phenanthrene-d10	668000	11.636			
1719-03-5	Chrysene-d12	453000	14.301			
1520-96-3	Perylene-d12	379000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	1600	AB		5.34	ug/Kg
000119-61-9	Benzophenone	240	J		10.9	ug/Kg
000057-10-3	n-Hexadecanoic acid	160	J		12.1	ug/Kg
	unknown12.807	380	J		12.8	ug/Kg
1000309-70-6	Oxalic acid, cyclobutyl hexadecyl	220	J		14.1	ug/Kg
007683-64-9	Supraene	140	J		15.2	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	80.7
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
BF132181.D	1	01/20/23 12:30	01/21/23 02:00	PB150378

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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BF132182.D	1	01/20/23 12:30	01/21/23 02:33	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	78.7	U	78.7	200	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	93.4	U	93.4	200	ug/Kg
95-57-8	2-Chlorophenol	79.4	U	79.4	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	93.1	U	93.1	200	ug/Kg
65794-96-9	3+4-Methylphenols	110	U	110	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	88.5	U	88.5	93.0	ug/Kg
67-72-1	Hexachloroethane	85.7	U	85.7	200	ug/Kg
98-95-3	Nitrobenzene	85.9	U	85.9	200	ug/Kg
78-59-1	Isophorone	77.4	U	77.4	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	130	U	130	200	ug/Kg
120-83-2	2,4-Dichlorophenol	95.0	U	95.0	200	ug/Kg
91-20-3	Naphthalene	4600	E	85.9	200	ug/Kg
106-47-8	4-Chloroaniline	110	U	110	200	ug/Kg
87-68-3	Hexachlorobutadiene	120	U	120	200	ug/Kg
105-60-2	Caprolactam	120	U	120	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	91.5	U	91.5	200	ug/Kg
91-57-6	2-Methylnaphthalene	4300	E	87.2	200	ug/Kg
77-47-4	Hexachlorocyclopentadiene	200	U	200	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	99.3	U	99.3	200	ug/Kg
95-95-4	2,4,5-Trichlorophenol	97.2	U	97.2	200	ug/Kg
92-52-4	1,1-Biphenyl	100	U	100	200	ug/Kg
91-58-7	2-Chloronaphthalene	99.4	U	99.4	200	ug/Kg
88-74-4	2-Nitroaniline	130	U	130	200	ug/Kg
131-11-3	Dimethylphthalate	94.1	U	94.1	200	ug/Kg
208-96-8	Acenaphthylene	79.9	U	79.9	200	ug/Kg
606-20-2	2,6-Dinitrotoluene	90.8	U	90.8	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BF132182.D	1	01/20/23 12:30	01/21/23 02:33	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	91.7	U	91.7	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	86.3	U	86.3	200	ug/Kg
121-14-2	2,4-Dinitrotoluene	98.4	U	98.4	200	ug/Kg
84-66-2	Diethylphthalate	93.6	U	93.6	200	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	110	U	110	200	ug/Kg
86-73-7	Fluorene	91.6	U	91.6	200	ug/Kg
100-01-6	4-Nitroaniline	120	U	120	200	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	100	U	100	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	95.6	U	95.6	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	140	U	140	380	ug/Kg
85-01-8	Phenanthrene	97.2	U	97.2	200	ug/Kg
120-12-7	Anthracene	97.7	U	97.7	200	ug/Kg
86-74-8	Carbazole	97.9	U	97.9	200	ug/Kg
84-74-2	Di-n-butylphthalate	100	U	100	200	ug/Kg
206-44-0	Fluoranthene	92.8	U	92.8	200	ug/Kg
129-00-0	Pyrene	86.3	U	86.3	200	ug/Kg
85-68-7	Butylbenzylphthalate	96.1	U	96.1	200	ug/Kg
91-94-1	3,3-Dichlorobenzidine	160	U	160	380	ug/Kg
56-55-3	Benzo(a)anthracene	100	U	100	200	ug/Kg
218-01-9	Chrysene	99.4	U	99.4	200	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	150	J	100	200	ug/Kg
117-84-0	Di-n-octyl phthalate	110	U	110	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	80.2	U	80.2	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	85.6	U	85.6	200	ug/Kg
50-32-8	Benzo(a)pyrene	78.7	U	78.7	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BF132182.D	1	01/20/23 12:30	01/21/23 02:33	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	110	U	110	200	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	200	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	94.4	U	94.4	200	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	113		18 - 112	75%	SPK: 150
13127-88-3	Phenol-d6	123		21 - 104	82%	SPK: 150
4165-60-0	Nitrobenzene-d5	96.6		27 - 109	97%	SPK: 100
321-60-8	2-Fluorobiphenyl	65.0		30 - 103	65%	SPK: 100
118-79-6	2,4,6-Tribromophenol	134		10 - 121	89%	SPK: 150
1718-51-0	Terphenyl-d14	68.5		21 - 107	68%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	95900	7.101			
1146-65-2	Naphthalene-d8	390000	8.389			
15067-26-2	Acenaphthene-d10	294000	10.142			
1517-22-2	Phenanthrene-d10	606000	11.636			
1719-03-5	Chrysene-d12	412000	14.295			
1520-96-3	Perylene-d12	356000	15.895			
TENTATIVE IDENTIFIED COMPOUNDS						
000592-27-8	Heptane, 2-methyl-	910	J		4.26	ug/Kg
000111-65-9	Octane	1400	J		4.82	ug/Kg
002216-30-0	Heptane, 2,5-dimethyl-	800	J		5.28	ug/Kg
000111-84-2	Nonane	1400	J		6.03	ug/Kg
002051-30-1	Octane, 2,6-dimethyl-	1900	J		6.36	ug/Kg
000611-14-3	Benzene, 1-ethyl-2-methyl-	1100	J		6.64	ug/Kg
003728-54-9	Cyclohexane, 1-ethyl-2-methyl-	860	J		6.85	ug/Kg
000526-73-8	Benzene, 1,2,3-trimethyl-	2100	J		6.94	ug/Kg
000620-14-4	Benzene, 1-ethyl-3-methyl-	800	J		7.17	ug/Kg
000934-74-7	Benzene, 1-ethyl-3,5-dimethyl-	1400	J		7.42	ug/Kg
013151-34-3	Decane, 3-methyl-	1000	J		7.49	ug/Kg
	unknown7.748	1600	J		7.75	ug/Kg
000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	890	J		7.79	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BF132182.D	1	01/20/23 12:30	01/21/23 02:33	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
000527-84-4	o-Cymene	840	J		7.90	ug/Kg
001595-16-0	Benzene, 1-methyl-4-(1-methylpropy	950	J		7.98	ug/Kg
002050-24-0	Benzene, 1,3-diethyl-5-methyl-	990	J		8.04	ug/Kg
001560-06-1	Benzene, 2-butenyl-	1300	J		8.06	ug/Kg
000824-90-8	1-Phenyl-1-butene	2300	J		8.13	ug/Kg
	unknown8.666	1000	J		8.67	ug/Kg
90-12-0	1-Methylnaphthalene	2000	J		9.20	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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BP013590.D	5	01/20/23 12:30	01/25/23 02:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
100-52-7	Benzaldehyde	820	UD	820	1900	ug/Kg
108-95-2	Phenol	390	UD	390	990	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	470	UD	470	990	ug/Kg
95-57-8	2-Chlorophenol	400	UD	400	990	ug/Kg
95-48-7	2-Methylphenol	620	UD	620	990	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	560	UD	560	990	ug/Kg
98-86-2	Acetophenone	470	UD	470	990	ug/Kg
65794-96-9	3+4-Methylphenols	570	UD	570	1900	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	440	UD	440	470	ug/Kg
67-72-1	Hexachloroethane	430	UD	430	990	ug/Kg
98-95-3	Nitrobenzene	430	UD	430	990	ug/Kg
78-59-1	Isophorone	390	UD	390	990	ug/Kg
88-75-5	2-Nitrophenol	540	UD	540	990	ug/Kg
105-67-9	2,4-Dimethylphenol	570	UD	570	990	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	630	UD	630	990	ug/Kg
120-83-2	2,4-Dichlorophenol	470	UD	470	990	ug/Kg
91-20-3	Naphthalene	4300	D	430	990	ug/Kg
106-47-8	4-Chloroaniline	560	UD	560	990	ug/Kg
87-68-3	Hexachlorobutadiene	580	UD	580	990	ug/Kg
105-60-2	Caprolactam	580	UD	580	1900	ug/Kg
59-50-7	4-Chloro-3-methylphenol	460	UD	460	990	ug/Kg
91-57-6	2-Methylnaphthalene	3600	D	440	990	ug/Kg
77-47-4	Hexachlorocyclopentadiene	1000	UD	1000	1900	ug/Kg
88-06-2	2,4,6-Trichlorophenol	500	UD	500	990	ug/Kg
95-95-4	2,4,5-Trichlorophenol	490	UD	490	990	ug/Kg
92-52-4	1,1-Biphenyl	500	UD	500	990	ug/Kg
91-58-7	2-Chloronaphthalene	500	UD	500	990	ug/Kg
88-74-4	2-Nitroaniline	630	UD	630	990	ug/Kg
131-11-3	Dimethylphthalate	470	UD	470	990	ug/Kg
208-96-8	Acenaphthylene	400	UD	400	990	ug/Kg
606-20-2	2,6-Dinitrotoluene	450	UD	450	990	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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BP013590.D	5	01/20/23 12:30	01/25/23 02:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	590	UD	590	990	ug/Kg
83-32-9	Acenaphthene	460	UD	460	990	ug/Kg
51-28-5	2,4-Dinitrophenol	750	UD	750	1900	ug/Kg
100-02-7	4-Nitrophenol	800	UD	800	1900	ug/Kg
132-64-9	Dibenzofuran	430	UD	430	990	ug/Kg
121-14-2	2,4-Dinitrotoluene	490	UD	490	990	ug/Kg
84-66-2	Diethylphthalate	470	UD	470	990	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	540	UD	540	990	ug/Kg
86-73-7	Fluorene	460	UD	460	990	ug/Kg
100-01-6	4-Nitroaniline	600	UD	600	990	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	500	UD	500	1900	ug/Kg
86-30-6	n-Nitrosodiphenylamine	480	UD	480	990	ug/Kg
101-55-3	4-Bromophenyl-phenylether	570	UD	570	990	ug/Kg
118-74-1	Hexachlorobenzene	600	UD	600	990	ug/Kg
1912-24-9	Atrazine	520	UD	520	990	ug/Kg
87-86-5	Pentachlorophenol	680	UD	680	1900	ug/Kg
85-01-8	Phenanthrene	490	UD	490	990	ug/Kg
120-12-7	Anthracene	490	UD	490	990	ug/Kg
86-74-8	Carbazole	490	UD	490	990	ug/Kg
84-74-2	Di-n-butylphthalate	510	UD	510	990	ug/Kg
206-44-0	Fluoranthene	460	UD	460	990	ug/Kg
129-00-0	Pyrene	430	UD	430	990	ug/Kg
85-68-7	Butylbenzylphthalate	480	UD	480	990	ug/Kg
91-94-1	3,3-Dichlorobenzidine	800	UD	800	1900	ug/Kg
56-55-3	Benzo(a)anthracene	500	UD	500	990	ug/Kg
218-01-9	Chrysene	500	UD	500	990	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	520	UD	520	990	ug/Kg
117-84-0	Di-n-octyl phthalate	530	UD	530	1900	ug/Kg
205-99-2	Benzo(b)fluoranthene	400	UD	400	990	ug/Kg
207-08-9	Benzo(k)fluoranthene	430	UD	430	990	ug/Kg
50-32-8	Benzo(a)pyrene	390	UD	390	990	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	590	UD	590	990	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	590	UD	590	990	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-P38CDL	SDG No.:	O1233
Lab Sample ID:	O1233-11DL	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	85.9
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
BP013590.D	5	01/20/23 12:30	01/25/23 02:09	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	560	UD	560	990	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	530	UD	530	990	ug/Kg
123-91-1	1,4-Dioxane	520	UD	520	990	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	470	UD	470	990	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	111		18 - 112	74%	SPK: 150
13127-88-3	Phenol-d6	103		21 - 104	69%	SPK: 150
4165-60-0	Nitrobenzene-d5	80.9		27 - 109	81%	SPK: 100
321-60-8	2-Fluorobiphenyl	61.8		30 - 103	62%	SPK: 100
118-79-6	2,4,6-Tribromophenol	112		10 - 121	75%	SPK: 150
1718-51-0	Terphenyl-d14	82.7		21 - 107	83%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	477000	8.157			
1146-65-2	Naphthalene-d8	1980000	10.987			
15067-26-2	Acenaphthene-d10	1240000	14.792			
1517-22-2	Phenanthrene-d10	2590000	17.545			
1719-03-5	Chrysene-d12	1670000	21.616			
1520-96-3	Perylene-d12	1640000	24.204			

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.: O1233

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
O1233-02	B-P34A	2-Fluorophenol	150	140	93		18	112
		Phenol-d6	150	149	99		21	104
		Nitrobenzene-d5	100	102	102		27	109
		2-Fluorobiphenyl	100	81.2	81		30	103
		2,4,6-Tribromophenol	150	163	109		10	121
		Terphenyl-d14	100	79.7	80		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
O1233-03	B-P34B	2-Fluorophenol	150	101	67		18	112
		Phenol-d6	150	103	69		21	104
		Nitrobenzene-d5	100	72.2	72		27	109
		2-Fluorobiphenyl	100	60.7	61		30	103
		2,4,6-Tribromophenol	150	108	72		10	121
		Terphenyl-d14	100	64.8	65		21	107
O1233-04	B-P36A	2-Fluorophenol	150	117	78		18	112
		Phenol-d6	150	123	82		21	104
		Nitrobenzene-d5	100	86.0	86		27	109
		2-Fluorobiphenyl	100	70.7	71		30	103
		2,4,6-Tribromophenol	150	136	90		10	121
		Terphenyl-d14	100	76.2	76		21	107
O1233-05	B-P36B	2-Fluorophenol	150	87.7	58		18	112
		Phenol-d6	150	98.6	66		21	104
		Nitrobenzene-d5	100	69.2	69		27	109
		2-Fluorobiphenyl	100	57.5	58		30	103
		2,4,6-Tribromophenol	150	80.4	54		10	121
		Terphenyl-d14	100	61.3	61		21	107
O1233-06	B-P37A	2-Fluorophenol	150	112	75		18	112
		Phenol-d6	150	102	68		21	104
		Nitrobenzene-d5	100	58.8	59		27	109
		2-Fluorobiphenyl	100	63.1	63		30	103
		2,4,6-Tribromophenol	150	101	67		10	121
		Terphenyl-d14	100	67.9	68		21	107
O1233-07	B-P37B	2-Fluorophenol	150	104	69		18	112
		Phenol-d6	150	106	71		21	104
		Nitrobenzene-d5	100	75.7	76		27	109
		2-Fluorobiphenyl	100	63.8	64		30	103
		2,4,6-Tribromophenol	150	114	76		10	121
		Terphenyl-d14	100	67.0	67		21	107
O1233-08	B-P38A	2-Fluorophenol	150	135	90		18	112
		Phenol-d6	150	119	80		21	104
		Nitrobenzene-d5	100	63.8	64		27	109
		2-Fluorobiphenyl	100	65.9	66		30	103

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

Surrogate Summary

SW-846

SDG No.: O1233

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
O1233-08	B-P38A	2,4,6-Tribromophenol	150	94.2	63		10	121
		Terphenyl-d14	100	71.2	71		21	107
O1233-09	B-P38B	2-Fluorophenol	150	125	84		18	112
		Phenol-d6	150	131	87		21	104
		Nitrobenzene-d5	100	92.0	92		27	109
		2-Fluorobiphenyl	100	73.8	74		30	103
		2,4,6-Tribromophenol	150	139	93		10	121
		Terphenyl-d14	100	76.1	76		21	107
O1233-11	B-P38C	2-Fluorophenol	150	113	75		18	112
		Phenol-d6	150	123	82		21	104
		Nitrobenzene-d5	100	96.6	97		27	109
		2-Fluorobiphenyl	100	65.0	65		30	103
		2,4,6-Tribromophenol	150	134	89		10	121
		Terphenyl-d14	100	68.5	68		21	107
O1233-11DL	B-P38CDL	2-Fluorophenol	150	111	74		18	112
		Phenol-d6	150	103	69		21	104
		Nitrobenzene-d5	100	80.9	81		27	109
		2-Fluorobiphenyl	100	61.8	62		30	103
		2,4,6-Tribromophenol	150	112	75		10	121
		Terphenyl-d14	100	82.7	83		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

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1233

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.: O1233

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.: O1233

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.: O1233

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.: O1233

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.: O1233

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	

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150378BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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
PB150378BS	PB150378BS	BP013684.D	01/31/2023
B-P34A	O1233-02	BF132170.D	01/20/2023
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023
B-P34B	O1233-03	BF132178.D	01/21/2023
B-P36A	O1233-04	BF132179.D	01/21/2023
B-P36B	O1233-05	BF132180.D	01/21/2023
B-P37B	O1233-07	BF132174.D	01/20/2023
B-P38B	O1233-09	BF132181.D	01/21/2023
B-P38C	O1233-11	BF132182.D	01/21/2023
B-P37A	O1233-06	BG056390.D	01/23/2023
B-P38A	O1233-08	BG056392.D	01/23/2023

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	82.8
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.: O1233 SDG NO.: O1233

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	89.3
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-P34A	O1233-02	BF132170.D	01/20/2023	20:03
B-P34AMS	O1233-02MS	BF132171.D	01/20/2023	20:35
B-P34AMSD	O1233-02MSD	BF132172.D	01/20/2023	21:08
B-P37B	O1233-07	BF132174.D	01/20/2023	22:13
B-P34B	O1233-03	BF132178.D	01/21/2023	00:23
B-P36A	O1233-04	BF132179.D	01/21/2023	00:56
B-P36B	O1233-05	BF132180.D	01/21/2023	01:28
B-P38B	O1233-09	BF132181.D	01/21/2023	02:00
B-P38C	O1233-11	BF132182.D	01/21/2023	02:33

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	69.2
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.: O1233 SDG NO.: O1233

Lab File ID: BG056379.D DFTPP Injection Date: 01/23/2023

Instrument ID: BNA_G DFTPP Injection Time: 10:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	14
68	Less than 2.0% of mass 69	0.1 (0.4) 1
69	Mass 69 relative abundance	21.6
70	Less than 2.0% of mass 69	0.2 (0.8) 1
127	10.0 - 80.0% of mass 198	33.3
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	32.6
365	Greater than 1% of mass 198	4
441	Present, but less than mass 443	12.8
442	Greater than 50% of mass 198	78.9
443	15.0 - 24.0% of mass 442	15.9 (20.1) 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	BG056380.D	01/23/2023	11:41
B-P37A	O1233-06	BG056390.D	01/23/2023	19:09
B-P38A	O1233-08	BG056392.D	01/23/2023	20:31

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	38.2
68	Less than 2.0% of mass 69	0.6 (1.7) 1
69	Mass 69 relative abundance	34.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	46.8
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	6.7
275	10.0 - 60.0% of mass 198	26.5
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.1
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.: O1233 SDG NO.: O1233

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	33.8
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	44.7
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	25.6
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.4
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
SSTDCCC040	SSTDCCC040	BP013571.D	01/24/2023	15:13
PB150378BL	PB150378BL	BP013572.D	01/24/2023	15:50
B-P38CDL	O1233-11DL	BP013590.D	01/25/2023	02:09

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	24
68	Less than 2.0% of mass 69	0.5 (1.8) 1
69	Mass 69 relative abundance	27.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	34.4
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	6.3
275	10.0 - 60.0% of mass 198	27.4
365	Greater than 1% of mass 198	3.7
441	Present, but less than mass 443	15.1
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.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P34A	165824	7.09	608025	8.38	328729	10.14
02	B-P34AMS	184212	7.09	674454	8.38	369043	10.14
03	B-P34AMSD	185010	7.09	669898	8.38	363370	10.14
04	B-P37B	177955	7.09	631961	8.38	341753	10.14
05	B-P34B	185742	7.09	675652	8.38	368118	10.14
06	B-P36A	189363	7.09	681160	8.38	365830	10.14
07	B-P36B	179392	7.09	645668	8.38	348624	10.14
08	B-P38B	175268	7.09	626552	8.38	338703	10.14
09	B-P38C	95858	7.10	389884	8.39	294398	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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P34A	655100	11.64	482863	14.30	384782	15.90
02	B-P34AMS	748390	11.64	455426	14.31	405760	15.90
03	B-P34AMSD	736982	11.64	439968	14.31	406965	15.90
04	B-P37B	670384	11.64	444362	14.30	375935	15.90
05	B-P34B	732948	11.64	480445	14.30	398304	15.90
06	B-P36A	725377	11.64	477461	14.30	393144	15.90
07	B-P36B	667878	11.64	443182	14.30	380998	15.90
08	B-P38B	667544	11.64	452870	14.30	378822	15.90
09	B-P38C	605609	11.64	411820	14.30	355739	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.

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/23/2023

Lab File ID: BG056380.D Time Analyzed: 11:41

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	35880	8.299	143339	11.14	121624	14.92
	UPPER LIMIT	71760	8.799	286678	11.637	243248	15.42
	LOWER LIMIT	17940	7.799	71669.5	10.637	60812	14.42
	EPA SAMPLE NO.						
01	B-P37A	38461	8.30	155511	11.13	129252	14.91
02	B-P38A	36838	8.30	157784	11.13	127381	14.91

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.: O1233 SAS No.: O1233 SDG NO.: O1233

EPA Sample No.: SSTDCCC040 Date Analyzed: 01/23/2023

Lab File ID: BG056380.D Time Analyzed: 11:41

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	314903	17.652	266234	21.947	293224	25.384
	UPPER LIMIT	629806	18.152	532468	22.447	586448	25.884
	LOWER LIMIT	157452	17.152	133117	21.447	146612	24.884
	EPA SAMPLE NO.						
01	B-P37A	335669	17.64	299254	21.94	323323	25.37
02	B-P38A	312833	17.65	275682	21.94	296075	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.

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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	PB150378BL	291029	8.16	1295640	10.99	837908	14.80
02	B-P38CDL	476799	8.16	1980990	10.99	1235300	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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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	PB150378BL	1910080	17.55	1883140	21.63	2131870	24.22
02	B-P38CDL	2590770	17.55	1671770	21.62	1637100	24.20

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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.: O1233 SAS No.: O1233 SDG NO.: O1233

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.:	O1233
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

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.:	O1233
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.:	O1233
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

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.:	O1233
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.:	O1233
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

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.:	O1233
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.:	O1233
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.:	O1233
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

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.:	O1233
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

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.:	O1233
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.:	O1233
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.:	O1233
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
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

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

Response Factor Report MSBNA_P

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

Response Factor Report MSBNA_P

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.: O1233 SAS No.: O1233 SDG No.: O1233

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	

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.: O1233 SAS No.: O1233 SDG No.: O1233

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.

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.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: BNA_G Calibration Date/Time: 01/23/2023 11:41

Lab File ID: BG056380.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	1.132		1.1	
Benzaldehyde	1.023	0.872		-14.8	
Phenol-d6	1.720	1.744		1.4	
Phenol	1.745	1.758		0.7	20.0
bis(2-Chloroethyl)ether	1.182	1.213		2.6	
2-Chlorophenol	1.115	1.201		7.7	
2-Methylphenol	1.280	1.321		3.2	
2,2-oxybis(1-Chloropropane)	0.209	0.293		40.2	
Acetophenone	0.566	0.559		-1.2	
3+4-Methylphenols	1.800	1.881		4.5	
n-Nitroso-di-n-propylamine	1.046	1.021	0.050	-2.4	
Nitrobenzene-d5	0.391	0.386		-1.3	
Hexachloroethane	0.414	0.443		7.0	
Nitrobenzene	0.387	0.377		-2.6	
Isophorone	0.823	0.791		-3.9	
2-Nitrophenol	0.198	0.207		4.5	20.0
2,4-Dimethylphenol	0.362	0.362		0.0	
bis(2-Chloroethoxy)methane	0.428	0.424		-0.9	
2,4-Dichlorophenol	0.400	0.401		0.3	20.0
Naphthalene	1.053	1.098		4.3	
4-Chloroaniline	0.503	0.527		4.8	
Hexachlorobutadiene	0.326	0.297		-8.9	20.0
Caprolactam	0.135	0.146		8.1	
4-Chloro-3-methylphenol	0.406	0.419		3.2	20.0
2-Methylnaphthalene	0.889	0.891		0.2	
Hexachlorocyclopentadiene	0.427	0.348	0.050	-18.5	
2,4,6-Trichlorophenol	0.496	0.488		-1.6	20.0
2-Fluorobiphenyl	1.448	1.434		-1.0	
2,4,5-Trichlorophenol	0.586	0.576		-1.7	
1,1-Biphenyl	1.432	1.478		3.2	
2-Chloronaphthalene	1.131	1.161		2.7	
2-Nitroaniline	0.241	0.275		14.1	
Dimethylphthalate	1.615	1.659		2.7	
Acenaphthylene	1.840	1.914		4.0	
2,6-Dinitrotoluene	0.344	0.365		6.1	
3-Nitroaniline	0.327	0.367		12.2	
Acenaphthene	1.197	1.258		5.1	20.0
2,4-Dinitrophenol	0.246	0.234	0.050	-4.9	
4-Nitrophenol	0.252	0.260	0.050	3.2	
Dibenzofuran	1.980	2.038		2.9	
2,4-Dinitrotoluene	0.481	0.526		9.4	

Form VII SV-1

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

Instrument ID: BNA_G Calibration Date/Time: 01/23/2023 11:41

Lab File ID: BG056380.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	1.580		4.4	
4-Chlorophenyl-phenylether	0.994	0.999		0.5	
Fluorene	1.593	1.630		2.3	
4-Nitroaniline	0.335	0.371		10.7	
4,6-Dinitro-2-methylphenol	0.135	0.142		5.2	
n-Nitrosodiphenylamine	0.555	0.581		4.7	20.0
2,4,6-Tribromophenol	0.253	0.268		5.9	
4-Bromophenyl-phenylether	0.255	0.261		2.4	
Hexachlorobenzene	0.238	0.252		5.9	
Atrazine	0.230	0.230		0.0	
Pentachlorophenol	0.183	0.160		-12.6	20.0
Phenanthrene	1.036	1.065		2.8	
Anthracene	1.069	1.095		2.4	
Carbazole	0.899	0.921		2.4	
Di-n-butylphthalate	0.896	0.949		5.9	
Fluoranthene	1.352	1.259		-6.9	20.0
Pyrene	1.410	1.502		6.5	
Terphenyl-d14	1.117	1.177		5.4	
Butylbenzylphthalate	0.404	0.436		7.9	
3,3-Dichlorobenzidine	0.506	0.512		1.2	
Benzo(a)anthracene	1.405	1.445		2.8	
Chrysene	1.316	1.353		2.8	
Bis(2-ethylhexyl)phthalate	0.583	0.620		6.3	
Di-n-octyl phthalate	0.984	1.042		5.9	20.0
Benzo(b)fluoranthene	1.271	1.279		0.6	
Benzo(k)fluoranthene	1.265	1.269		0.3	
Benzo(a)pyrene	1.239	1.250		0.9	20.0
Indeno(1,2,3-cd)pyrene	1.455	1.493		2.5	
Dibenzo(a,h)anthracene	1.219	1.257		3.1	
Benzo(g,h,i)perylene	1.183	1.213		2.5	
1,2,4,5-Tetrachlorobenzene	0.750	0.733		-2.3	
1,4-Dioxane	0.512	0.460		-10.2	20.0
2,3,4,6-Tetrachlorophenol	0.551	0.508		-7.8	

All other compounds must meet a minimum RRF of 0.010.

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.: O1233 SAS No.: O1233 SDG No.: O1233

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	

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.: O1233 SAS No.: O1233 SDG No.: O1233

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.

Form VII SV-1

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

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/23/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/20/23	
O1233-08	**B-38A**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/23/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-PAH	8270E		01/20/23	01/24/23	
			SVOC-TCL BNA -20	8270E		01/20/23	01/24/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/21/23	
O1233-11DL	**B-P38CDL**	**SOIL**			**01/18/23**			**01/19/23**
			SVOC-TCL BNA -20	8270E		01/20/23	01/25/23	

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

Hit Summary Sheet
SW-846

SDG No.: O1233

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

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-38								
O1233-10	WC-38	SOIL	Naphthalene	1,700.000		86.8	200	ug/Kg
			Total Svoc :	**1,700.00**				
			Total Concentration:	**1,700.00**				

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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	84.9
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
BP013565.D	1	01/20/23 12:30	01/24/23 11:43	PB150378

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
91-20-3	Naphthalene	1700		86.8	200	ug/Kg
208-96-8	Acenaphthylene	80.7	U	80.7	200	ug/Kg
83-32-9	Acenaphthene	92.7	U	92.7	200	ug/Kg
86-73-7	Fluorene	92.6	U	92.6	200	ug/Kg
85-01-8	Phenanthrene	98.2	U	98.2	200	ug/Kg
120-12-7	Anthracene	98.7	U	98.7	200	ug/Kg
206-44-0	Fluoranthene	93.8	U	93.8	200	ug/Kg
129-00-0	Pyrene	87.2	U	87.2	200	ug/Kg
56-55-3	Benzo(a)anthracene	100	U	100	200	ug/Kg
218-01-9	Chrysene	100	U	100	200	ug/Kg
205-99-2	Benzo(b)fluoranthene	81.1	U	81.1	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	86.5	U	86.5	200	ug/Kg
50-32-8	Benzo(a)pyrene	79.6	U	79.6	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
191-24-2	Benzo(g,h,i)perylene	110	U	110	200	ug/Kg
SURROGATES						
4165-60-0	Nitrobenzene-d5	85.3		27 - 109	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	66.8		30 - 103	67%	SPK: 100
1718-51-0	Terphenyl-d14	63.7		21 - 107	64%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	254000	8.164			
1146-65-2	Naphthalene-d8	973000	10.993			
15067-26-2	Acenaphthene-d10	545000	14.793			
1517-22-2	Phenanthrene-d10	1080000	17.545			
1719-03-5	Chrysene-d12	971000	21.622			
1520-96-3	Perylene-d12	1160000	24.21			

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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	SW8270	% Solid:	84.9
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
BP013565.D	1	01/20/23 12:30	01/24/23 11:43	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

Surrogate Summary

SW-846

SDG No.: O1233

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
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
O1233-10	WC-38	Nitrobenzene-d5	100	85.3	85		27	109
		2-Fluorobiphenyl	100	66.8	67		30	103
		Terphenyl-d14	100	63.7	64		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

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1233

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	

Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: O1233

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

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

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

SDG No.: O1233

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	

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150378BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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
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
WC-38	O1233-10	BP013565.D	01/24/2023

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.: O1233 SDG NO.: O1233

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.: O1233 SDG NO.: O1233

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.: O1233 SDG NO.: O1233

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	38.2
68	Less than 2.0% of mass 69	0.6 (1.7) 1
69	Mass 69 relative abundance	34.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	46.8
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	6.7
275	10.0 - 60.0% of mass 198	26.5
365	Greater than 1% of mass 198	3.4
441	Present, but less than mass 443	15.1
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.: O1233 SDG NO.: O1233

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	28.8
68	Less than 2.0% of mass 69	0.4 (1.6) 1
69	Mass 69 relative abundance	27.3
70	Less than 2.0% of mass 69	0.1 (0.5) 1
127	10.0 - 80.0% of mass 198	39.7
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	6.1
275	10.0 - 60.0% of mass 198	24.3
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.3
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
WC-38	O1233-10	BP013565.D	01/24/2023	11:43

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	33.8
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	44.7
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	25.6
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	15.4
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
SSTDCCC040	SSTDCCC040	BP013571.D	01/24/2023	15:13
PB150378BL	PB150378BL	BP013572.D	01/24/2023	15:50

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM SAS No.: O1233 SDG NO.: O1233

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	24
68	Less than 2.0% of mass 69	0.5 (1.8) 1
69	Mass 69 relative abundance	27.1
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	34.4
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	6.3
275	10.0 - 60.0% of mass 198	27.4
365	Greater than 1% of mass 198	3.7
441	Present, but less than mass 443	15.1
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.: O1233 SAS No.: O1233 SDG NO.: O1233

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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	WC-38	253707	8.16	972664	10.99	544889	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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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	WC-38	1077800	17.55	971180	21.62	1162670	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.: O1233 SAS No.: O1233 SDG NO.: O1233

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	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.: O1233 SAS No.: O1233 SDG NO.: O1233

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	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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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.: O1233 SAS No.: O1233 SDG NO.: O1233

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.:	O1233
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.:	O1233
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.:	O1233
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.:	O1233
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

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.:	O1233
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.:	O1233
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
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-P34AMSD	SDG No.:	O1233
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.:	O1233
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
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

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.: O1233 SAS No.: O1233 SDG No.: O1233

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.

Form VII SV-1

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.: O1233 SAS No.: O1233 SDG No.: O1233

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	
Phenol-d6	1.571	1.646		4.8	
Nitrobenzene-d5	0.303	0.350		15.5	
Naphthalene	1.075	1.106		2.9	
2-Fluorobiphenyl	1.457	1.460		0.2	
Acenaphthylene	1.968	2.011		2.2	
Acenaphthene	1.216	1.264		3.9	20.0
Fluorene	1.482	1.533		3.4	
2,4,6-Tribromophenol	0.201	0.225		11.9	
Phenanthrene	1.113	1.138		2.2	
Anthracene	1.129	1.148		1.7	
Fluoranthene	1.183	1.258		6.3	20.0
Pyrene	1.529	1.627		6.4	
Terphenyl-d14	1.112	1.205		8.4	
Benzo(a)anthracene	1.393	1.436		3.1	
Chrysene	1.333	1.354		1.6	
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	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

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.: O1233 SAS No.: O1233 SDG No.: O1233

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:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-08	**B-P38A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/23/23	

LAB CHRONICLE

			Gasoline Range Organics	8015D			01/23/23	
			PCB	8082A		01/20/23	01/21/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	

Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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-P37A								
O1233-06	B-P37A	SOIL	4,4-DDE	0.74	JP	0.20	1.90	ug/kg
O1233-06	B-P37A	SOIL	4,4-DDT	0.53	JP	0.24	1.90	ug/kg
O1233-06	B-P37A	SOIL	alpha-Chlordane	9.10	P	0.24	1.90	ug/kg
O1233-06	B-P37A	SOIL	gamma-Chlordane	3.50	P	0.24	1.90	ug/kg
			Total Concentration:	**13.870**				
Client ID : B-P37B								
O1233-07	B-P37B	SOIL	4,4-DDE	0.55	J	0.22	2.00	ug/kg
O1233-07	B-P37B	SOIL	4,4-DDD	0.69	JP	0.25	2.00	ug/kg
O1233-07	B-P37B	SOIL	gamma-Chlordane	1.10	JP	0.25	2.00	ug/kg
			Total Concentration:	**2.340**				

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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 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
PL080442.D	1	01/20/23 10:35	01/21/23 00:24	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.28	U	0.28	2.00	ug/kg
319-85-7	beta-BHC	0.61	U	0.61	2.00	ug/kg
319-86-8	delta-BHC	0.48	U	0.48	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	0.26	U	0.26	2.00	ug/kg
76-44-8	Heptachlor	0.27	U	0.27	2.00	ug/kg
309-00-2	Aldrin	0.23	U	0.23	2.00	ug/kg
1024-57-3	Heptachlor epoxide	0.34	U	0.34	2.00	ug/kg
959-98-8	Endosulfan I	0.22	U	0.22	2.00	ug/kg
60-57-1	Dieldrin	0.21	U	0.21	2.00	ug/kg
72-55-9	4,4-DDE	0.21	U	0.21	2.00	ug/kg
72-20-8	Endrin	0.20	U	0.20	2.00	ug/kg
33213-65-9	Endosulfan II	0.26	U	0.26	2.00	ug/kg
72-54-8	4,4-DDD	0.25	U	0.25	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	0.21	U	0.21	2.00	ug/kg
50-29-3	4,4-DDT	0.25	U	0.25	2.00	ug/kg
72-43-5	Methoxychlor	0.29	U	0.29	2.00	ug/kg
53494-70-5	Endrin ketone	0.34	U	0.34	2.00	ug/kg
7421-93-4	Endrin aldehyde	0.34	U	0.34	2.00	ug/kg
5103-71-9	alpha-Chlordane	0.25	U	0.25	2.00	ug/kg
5103-74-2	gamma-Chlordane	0.25	U	0.25	2.00	ug/kg
8001-35-2	Toxaphene	7.80	U	7.80	38.6	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	16.2		12 - 143	81%	SPK: 20
877-09-8	Tetrachloro-m-xylene	18.6		10 - 159	93%	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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.3 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
PL080442.D	1	01/20/23 10:35	01/21/23 00:24	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.7 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
PL080445.D	1	01/20/23 10:35	01/21/23 01:05	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.26	U	0.26	1.90	ug/kg
319-85-7	beta-BHC	0.57	U	0.57	1.90	ug/kg
319-86-8	delta-BHC	0.45	U	0.45	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.24	U	0.24	1.90	ug/kg
76-44-8	Heptachlor	0.25	U	0.25	1.90	ug/kg
309-00-2	Aldrin	0.22	U	0.22	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.32	U	0.32	1.90	ug/kg
959-98-8	Endosulfan I	0.21	U	0.21	1.90	ug/kg
60-57-1	Dieldrin	0.20	U	0.20	1.90	ug/kg
72-55-9	4,4-DDE	0.20	U	0.20	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.24	U	0.24	1.90	ug/kg
72-54-8	4,4-DDD	0.23	U	0.23	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.23	U	0.23	1.90	ug/kg
72-43-5	Methoxychlor	0.28	U	0.28	1.90	ug/kg
53494-70-5	Endrin ketone	0.32	U	0.32	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.32	U	0.32	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.23	U	0.23	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.23	U	0.23	1.90	ug/kg
8001-35-2	Toxaphene	7.30	U	7.30	36.4	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.0		12 - 143	105%	SPK: 20
877-09-8	Tetrachloro-m-xylene	21.8		10 - 159	109%	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.7 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
PL080445.D	1	01/20/23 10:35	01/21/23 01:05	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.6 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
PL080446.D	1	01/20/23 10:35	01/21/23 01:19	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.27	U	0.27	1.90	ug/kg
319-85-7	beta-BHC	0.58	U	0.58	1.90	ug/kg
319-86-8	delta-BHC	0.46	U	0.46	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.25	U	0.25	1.90	ug/kg
76-44-8	Heptachlor	0.26	U	0.26	1.90	ug/kg
309-00-2	Aldrin	0.22	U	0.22	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.32	U	0.32	1.90	ug/kg
959-98-8	Endosulfan I	0.21	U	0.21	1.90	ug/kg
60-57-1	Dieldrin	0.20	U	0.20	1.90	ug/kg
72-55-9	4,4-DDE	0.20	U	0.20	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.25	U	0.25	1.90	ug/kg
72-54-8	4,4-DDD	0.23	U	0.23	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.23	U	0.23	1.90	ug/kg
72-43-5	Methoxychlor	0.28	U	0.28	1.90	ug/kg
53494-70-5	Endrin ketone	0.32	U	0.32	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.32	U	0.32	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.23	U	0.23	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.23	U	0.23	1.90	ug/kg
8001-35-2	Toxaphene	7.40	U	7.40	36.8	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.4		12 - 143	92%	SPK: 20
877-09-8	Tetrachloro-m-xylene	19.9		10 - 159	99%	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.6 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
PL080446.D	1	01/20/23 10:35	01/21/23 01:19	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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.4 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
PL080447.D	1	01/20/23 10:35	01/21/23 01:33	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.27	U	0.27	1.90	ug/kg
319-85-7	beta-BHC	0.57	U	0.57	1.90	ug/kg
319-86-8	delta-BHC	0.45	U	0.45	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.24	U	0.24	1.90	ug/kg
76-44-8	Heptachlor	0.25	U	0.25	1.90	ug/kg
309-00-2	Aldrin	0.22	U	0.22	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.32	U	0.32	1.90	ug/kg
959-98-8	Endosulfan I	0.21	U	0.21	1.90	ug/kg
60-57-1	Dieldrin	0.20	U	0.20	1.90	ug/kg
72-55-9	4,4-DDE	0.20	U	0.20	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.24	U	0.24	1.90	ug/kg
72-54-8	4,4-DDD	0.23	U	0.23	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.23	U	0.23	1.90	ug/kg
72-43-5	Methoxychlor	0.28	U	0.28	1.90	ug/kg
53494-70-5	Endrin ketone	0.32	U	0.32	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.32	U	0.32	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.23	U	0.23	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.23	U	0.23	1.90	ug/kg
8001-35-2	Toxaphene	7.30	U	7.30	36.4	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.1		12 - 143	90%	SPK: 20
877-09-8	Tetrachloro-m-xylene	23.4		10 - 159	117%	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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	90.4 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
PL080447.D	1	01/20/23 10:35	01/21/23 01:33	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	87.9 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
PL080448.D	1	01/20/23 10:35	01/21/23 01:47	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.27	U	0.27	1.90	ug/kg
319-85-7	beta-BHC	0.59	U	0.59	1.90	ug/kg
319-86-8	delta-BHC	0.47	U	0.47	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.25	U	0.25	1.90	ug/kg
76-44-8	Heptachlor	0.26	U	0.26	1.90	ug/kg
309-00-2	Aldrin	0.23	U	0.23	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.33	U	0.33	1.90	ug/kg
959-98-8	Endosulfan I	0.22	U	0.22	1.90	ug/kg
60-57-1	Dieldrin	0.20	U	0.20	1.90	ug/kg
72-55-9	4,4-DDE	0.74	JP	0.20	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.25	U	0.25	1.90	ug/kg
72-54-8	4,4-DDD	0.24	U	0.24	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.53	JP	0.24	1.90	ug/kg
72-43-5	Methoxychlor	0.28	U	0.28	1.90	ug/kg
53494-70-5	Endrin ketone	0.33	U	0.33	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.33	U	0.33	1.90	ug/kg
5103-71-9	alpha-Chlordane	9.10	P	0.24	1.90	ug/kg
5103-74-2	gamma-Chlordane	3.50	P	0.24	1.90	ug/kg
8001-35-2	Toxaphene	7.50	U	7.50	37.4	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	17.6		12 - 143	88%	SPK: 20
877-09-8	Tetrachloro-m-xylene	19.0		10 - 159	95%	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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	87.9 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
PL080448.D	1	01/20/23 10:35	01/21/23 01:47	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:	B-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	83.5 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
PL080449.D	1	01/20/23 10:35	01/21/23 02:01	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.29	U	0.29	2.00	ug/kg
319-85-7	beta-BHC	0.62	U	0.62	2.00	ug/kg
319-86-8	delta-BHC	0.49	U	0.49	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	0.26	U	0.26	2.00	ug/kg
76-44-8	Heptachlor	0.28	U	0.28	2.00	ug/kg
309-00-2	Aldrin	0.24	U	0.24	2.00	ug/kg
1024-57-3	Heptachlor epoxide	0.35	U	0.35	2.00	ug/kg
959-98-8	Endosulfan I	0.23	U	0.23	2.00	ug/kg
60-57-1	Dieldrin	0.22	U	0.22	2.00	ug/kg
72-55-9	4,4-DDE	0.55	J	0.22	2.00	ug/kg
72-20-8	Endrin	0.20	U	0.20	2.00	ug/kg
33213-65-9	Endosulfan II	0.26	U	0.26	2.00	ug/kg
72-54-8	4,4-DDD	0.69	JP	0.25	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	0.22	U	0.22	2.00	ug/kg
50-29-3	4,4-DDT	0.25	U	0.25	2.00	ug/kg
72-43-5	Methoxychlor	0.30	U	0.30	2.00	ug/kg
53494-70-5	Endrin ketone	0.35	U	0.35	2.00	ug/kg
7421-93-4	Endrin aldehyde	0.35	U	0.35	2.00	ug/kg
5103-71-9	alpha-Chlordane	0.25	U	0.25	2.00	ug/kg
5103-74-2	gamma-Chlordane	1.10	JP	0.25	2.00	ug/kg
8001-35-2	Toxaphene	7.90	U	7.90	39.5	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	17.6		12 - 143	88%	SPK: 20
877-09-8	Tetrachloro-m-xylene	20.4		10 - 159	102%	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	83.5 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
PL080449.D	1	01/20/23 10:35	01/21/23 02:01	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.3 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
PL080450.D	1	01/20/23 10:35	01/21/23 02:15	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.27	U	0.27	1.90	ug/kg
319-85-7	beta-BHC	0.58	U	0.58	1.90	ug/kg
319-86-8	delta-BHC	0.46	U	0.46	1.90	ug/kg
58-89-9	gamma-BHC (Lindane)	0.25	U	0.25	1.90	ug/kg
76-44-8	Heptachlor	0.26	U	0.26	1.90	ug/kg
309-00-2	Aldrin	0.22	U	0.22	1.90	ug/kg
1024-57-3	Heptachlor epoxide	0.32	U	0.32	1.90	ug/kg
959-98-8	Endosulfan I	0.21	U	0.21	1.90	ug/kg
60-57-1	Dieldrin	0.20	U	0.20	1.90	ug/kg
72-55-9	4,4-DDE	0.20	U	0.20	1.90	ug/kg
72-20-8	Endrin	0.19	U	0.19	1.90	ug/kg
33213-65-9	Endosulfan II	0.25	U	0.25	1.90	ug/kg
72-54-8	4,4-DDD	0.23	U	0.23	1.90	ug/kg
1031-07-8	Endosulfan Sulfate	0.20	U	0.20	1.90	ug/kg
50-29-3	4,4-DDT	0.23	U	0.23	1.90	ug/kg
72-43-5	Methoxychlor	0.28	U	0.28	1.90	ug/kg
53494-70-5	Endrin ketone	0.32	U	0.32	1.90	ug/kg
7421-93-4	Endrin aldehyde	0.32	U	0.32	1.90	ug/kg
5103-71-9	alpha-Chlordane	0.23	U	0.23	1.90	ug/kg
5103-74-2	gamma-Chlordane	0.23	U	0.23	1.90	ug/kg
8001-35-2	Toxaphene	7.40	U	7.40	36.9	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	10.4		12 - 143	52%	SPK: 20
877-09-8	Tetrachloro-m-xylene	9.61		10 - 159	48%	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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	89.3 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
PL080450.D	1	01/20/23 10:35	01/21/23 02:15	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	80.7 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
PL080451.D	1	01/20/23 10:35	01/21/23 02:29	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.30	U	0.30	2.10	ug/kg
319-85-7	beta-BHC	0.64	U	0.64	2.10	ug/kg
319-86-8	delta-BHC	0.51	U	0.51	2.10	ug/kg
58-89-9	gamma-BHC (Lindane)	0.27	U	0.27	2.10	ug/kg
76-44-8	Heptachlor	0.28	U	0.28	2.10	ug/kg
309-00-2	Aldrin	0.25	U	0.25	2.10	ug/kg
1024-57-3	Heptachlor epoxide	0.36	U	0.36	2.10	ug/kg
959-98-8	Endosulfan I	0.23	U	0.23	2.10	ug/kg
60-57-1	Dieldrin	0.22	U	0.22	2.10	ug/kg
72-55-9	4,4-DDE	0.22	U	0.22	2.10	ug/kg
72-20-8	Endrin	0.21	U	0.21	2.10	ug/kg
33213-65-9	Endosulfan II	0.27	U	0.27	2.10	ug/kg
72-54-8	4,4-DDD	0.26	U	0.26	2.10	ug/kg
1031-07-8	Endosulfan Sulfate	0.22	U	0.22	2.10	ug/kg
50-29-3	4,4-DDT	0.26	U	0.26	2.10	ug/kg
72-43-5	Methoxychlor	0.31	U	0.31	2.10	ug/kg
53494-70-5	Endrin ketone	0.36	U	0.36	2.10	ug/kg
7421-93-4	Endrin aldehyde	0.36	U	0.36	2.10	ug/kg
5103-71-9	alpha-Chlordane	0.26	U	0.26	2.10	ug/kg
5103-74-2	gamma-Chlordane	0.26	U	0.26	2.10	ug/kg
8001-35-2	Toxaphene	8.20	U	8.20	40.8	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	14.1		12 - 143	71%	SPK: 20
877-09-8	Tetrachloro-m-xylene	17.7		10 - 159	88%	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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	80.7 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
PL080451.D	1	01/20/23 10:35	01/21/23 02:29	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.9 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
PL080452.D	1	01/20/23 10:35	01/21/23 02:43	PB150373

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
319-84-6	alpha-BHC	0.28	U	0.28	2.00	ug/kg
319-85-7	beta-BHC	0.60	U	0.60	2.00	ug/kg
319-86-8	delta-BHC	0.48	U	0.48	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	0.26	U	0.26	2.00	ug/kg
76-44-8	Heptachlor	0.27	U	0.27	2.00	ug/kg
309-00-2	Aldrin	0.23	U	0.23	2.00	ug/kg
1024-57-3	Heptachlor epoxide	0.34	U	0.34	2.00	ug/kg
959-98-8	Endosulfan I	0.22	U	0.22	2.00	ug/kg
60-57-1	Dieldrin	0.21	U	0.21	2.00	ug/kg
72-55-9	4,4-DDE	0.21	U	0.21	2.00	ug/kg
72-20-8	Endrin	0.20	U	0.20	2.00	ug/kg
33213-65-9	Endosulfan II	0.26	U	0.26	2.00	ug/kg
72-54-8	4,4-DDD	0.24	U	0.24	2.00	ug/kg
1031-07-8	Endosulfan Sulfate	0.21	U	0.21	2.00	ug/kg
50-29-3	4,4-DDT	0.24	U	0.24	2.00	ug/kg
72-43-5	Methoxychlor	0.29	U	0.29	2.00	ug/kg
53494-70-5	Endrin ketone	0.34	U	0.34	2.00	ug/kg
7421-93-4	Endrin aldehyde	0.34	U	0.34	2.00	ug/kg
5103-71-9	alpha-Chlordane	0.24	U	0.24	2.00	ug/kg
5103-74-2	gamma-Chlordane	0.24	U	0.24	2.00	ug/kg
8001-35-2	Toxaphene	7.70	U	7.70	38.3	ug/kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	16.9		12 - 143	84%	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8081	% Solid:	85.9 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
PL080452.D	1	01/20/23 10:35	01/21/23 02:43	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.: O1233

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
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
O1233-02	B-P34A	Decachlorobiphenyl	1	20	16.2	81		12	143
		Tetrachloro-m-xylene	1	20	18.4	92		10	159
		Decachlorobiphenyl	2	20	15.8	79		12	143
		Tetrachloro-m-xylene	2	20	18.6	93		10	159
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
O1233-03	B-P34B	Decachlorobiphenyl	1	20	21.0	105		12	143
		Tetrachloro-m-xylene	1	20	21.8	109		10	159
		Decachlorobiphenyl	2	20	20.5	102		12	143
		Tetrachloro-m-xylene	2	20	20.6	103		10	159
O1233-04	B-P36A	Decachlorobiphenyl	1	20	18.4	92		12	143
		Tetrachloro-m-xylene	1	20	19.7	99		10	159
		Decachlorobiphenyl	2	20	16.9	84		12	143
		Tetrachloro-m-xylene	2	20	19.9	99		10	159
O1233-05	B-P36B	Decachlorobiphenyl	1	20	18.1	90		12	143
		Tetrachloro-m-xylene	1	20	23.4	117		10	159
		Decachlorobiphenyl	2	20	17.7	88		12	143

Surrogate Summary

SDG No.: O1233

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
O1233-05	B-P36B	Tetrachloro-m-xylene	2	20	19.6	98		10	159
O1233-06	B-P37A	Decachlorobiphenyl	1	20	17.6	88		12	143
		Tetrachloro-m-xylene	1	20	19.0	95		10	159
		Decachlorobiphenyl	2	20	17.5	87		12	143
		Tetrachloro-m-xylene	2	20	18.9	94		10	159
O1233-07	B-P37B	Decachlorobiphenyl	1	20	17.6	88		12	143
		Tetrachloro-m-xylene	1	20	20.4	102		10	159
		Decachlorobiphenyl	2	20	16.2	81		12	143
		Tetrachloro-m-xylene	2	20	20.0	100		10	159
O1233-08	B-P38A	Decachlorobiphenyl	1	20	10.3	52		12	143
		Tetrachloro-m-xylene	1	20	9.61	48		10	159
		Decachlorobiphenyl	2	20	10.4	52		12	143
		Tetrachloro-m-xylene	2	20	9.28	46		10	159
O1233-09	B-P38B	Decachlorobiphenyl	1	20	14.1	71		12	143
		Tetrachloro-m-xylene	1	20	17.4	87		10	159
		Decachlorobiphenyl	2	20	14.1	71		12	143
		Tetrachloro-m-xylene	2	20	17.7	88		10	159
O1233-11	B-P38C	Decachlorobiphenyl	1	20	16.9	84		12	143
		Tetrachloro-m-xylene	1	20	17.1	85		10	159
		Decachlorobiphenyl	2	20	16.6	83		12	143
		Tetrachloro-m-xylene	2	20	15.7	78		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

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1233

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	

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

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1233

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

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: O1233

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	

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150373BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P34A	O1233-02	PL080442.D	01/21/2023	01/21/2023
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-P34B	O1233-03	PL080445.D	01/21/2023	01/21/2023
B-P36A	O1233-04	PL080446.D	01/21/2023	01/21/2023
B-P36B	O1233-05	PL080447.D	01/21/2023	01/21/2023
B-P37A	O1233-06	PL080448.D	01/21/2023	01/21/2023
B-P37B	O1233-07	PL080449.D	01/21/2023	01/21/2023
B-P38A	O1233-08	PL080450.D	01/21/2023	01/21/2023
B-P38B	O1233-09	PL080451.D	01/21/2023	01/21/2023
B-P38C	O1233-11	PL080452.D	01/21/2023	01/21/2023

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.:	O1233
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	0.24	U	0.24	1.70	ug/kg
319-85-7	beta-BHC	0.52	U	0.52	1.70	ug/kg
319-86-8	delta-BHC	0.41	U	0.41	1.70	ug/kg
58-89-9	gamma-BHC (Lindane)	0.22	U	0.22	1.70	ug/kg
76-44-8	Heptachlor	0.23	U	0.23	1.70	ug/kg
309-00-2	Aldrin	0.20	U	0.20	1.70	ug/kg
1024-57-3	Heptachlor epoxide	0.29	U	0.29	1.70	ug/kg
959-98-8	Endosulfan I	0.19	U	0.19	1.70	ug/kg
60-57-1	Dieldrin	0.18	U	0.18	1.70	ug/kg
72-55-9	4,4-DDE	0.18	U	0.18	1.70	ug/kg
72-20-8	Endrin	0.17	U	0.17	1.70	ug/kg
33213-65-9	Endosulfan II	0.22	U	0.22	1.70	ug/kg
72-54-8	4,4-DDD	0.21	U	0.21	1.70	ug/kg
1031-07-8	Endosulfan Sulfate	0.18	U	0.18	1.70	ug/kg
50-29-3	4,4-DDT	0.21	U	0.21	1.70	ug/kg
72-43-5	Methoxychlor	0.25	U	0.25	1.70	ug/kg
53494-70-5	Endrin ketone	0.29	U	0.29	1.70	ug/kg
7421-93-4	Endrin aldehyde	0.29	U	0.29	1.70	ug/kg
5103-71-9	alpha-Chlordane	0.21	U	0.21	1.70	ug/kg
5103-74-2	gamma-Chlordane	0.21	U	0.21	1.70	ug/kg
8001-35-2	Toxaphene	6.60	U	6.60	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.:	O1233
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

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.:	O1233
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	0.0078	U	0.0078	0.050	ug/L
319-85-7	beta-BHC	0.014	U	0.014	0.050	ug/L
319-86-8	delta-BHC	0.012	U	0.012	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0064	U	0.0064	0.050	ug/L
76-44-8	Heptachlor	0.0073	U	0.0073	0.050	ug/L
309-00-2	Aldrin	0.0071	U	0.0071	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.010	U	0.010	0.050	ug/L
959-98-8	Endosulfan I	0.0059	U	0.0059	0.050	ug/L
60-57-1	Dieldrin	0.0054	U	0.0054	0.050	ug/L
72-55-9	4,4-DDE	0.0059	U	0.0059	0.050	ug/L
72-20-8	Endrin	0.0043	U	0.0043	0.050	ug/L
33213-65-9	Endosulfan II	0.0076	U	0.0076	0.050	ug/L
72-54-8	4,4-DDD	0.0084	U	0.0084	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0051	U	0.0051	0.050	ug/L
50-29-3	4,4-DDT	0.0065	U	0.0065	0.050	ug/L
72-43-5	Methoxychlor	0.0066	U	0.0066	0.050	ug/L
53494-70-5	Endrin ketone	0.0084	U	0.0084	0.050	ug/L
7421-93-4	Endrin aldehyde	0.0070	U	0.0070	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0074	U	0.0074	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0065	U	0.0065	0.050	ug/L
8001-35-2	Toxaphene	0.18	U	0.18	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.:	O1233
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

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.:	O1233
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	0.0078	U	0.0078	0.050	ug/L
319-85-7	beta-BHC	0.014	U	0.014	0.050	ug/L
319-86-8	delta-BHC	0.012	U	0.012	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0064	U	0.0064	0.050	ug/L
76-44-8	Heptachlor	0.0073	U	0.0073	0.050	ug/L
309-00-2	Aldrin	0.0071	U	0.0071	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.010	U	0.010	0.050	ug/L
959-98-8	Endosulfan I	0.0059	U	0.0059	0.050	ug/L
60-57-1	Dieldrin	0.0054	U	0.0054	0.050	ug/L
72-55-9	4,4-DDE	0.0059	U	0.0059	0.050	ug/L
72-20-8	Endrin	0.0043	U	0.0043	0.050	ug/L
33213-65-9	Endosulfan II	0.0076	U	0.0076	0.050	ug/L
72-54-8	4,4-DDD	0.0084	U	0.0084	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0051	U	0.0051	0.050	ug/L
50-29-3	4,4-DDT	0.0065	U	0.0065	0.050	ug/L
72-43-5	Methoxychlor	0.0066	U	0.0066	0.050	ug/L
53494-70-5	Endrin ketone	0.0084	U	0.0084	0.050	ug/L
7421-93-4	Endrin aldehyde	0.0070	U	0.0070	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0074	U	0.0074	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0065	U	0.0065	0.050	ug/L
8001-35-2	Toxaphene	0.18	U	0.18	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.:	O1233
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

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.:	O1233
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	0.0078	U	0.0078	0.050	ug/L
319-85-7	beta-BHC	0.014	U	0.014	0.050	ug/L
319-86-8	delta-BHC	0.012	U	0.012	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0064	U	0.0064	0.050	ug/L
76-44-8	Heptachlor	0.0073	U	0.0073	0.050	ug/L
309-00-2	Aldrin	0.0071	U	0.0071	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.010	U	0.010	0.050	ug/L
959-98-8	Endosulfan I	0.0059	U	0.0059	0.050	ug/L
60-57-1	Dieldrin	0.0054	U	0.0054	0.050	ug/L
72-55-9	4,4-DDE	0.0059	U	0.0059	0.050	ug/L
72-20-8	Endrin	0.0043	U	0.0043	0.050	ug/L
33213-65-9	Endosulfan II	0.0076	U	0.0076	0.050	ug/L
72-54-8	4,4-DDD	0.0084	U	0.0084	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0051	U	0.0051	0.050	ug/L
50-29-3	4,4-DDT	0.0065	U	0.0065	0.050	ug/L
72-43-5	Methoxychlor	0.0066	U	0.0066	0.050	ug/L
53494-70-5	Endrin ketone	0.0084	U	0.0084	0.050	ug/L
7421-93-4	Endrin aldehyde	0.0070	U	0.0070	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0074	U	0.0074	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0065	U	0.0065	0.050	ug/L
8001-35-2	Toxaphene	0.18	U	0.18	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.:	O1233
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
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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

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.:	O1233
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	0.0078	U	0.0078	0.050	ug/L
319-85-7	beta-BHC	0.014	U	0.014	0.050	ug/L
319-86-8	delta-BHC	0.012	U	0.012	0.050	ug/L
58-89-9	gamma-BHC (Lindane)	0.0064	U	0.0064	0.050	ug/L
76-44-8	Heptachlor	0.0073	U	0.0073	0.050	ug/L
309-00-2	Aldrin	0.0071	U	0.0071	0.050	ug/L
1024-57-3	Heptachlor epoxide	0.010	U	0.010	0.050	ug/L
959-98-8	Endosulfan I	0.0059	U	0.0059	0.050	ug/L
60-57-1	Dieldrin	0.0054	U	0.0054	0.050	ug/L
72-55-9	4,4-DDE	0.0059	U	0.0059	0.050	ug/L
72-20-8	Endrin	0.0043	U	0.0043	0.050	ug/L
33213-65-9	Endosulfan II	0.0076	U	0.0076	0.050	ug/L
72-54-8	4,4-DDD	0.0084	U	0.0084	0.050	ug/L
1031-07-8	Endosulfan Sulfate	0.0051	U	0.0051	0.050	ug/L
50-29-3	4,4-DDT	0.0065	U	0.0065	0.050	ug/L
72-43-5	Methoxychlor	0.0066	U	0.0066	0.050	ug/L
53494-70-5	Endrin ketone	0.0084	U	0.0084	0.050	ug/L
7421-93-4	Endrin aldehyde	0.0070	U	0.0070	0.050	ug/L
5103-71-9	alpha-Chlordane	0.0074	U	0.0074	0.050	ug/L
5103-74-2	gamma-Chlordane	0.0065	U	0.0065	0.050	ug/L
8001-35-2	Toxaphene	0.18	U	0.18	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

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-PL080453.D	SDG No.:	O1233
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
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.:	O1233
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		0.24	1.70	ug/kg
319-85-7	beta-BHC	14.3		0.52	1.70	ug/kg
319-86-8	delta-BHC	15.2		0.41	1.70	ug/kg
58-89-9	gamma-BHC (Lindane)	15.1		0.22	1.70	ug/kg
76-44-8	Heptachlor	15.2		0.23	1.70	ug/kg
309-00-2	Aldrin	15.5		0.20	1.70	ug/kg
1024-57-3	Heptachlor epoxide	15.3		0.29	1.70	ug/kg
959-98-8	Endosulfan I	15.0		0.19	1.70	ug/kg
60-57-1	Dieldrin	15.9		0.18	1.70	ug/kg
72-55-9	4,4-DDE	15.3		0.18	1.70	ug/kg
72-20-8	Endrin	16.5		0.17	1.70	ug/kg
33213-65-9	Endosulfan II	17.4		0.22	1.70	ug/kg
72-54-8	4,4-DDD	15.2		0.21	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		0.21	1.70	ug/kg
72-43-5	Methoxychlor	15.5		0.25	1.70	ug/kg
53494-70-5	Endrin ketone	15.5		0.29	1.70	ug/kg
7421-93-4	Endrin aldehyde	16.4		0.29	1.70	ug/kg
5103-71-9	alpha-Chlordane	15.3		0.21	1.70	ug/kg
5103-74-2	gamma-Chlordane	15.0		0.21	1.70	ug/kg
8001-35-2	Toxaphene	6.60	U	6.60	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.:	O1233
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

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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.:	O1233
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		0.28	2.00	ug/kg
319-85-7	beta-BHC	17.7		0.61	2.00	ug/kg
319-86-8	delta-BHC	18.7		0.48	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	18.5		0.26	2.00	ug/kg
76-44-8	Heptachlor	18.4		0.27	2.00	ug/kg
309-00-2	Aldrin	19.0		0.23	2.00	ug/kg
1024-57-3	Heptachlor epoxide	18.3		0.34	2.00	ug/kg
959-98-8	Endosulfan I	18.2		0.22	2.00	ug/kg
60-57-1	Dieldrin	19.2		0.21	2.00	ug/kg
72-55-9	4,4-DDE	18.6		0.21	2.00	ug/kg
72-20-8	Endrin	19.7		0.20	2.00	ug/kg
33213-65-9	Endosulfan II	20.8		0.26	2.00	ug/kg
72-54-8	4,4-DDD	18.3		0.25	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		0.25	2.00	ug/kg
72-43-5	Methoxychlor	18.8		0.29	2.00	ug/kg
53494-70-5	Endrin ketone	18.4		0.34	2.00	ug/kg
7421-93-4	Endrin aldehyde	19.8		0.34	2.00	ug/kg
5103-71-9	alpha-Chlordane	18.5		0.25	2.00	ug/kg
5103-74-2	gamma-Chlordane	18.3		0.25	2.00	ug/kg
8001-35-2	Toxaphene	7.70	U	7.70	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.:	O1233
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
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J = Estimated Value
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N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
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() = 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.:	O1233
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		0.28	2.00	ug/kg
319-85-7	beta-BHC	17.9		0.61	2.00	ug/kg
319-86-8	delta-BHC	19.0		0.48	2.00	ug/kg
58-89-9	gamma-BHC (Lindane)	18.8		0.26	2.00	ug/kg
76-44-8	Heptachlor	18.6		0.27	2.00	ug/kg
309-00-2	Aldrin	19.3		0.23	2.00	ug/kg
1024-57-3	Heptachlor epoxide	18.5		0.34	2.00	ug/kg
959-98-8	Endosulfan I	18.4		0.22	2.00	ug/kg
60-57-1	Dieldrin	19.4		0.21	2.00	ug/kg
72-55-9	4,4-DDE	18.9		0.21	2.00	ug/kg
72-20-8	Endrin	19.9		0.20	2.00	ug/kg
33213-65-9	Endosulfan II	21.1		0.26	2.00	ug/kg
72-54-8	4,4-DDD	18.6		0.25	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		0.25	2.00	ug/kg
72-43-5	Methoxychlor	19.0		0.29	2.00	ug/kg
53494-70-5	Endrin ketone	18.6		0.34	2.00	ug/kg
7421-93-4	Endrin aldehyde	20.1		0.34	2.00	ug/kg
5103-71-9	alpha-Chlordane	18.7		0.25	2.00	ug/kg
5103-74-2	gamma-Chlordane	18.8		0.25	2.00	ug/kg
8001-35-2	Toxaphene	7.70	U	7.70	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.:	O1233
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
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J = Estimated Value
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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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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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PESTICIDE CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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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Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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
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-P34A	O1233-02	01/21/2023	00:24	PL080442.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
B-P34B	O1233-03	01/21/2023	01:05	PL080445.D	8.79	3.35
B-P36A	O1233-04	01/21/2023	01:19	PL080446.D	8.79	3.35
B-P36B	O1233-05	01/21/2023	01:33	PL080447.D	8.79	3.35
B-P37A	O1233-06	01/21/2023	01:47	PL080448.D	8.79	3.35
B-P37B	O1233-07	01/21/2023	02:01	PL080449.D	8.79	3.35
B-P38A	O1233-08	01/21/2023	02:15	PL080450.D	8.79	3.35
B-P38B	O1233-09	01/21/2023	02:29	PL080451.D	8.79	3.35
B-P38C	O1233-11	01/21/2023	02:43	PL080452.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

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Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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
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-P34A	O1233-02	01/21/2023	00:24	PL080442.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
B-P34B	O1233-03	01/21/2023	01:05	PL080445.D	7.84	2.69
B-P36A	O1233-04	01/21/2023	01:19	PL080446.D	7.84	2.69
B-P36B	O1233-05	01/21/2023	01:33	PL080447.D	7.84	2.69
B-P37A	O1233-06	01/21/2023	01:47	PL080448.D	7.84	2.69
B-P37B	O1233-07	01/21/2023	02:01	PL080449.D	7.84	2.69
B-P38A	O1233-08	01/21/2023	02:15	PL080450.D	7.84	2.69
B-P38B	O1233-09	01/21/2023	02:29	PL080451.D	7.84	2.69
B-P38C	O1233-11	01/21/2023	02:43	PL080452.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

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

COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMS

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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	
delta-BHC	1	4.57	4.52	4.62	18.7	2.7
	2	4.05	4.00	4.10	18.2	
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	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMS

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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
Heptachlor	1	4.71	4.66	4.76	18.4	2.2
	2	3.86	3.81	3.91	18.0	
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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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
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	
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	
Endrin aldehyde	1	6.71	6.66	6.76	20.1	2
	2	6.03	5.98	6.08	19.7	
Endosulfan sulfate	1	6.94	6.89	6.99	18.8	1.1
	2	6.25	6.20	6.30	18.6	
Endrin ketone	1	7.42	7.37	7.47	18.6	0
	2	6.75	6.70	6.80	18.6	
alpha-BHC	1	3.80	3.75	3.85	18.4	1.6
	2	3.19	3.14	3.24	18.1	
gamma-BHC (Lindane)	1	4.13	4.08	4.18	18.8	3.2
	2	3.52	3.47	3.57	18.2	
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	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P34AMSD

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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
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	1	6.36	6.31	6.41	19.3	3.1
	2	5.55	5.50	5.60	19.9	
Methoxychlor	1	7.29	7.24	7.34	19.0	1.6
	2	6.53	6.48	6.58	18.7	
Heptachlor	1	4.71	4.66	4.76	18.6	1.6
	2	3.86	3.81	3.91	18.3	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P37A

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

Lab Sample ID: O1233-06 **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'-DDT	1	6.81	6.76	6.86	0.39	31.2
	2	5.95	5.90	6.00	0.53	
gamma-Chlordane	1	5.73	5.68	5.78	3.50	74.5
	2	4.89	4.84	4.94	1.60	
alpha-Chlordane	1	5.81	5.76	5.86	9.10	84.4
	2	4.96	4.91	5.01	3.70	
4,4'-DDE	1	5.99	5.94	6.04	0.74	29.9
	2	5.15	5.10	5.20	0.55	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

B-P37B

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

Lab Sample ID: O1233-07 **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	0.69	82.9
	2	5.70	5.65	5.75	0.29	
gamma-Chlordane	1	5.73	5.68	5.78	1.10	54.3
	2	4.89	4.84	4.94	0.63	
4,4'-DDE	1	5.99	5.94	6.04	0.55	14.1
	2	5.15	5.10	5.20	0.47	

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COMPOUND DETECTION SUMMARY

CLIENT SAMPLE NO.

PB150373BS

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/20/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-08	**B-P38A**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			PCB	8082A		01/20/23	01/21/23	
			Pesticide-TCL	8081B		01/20/23	01/21/23	
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/23/23	

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LAB CHRONICLE

			Gasoline Range Organics	8015D		01/23/23	
			PCB	8082A	01/20/23	01/21/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**		**01/19/23**
			PCB	8082A	01/20/23	01/21/23	
			Pesticide-TCL	8081B	01/20/23	01/21/23	

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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 :								
			Total Concentration:	0.000				

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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	85.3 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
PP054786.D	1	01/20/23 10:35	01/20/23 23:06	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.60	U	3.60	19.9	ug/kg
11104-28-2	Aroclor-1221	5.50	U	5.50	19.9	ug/kg
11141-16-5	Aroclor-1232	4.60	U	4.60	19.9	ug/kg
53469-21-9	Aroclor-1242	2.80	U	2.80	19.9	ug/kg
12672-29-6	Aroclor-1248	3.50	U	3.50	19.9	ug/kg
11097-69-1	Aroclor-1254	4.90	U	4.90	19.9	ug/kg
37324-23-5	Aroclor-1262	3.90	U	3.90	19.9	ug/kg
11100-14-4	Aroclor-1268	6.70	U	6.70	19.9	ug/kg
11096-82-5	Aroclor-1260	3.80	U	3.80	19.9	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.5		40 - 162	102%	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	90.7 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
PP054787.D	1	01/20/23 10:35	01/20/23 23:22	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.40	U	3.40	18.7	ug/kg
11104-28-2	Aroclor-1221	5.20	U	5.20	18.7	ug/kg
11141-16-5	Aroclor-1232	4.30	U	4.30	18.7	ug/kg
53469-21-9	Aroclor-1242	2.70	U	2.70	18.7	ug/kg
12672-29-6	Aroclor-1248	3.30	U	3.30	18.7	ug/kg
11097-69-1	Aroclor-1254	4.60	U	4.60	18.7	ug/kg
37324-23-5	Aroclor-1262	3.70	U	3.70	18.7	ug/kg
11100-14-4	Aroclor-1268	6.30	U	6.30	18.7	ug/kg
11096-82-5	Aroclor-1260	3.60	U	3.60	18.7	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.7		40 - 162	114%	SPK: 20
2051-24-3	Decachlorobiphenyl	22.1		32 - 176	111%	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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	89.6 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
PP054788.D	1	01/20/23 10:35	01/20/23 23:38	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	5.20	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	3.60	U	3.60	19.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.1		40 - 162	111%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.8		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
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-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	90.4 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
PP054789.D	1	01/20/23 10:35	01/20/23 23:55	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	4.60	U	4.60	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	25.2		40 - 162	126%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.6		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
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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
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-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	87.9 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
PP054790.D	1	01/20/23 10:35	01/21/23 00:11	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.3	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	21.0		40 - 162	105%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.1		32 - 176	95%	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	83.5 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
PP054791.D	1	01/20/23 10:35	01/21/23 00:28	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.60	U	3.60	20.3	ug/kg
11104-28-2	Aroclor-1221	5.60	U	5.60	20.3	ug/kg
11141-16-5	Aroclor-1232	4.70	U	4.70	20.3	ug/kg
53469-21-9	Aroclor-1242	2.90	U	2.90	20.3	ug/kg
12672-29-6	Aroclor-1248	3.60	U	3.60	20.3	ug/kg
11097-69-1	Aroclor-1254	5.00	U	5.00	20.3	ug/kg
37324-23-5	Aroclor-1262	4.00	U	4.00	20.3	ug/kg
11100-14-4	Aroclor-1268	6.90	U	6.90	20.3	ug/kg
11096-82-5	Aroclor-1260	3.90	U	3.90	20.3	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.9		40 - 162	115%	SPK: 20
2051-24-3	Decachlorobiphenyl	19.7		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:	B-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	89.3 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
PP054794.D	1	01/20/23 10:35	01/21/23 02:11	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	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

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-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	80.7 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
PP054795.D	1	01/20/23 10:35	01/21/23 02:27	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.80	U	3.80	21.0	ug/kg
11104-28-2	Aroclor-1221	5.80	U	5.80	21.0	ug/kg
11141-16-5	Aroclor-1232	4.90	U	4.90	21.0	ug/kg
53469-21-9	Aroclor-1242	3.00	U	3.00	21.0	ug/kg
12672-29-6	Aroclor-1248	3.70	U	3.70	21.0	ug/kg
11097-69-1	Aroclor-1254	5.20	U	5.20	21.0	ug/kg
37324-23-5	Aroclor-1262	4.10	U	4.10	21.0	ug/kg
11100-14-4	Aroclor-1268	7.10	U	7.10	21.0	ug/kg
11096-82-5	Aroclor-1260	4.00	U	4.00	21.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	19.5		40 - 162	97%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.9		32 - 176	90%	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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	84.9 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
PP054796.D	1	01/20/23 10:35	01/21/23 02:44	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.60	U	3.60	20.0	ug/kg
11104-28-2	Aroclor-1221	5.50	U	5.50	20.0	ug/kg
11141-16-5	Aroclor-1232	4.60	U	4.60	20.0	ug/kg
53469-21-9	Aroclor-1242	2.80	U	2.80	20.0	ug/kg
12672-29-6	Aroclor-1248	3.50	U	3.50	20.0	ug/kg
11097-69-1	Aroclor-1254	5.00	U	5.00	20.0	ug/kg
37324-23-5	Aroclor-1262	3.90	U	3.90	20.0	ug/kg
11100-14-4	Aroclor-1268	6.70	U	6.70	20.0	ug/kg
11096-82-5	Aroclor-1260	3.80	U	3.80	20.0	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	18.9		40 - 162	95%	SPK: 20
2051-24-3	Decachlorobiphenyl	17.7		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

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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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Analytical Method:	SW8082A	% Solid:	85.9 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
PP054797.D	1	01/20/23 10:35	01/21/23 03:00	PB150372

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
12674-11-2	Aroclor-1016	3.50	U	3.50	19.7	ug/kg
11104-28-2	Aroclor-1221	5.50	U	5.50	19.7	ug/kg
11141-16-5	Aroclor-1232	4.60	U	4.60	19.7	ug/kg
53469-21-9	Aroclor-1242	2.80	U	2.80	19.7	ug/kg
12672-29-6	Aroclor-1248	3.50	U	3.50	19.7	ug/kg
11097-69-1	Aroclor-1254	4.90	U	4.90	19.7	ug/kg
37324-23-5	Aroclor-1262	3.90	U	3.90	19.7	ug/kg
11100-14-4	Aroclor-1268	6.70	U	6.70	19.7	ug/kg
11096-82-5	Aroclor-1260	3.80	U	3.80	19.7	ug/kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	17.9		40 - 162	89%	SPK: 20
2051-24-3	Decachlorobiphenyl	18.6		32 - 176	93%	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.: O1233

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
O1232-01MS	B-P17AMS	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-P17AMSD	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
O1233-02	B-P34A	Tetrachloro-m-xylene	1	20	20.5	102		40	162
		Decachlorobiphenyl	1	20	17.4	87		32	176
		Tetrachloro-m-xylene	2	20	18.8	94		40	162
		Decachlorobiphenyl	2	20	16.4	82		32	176
O1233-03	B-P34B	Tetrachloro-m-xylene	1	20	22.7	114		40	162
		Decachlorobiphenyl	1	20	22.1	111		32	176
		Tetrachloro-m-xylene	2	20	20.9	105		40	162
		Decachlorobiphenyl	2	20	21.4	107		32	176
O1233-04	B-P36A	Tetrachloro-m-xylene	1	20	22.1	111		40	162
		Decachlorobiphenyl	1	20	19.8	99		32	176
		Tetrachloro-m-xylene	2	20	20.5	102		40	162
		Decachlorobiphenyl	2	20	19.4	97		32	176
O1233-05	B-P36B	Tetrachloro-m-xylene	1	20	25.2	126		40	162
		Decachlorobiphenyl	1	20	19.6	98		32	176
		Tetrachloro-m-xylene	2	20	20.3	101		40	162
		Decachlorobiphenyl	2	20	19.3	97		32	176
O1233-06	B-P37A	Tetrachloro-m-xylene	1	20	21.0	105		40	162
		Decachlorobiphenyl	1	20	19.1	95		32	176
		Tetrachloro-m-xylene	2	20	19.6	98		40	162

Surrogate Summary

SDG No.: O1233

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
O1233-06	B-P37A	Decachlorobiphenyl	2	20	18.8	94		32	176
O1233-07	B-P37B	Tetrachloro-m-xylene	1	20	22.9	115		40	162
		Decachlorobiphenyl	1	20	19.7	98		32	176
		Tetrachloro-m-xylene	2	20	21.1	106		40	162
		Decachlorobiphenyl	2	20	19.3	96		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
O1233-08	B-P38A	Tetrachloro-m-xylene	1	20	20.9	104		40	162
		Decachlorobiphenyl	1	20	16.9	85		32	176
		Tetrachloro-m-xylene	2	20	19.3	96		40	162
		Decachlorobiphenyl	2	20	17.4	87		32	176
O1233-09	B-P38B	Tetrachloro-m-xylene	1	20	19.5	97		40	162
		Decachlorobiphenyl	1	20	17.9	90		32	176
		Tetrachloro-m-xylene	2	20	17.7	89		40	162
		Decachlorobiphenyl	2	20	15.4	77		32	176
O1233-10	WC-38	Tetrachloro-m-xylene	1	20	18.9	95		40	162
		Decachlorobiphenyl	1	20	17.4	87		32	176
		Tetrachloro-m-xylene	2	20	17.8	89		40	162
		Decachlorobiphenyl	2	20	17.7	88		32	176
O1233-11	B-P38C	Tetrachloro-m-xylene	1	20	17.9	89		40	162
		Decachlorobiphenyl	1	20	18.5	93		32	176
		Tetrachloro-m-xylene	2	20	16.3	82		40	162
		Decachlorobiphenyl	2	20	18.6	93		32	176
I.BLK-PP054799.D	PIBLK-PP054799.D	Tetrachloro-m-xylene	1	20	23.4	117		60	140
		Decachlorobiphenyl	1	20	24.6	123		60	140
		Tetrachloro-m-xylene	2	20	21.2	106		60	140
		Decachlorobiphenyl	2	20	24.7	123		60	140

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: O1233

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-P17AMS**											
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.: O1233

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-P17AMSD**											
O1232-01MSD	AR1016	186	0	172	ug/kg	92		2		70	142	20
	AR1260	186	0	161	ug/kg	87		0		50	147	20

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: O1233

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	

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150372BL

Lab Name: CHEMTECH Contract: loui01

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG NO.: O1233

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-P17AMS	O1232-01MS	PP054775.D	01/20/2023	01/20/2023
B-P17AMSD	O1232-01MSD	PP054776.D	01/20/2023	01/20/2023
B-P34A	O1233-02	PP054786.D	01/20/2023	01/20/2023
B-P34B	O1233-03	PP054787.D	01/20/2023	01/20/2023
B-P36A	O1233-04	PP054788.D	01/20/2023	01/20/2023
B-P36B	O1233-05	PP054789.D	01/20/2023	01/20/2023
B-P37A	O1233-06	PP054790.D	01/21/2023	01/21/2023
B-P37B	O1233-07	PP054791.D	01/21/2023	01/21/2023
B-P38A	O1233-08	PP054794.D	01/21/2023	01/21/2023
B-P38B	O1233-09	PP054795.D	01/21/2023	01/21/2023
WC-38	O1233-10	PP054796.D	01/21/2023	01/21/2023
B-P38C	O1233-11	PP054797.D	01/21/2023	01/21/2023

COMMENTS:

CALIBRATION SUMMARY

RETENTION TIMES OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

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

CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 03:37 **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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

Continuing Calib Date: 01/21/2023 **Initial Calibration Date(s):** 01/17/2023 01/18/2023

Continuing Calib Time: 03:37 **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)	4.66	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	0.01
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	0.01
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.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

GC Column: ZB-MR1 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL03 **Date Analyzed:** 01/21/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054798.D **Time Analyzed:** 03:37

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.504	5.405	5.605	496.200	500.000	-0.8
Aroclor-1016-2	5.526	5.427	5.627	484.410	500.000	-3.1
Aroclor-1016-3	5.589	5.490	5.690	472.360	500.000	-5.5
Aroclor-1016-4	5.687	5.588	5.788	451.690	500.000	-9.7
Aroclor-1016-5	5.983	5.885	6.085	401.060	500.000	-19.8
Aroclor-1260-1	7.116	7.017	7.217	512.920	500.000	2.6
Aroclor-1260-2	7.374	7.275	7.475	515.760	500.000	3.2
Aroclor-1260-3	7.735	7.637	7.837	517.240	500.000	3.4
Aroclor-1260-4	7.962	7.863	8.063	514.740	500.000	2.9
Aroclor-1260-5	8.278	8.181	8.381	503.350	500.000	0.7
Decachlorobiphenyl	10.092	9.994	10.194	47.690	50.000	-4.6
Tetrachloro-m-xylene	4.332	4.231	4.431	51.030	50.000	2.1

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CALIBRATION VERIFICATION SUMMARY

Contract: loui01

Lab Code: CHEM **Case No.:** O1233 **SAS No.:** O1233 **SDG NO.:** O1233

GC Column: ZB-MR2 **ID:** 0.32 **(mm)** **Initi. Calib. Date(s):** 01/17/2023 01/17/2023

Client Sample No.: CCAL03 **Date Analyzed:** 01/21/2023

Lab Sample No.: AR1660CCC500 **Data File :** PP054798.D **Time Analyzed:** 03:37

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.664	4.565	4.765	493.300	500.000	-1.3
Aroclor-1016-2	4.683	4.584	4.784	488.460	500.000	-2.3
Aroclor-1016-3	4.860	4.761	4.961	483.740	500.000	-3.3
Aroclor-1016-4	4.902	4.804	5.004	461.100	500.000	-7.8
Aroclor-1016-5	5.115	5.017	5.217	489.830	500.000	-2.0
Aroclor-1260-1	6.152	6.055	6.255	488.060	500.000	-2.4
Aroclor-1260-2	6.341	6.243	6.443	511.050	500.000	2.2
Aroclor-1260-3	6.495	6.398	6.598	495.650	500.000	-0.9
Aroclor-1260-4	6.968	6.872	7.072	498.600	500.000	-0.3
Aroclor-1260-5	7.212	7.115	7.315	507.730	500.000	1.5
Decachlorobiphenyl	8.597	8.502	8.702	48.070	50.000	-3.9
Tetrachloro-m-xylene	3.579	3.478	3.678	47.060	50.000	-5.9

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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-P17AMS	O1232-01MS	01/20/2023	20:05	PP054775.D	10.09	4.33
B-P17AMSD	O1232-01MSD	01/20/2023	20:21	PP054776.D	10.09	4.33
B-P34A	O1233-02	01/20/2023	23:06	PP054786.D	10.09	4.33
B-P34B	O1233-03	01/20/2023	23:22	PP054787.D	10.09	4.33
B-P36A	O1233-04	01/20/2023	23:38	PP054788.D	10.09	4.33
B-P36B	O1233-05	01/20/2023	23:55	PP054789.D	10.09	4.33
B-P37A	O1233-06	01/21/2023	00:11	PP054790.D	10.09	4.33
B-P37B	O1233-07	01/21/2023	00:28	PP054791.D	10.09	4.33
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
B-P38A	O1233-08	01/21/2023	02:11	PP054794.D	10.09	4.33
B-P38B	O1233-09	01/21/2023	02:27	PP054795.D	10.09	4.33

Analytical Sequence

WC-38	O1233-10	01/21/2023	02:44	PP054796.D	10.09	4.33
B-P38C	O1233-11	01/21/2023	03:00	PP054797.D	10.09	4.33
AR1660CCC500	AR1660CCC500	01/21/2023	03:37	PP054798.D	10.09	4.33
I.BLK	I.BLK	01/21/2023	03:54	PP054799.D	10.09	4.33

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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-P17AMS	O1232-01MS	01/20/2023	20:05	PP054775.D	8.60	3.58
B-P17AMSD	O1232-01MSD	01/20/2023	20:21	PP054776.D	8.60	3.58
B-P34A	O1233-02	01/20/2023	23:06	PP054786.D	8.60	3.58
B-P34B	O1233-03	01/20/2023	23:22	PP054787.D	8.60	3.58
B-P36A	O1233-04	01/20/2023	23:38	PP054788.D	8.60	3.58
B-P36B	O1233-05	01/20/2023	23:55	PP054789.D	8.60	3.58
B-P37A	O1233-06	01/21/2023	00:11	PP054790.D	8.60	3.58
B-P37B	O1233-07	01/21/2023	00:28	PP054791.D	8.60	3.58
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
B-P38A	O1233-08	01/21/2023	02:11	PP054794.D	8.60	3.58
B-P38B	O1233-09	01/21/2023	02:27	PP054795.D	8.60	3.58

Analytical Sequence

WC-38	O1233-10	01/21/2023	02:44	PP054796.D	8.60	3.58
B-P38C	O1233-11	01/21/2023	03:00	PP054797.D	8.60	3.58
AR1660CCC500	AR1660CCC500	01/21/2023	03:37	PP054798.D	8.60	3.58
I.BLK	I.BLK	01/21/2023	03:54	PP054799.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.:	O1233
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.:	O1233
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.:	O1233
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:

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LOD = Limit of Detection
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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:	01/21/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/21/23
Client Sample ID:	PIBLK-PP054793.D	SDG No.:	O1233
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
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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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* = 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-PP054799.D	SDG No.:	O1233
Lab Sample ID:	I.BLK-PP054799.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
PP054799.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	21.2		60 - 140	106%	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
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() = 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.:	O1233
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
Q = indicates LCS control criteria did not meet requirements
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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-P17AMS	SDG No.:	O1233
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
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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-P17AMSD	SDG No.:	O1233
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:

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CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

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

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-10	**WC-38**	**SOIL**			**01/18/23**			**01/19/23**
			Diesel Range Organics	8015D		01/20/23	01/23/23	
			Gasoline Range Organics	8015D			01/23/23	

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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	84.9 Decanted:
Sample Wt/Vol:	30.1 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
FF011905.D	5	01/20/23 13:10	01/23/23 11:37	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	111000		1290	9780	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	3.46		37 - 130	86%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
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QC SUMMARY

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

SOIL DIESEL RANGE ORGANICS SURROGATE RECOVERY

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

Lab Code: CHEM Case No.: O1233 SAS No.: O1233 SDG No.: O1233

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FF011890.D	68				0
PIBLK-FF011899.D	68				0
PIBLK-FF011902.D	76				0
PIBLK-FF011906.D	68				0
WC-17MS	83				0
WC-17MSD	74				0
WC-38	86				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:** O1233 **SAS No :** O1233 **SDG No:** O1233

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:** O1233 **SAS No :** O1233 **SDG No:** O1233

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:** O1233 **SAS No :** O1233 **SDG No:** O1233

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.: O1233 SAS No.: O1233 SDG NO.: O1233

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-17MS	O1232-03MS	FF011896.D	01/20/23
WC-17MSD	O1232-03MSD	FF011897.D	01/20/23
WC-38	O1233-10	FF011905.D	01/23/23

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:	PB150379BL	SDG No.:	O1233
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:

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
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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:	01/20/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23
Client Sample ID:	PIBLK-FF011890.D	SDG No.:	O1233
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.:	O1233
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:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-FF011902.D	SDG No.:	O1233
Lab Sample ID:	I.BLK-FF011902.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
FF011902.D	1		01/23/23	FF012323

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	15.3		29 - 130	76%	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:	01/23/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/23/23
Client Sample ID:	PIBLK-FF011906.D	SDG No.:	O1233
Lab Sample ID:	I.BLK-FF011906.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
FF011906.D	1		01/23/23	FF012323

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:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150379BS	SDG No.:	O1233
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.:	O1233
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

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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.:	O1233
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.: O1233 SAS No.: O1233 SDG No.: O1233

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.: O1233 SAS No.: O1233 SDG No.: O1233

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.: O1233 SAS No.: O1233 SDG No.: O1233

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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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.: O1233 SAS No.: O1233 SDG No.: O1233

DataFile: FF011903.D Analyst Name: YP\AJ Analyst Date: 01-23-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	100144777	200290	171833	16.561

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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.: O1233 SAS No.: O1233 SDG No.: O1233

DataFile: FF011907.D Analyst Name: YP\AJ Analyst Date: 01-23-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	90871165	181742	171833	5.767

Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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-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	
PIBLK03	I.BLK03	23 Jan 2023 09:45	FF011902.D	15.048	
50 PPM TRPH STD	50 PPM TRPH STD	23 Jan 2023 10:15	FF011903.D	15.053	
WC-38	O1233-10	23 Jan 2023 11:37	FF011905.D	15.045	
PIBLK04	I.BLK04	23 Jan 2023 12:06	FF011906.D	15.048	
50 PPM TRPH STD	50 PPM TRPH STD	23 Jan 2023 12:36	FF011907.D	15.053	

 # 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

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011898.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 18:58
Operator : YP\AJ
Sample : 01233-10
Misc :
ALS Vial : 61 Sample Multiplier: 1

Instrument :
FID_F
ClientSampleId :
WC-38

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A B C D E F

Integration File: autoint1.e
Quant Time: Jan 21 03:04:49 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.048	2392592	15.138 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011898.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 18:58
Operator : YP\AJ
Sample : O1233-10
Misc :
ALS Vial : 61 Sample Multiplier: 1

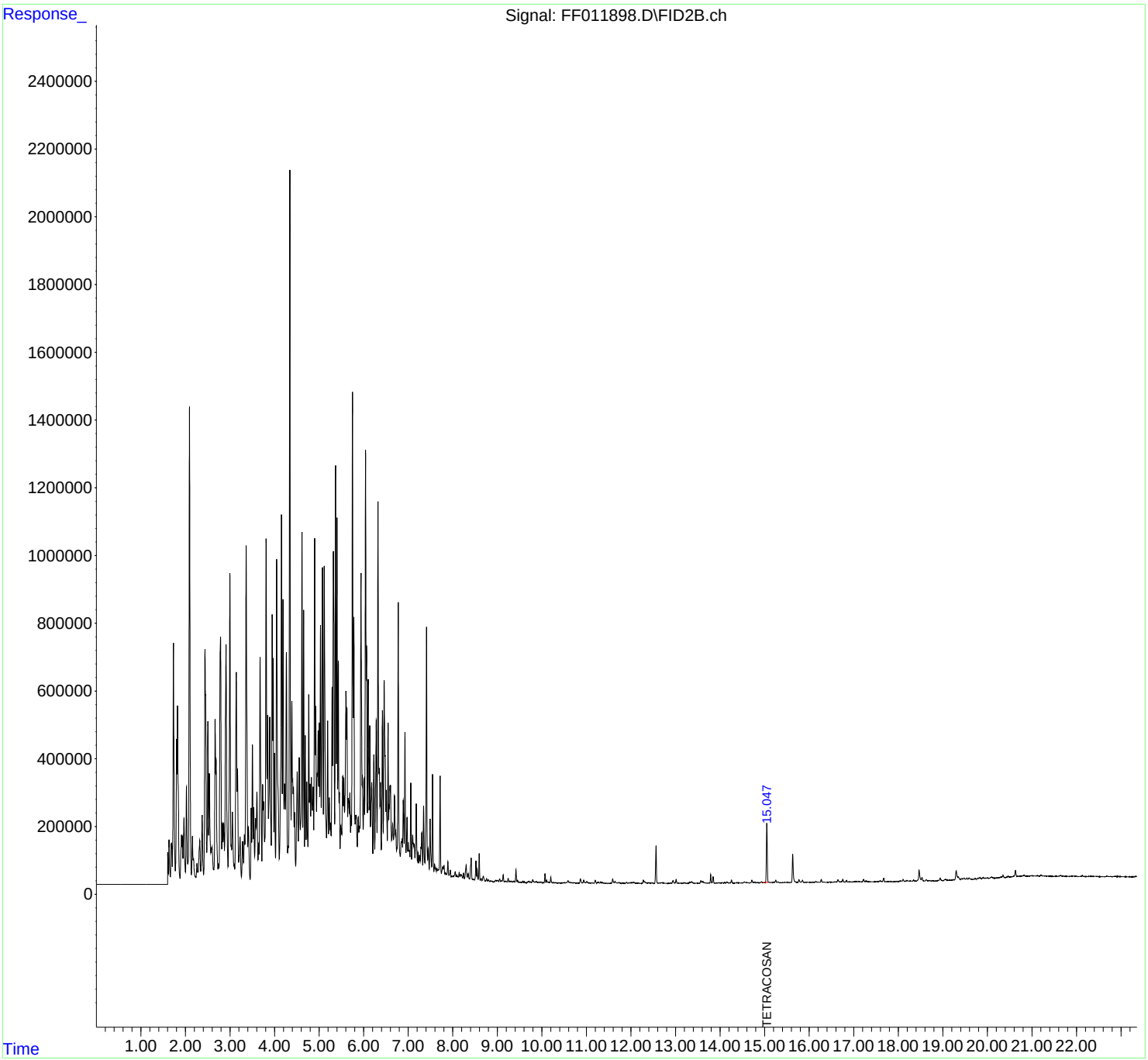
Instrument :
FID_F
ClientSampleId :
WC-38

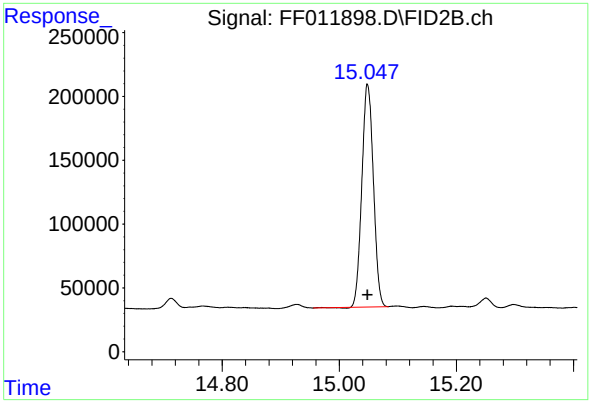
11

A B C D E F

Integration File: autoint1.e
Quant Time: Jan 21 03:04:49 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.048 min
Delta R.T.: 0.000 min
Response: 2392592
Conc: 15.14 ug/ml

Instrument :
FID_F
ClientSampleId :
WC-38

11

A B C D E F

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011898.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 18:58
Sample : O1233-10
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.616	4.566	4.634	BV	866491	8158057	48.88%	1.943%
2	4.653	4.634	4.672	VV	678167	6783045	40.64%	1.616%
3	4.689	4.672	4.708	PV	328258	3289257	19.71%	0.783%
4	4.723	4.708	4.750	VV	192969	1979695	11.86%	0.472%
5	4.768	4.750	4.783	VV	451147	4537240	27.19%	1.081%
6	4.796	4.783	4.811	VV	188614	2545150	15.25%	0.606%
7	4.827	4.811	4.848	VV	208425	3275903	19.63%	0.780%
8	4.866	4.848	4.880	VV	181816	2559522	15.34%	0.610%
9	4.901	4.880	4.915	VV	915884	10115132	60.61%	2.409%
10	4.925	4.915	4.942	VV	421030	4786573	28.68%	1.140%
11	4.959	4.942	4.965	VV	225270	2568323	15.39%	0.612%
12	4.979	4.965	4.991	VV	351055	4140975	24.81%	0.986%
13	5.002	4.991	5.015	VV	374767	3924815	23.52%	0.935%
14	5.032	5.015	5.048	VV	663739	7453924	44.66%	1.775%
15	5.076	5.048	5.097	VV	834586	12830256	76.88%	3.056%
16	5.116	5.097	5.166	VV	840060	13645298	81.76%	3.250%
17	5.193	5.166	5.212	VV	385634	4829352	28.94%	1.150%
18	5.228	5.212	5.245	VV	159906	2150068	12.88%	0.512%
19	5.255	5.245	5.269	VV	86381	1025678	6.15%	0.244%
20	5.292	5.269	5.303	VV	488317	5431180	32.54%	1.294%
21	5.321	5.303	5.350	VV	887291	15550396	93.18%	3.704%
22	5.370	5.350	5.386	VV	1143780	13303454	79.71%	3.169%
23	5.402	5.386	5.417	VV	990815	10825696	64.87%	2.578%
24	5.432	5.417	5.448	VV	569547	6658129	39.90%	1.586%
25	5.455	5.448	5.472	VV	181105	1618244	9.70%	0.385%
26	5.488	5.472	5.509	VV	84710	1417132	8.49%	0.338%
27	5.531	5.509	5.543	VV	232041	3328449	19.94%	0.793%
28	5.555	5.543	5.570	VV	227914	2878263	17.25%	0.686%
29	5.603	5.570	5.615	VV	484735	7844504	47.00%	1.868%
30	5.625	5.615	5.643	VV	433998	5174441	31.01%	1.232%
31	5.655	5.643	5.679	VV	169682	3327142	19.94%	0.792%
32	5.691	5.679	5.706	VV	187641	2233699	13.38%	0.532%
33	5.719	5.706	5.728	VV	119078	1278978	7.66%	0.305%
34	5.750	5.728	5.766	VV	1371378	16688844	100.00%	3.975%
35	5.781	5.766	5.809	VV	707257	9263334	55.51%	2.206%
36	5.822	5.809	5.829	VV	124473	1410478	8.45%	0.336%

rteres

37	5.835	5.829	5.857	VV	122674	1397460	8.37%	0.333%
38	5.879	5.857	5.893	VV	120584	1859891	11.14%	0.443%
39	5.905	5.893	5.915	VV	95383	1140287	6.83%	0.272%
40	5.941	5.915	5.966	VV	842282	12991010	77.84%	3.094%
41	5.973	5.966	5.989	VV	246856	2518292	15.09%	0.600%
42	6.011	5.989	6.023	VV	237779	3312851	19.85%	0.789%
43	6.042	6.023	6.057	VV	1208433	14620473	87.61%	3.482%
44	6.065	6.057	6.084	VV	632114	6544886	39.22%	1.559%
45	6.101	6.084	6.124	VV	533377	7572382	45.37%	1.804%
46	6.137	6.124	6.152	VV	397147	4212620	25.24%	1.003%
47	6.180	6.152	6.206	VV	230162	4902676	29.38%	1.168%
48	6.228	6.206	6.249	VV	314114	4115374	24.66%	0.980%
49	6.282	6.249	6.300	VV	417351	6798847	40.74%	1.619%
50	6.322	6.300	6.346	VV	1063773	13713576	82.17%	3.266%
51	6.353	6.346	6.366	VV	277372	2767675	16.58%	0.659%
52	6.376	6.366	6.396	VV	236338	2745875	16.45%	0.654%
53	6.421	6.396	6.440	VV	450028	6189280	37.09%	1.474%
54	6.460	6.440	6.496	VV	539306	10931156	65.50%	2.604%
55	6.505	6.496	6.531	VV	217042	3144441	18.84%	0.749%
56	6.548	6.531	6.562	VV	416317	4550835	27.27%	1.084%
57	6.590	6.562	6.596	VV	230386	3681336	22.06%	0.877%
58	6.602	6.596	6.627	VV	234854	2878182	17.25%	0.686%
59	6.649	6.627	6.669	VV	121550	2379664	14.26%	0.567%
60	6.692	6.669	6.712	VV	205881	3367128	20.18%	0.802%
61	6.720	6.712	6.737	VV	103249	1223914	7.33%	0.292%
62	6.776	6.737	6.822	VV	777814	10295571	61.69%	2.452%
63	6.861	6.822	6.872	VV	82888	1955401	11.72%	0.466%
64	6.889	6.872	6.908	VV	197401	2867943	17.18%	0.683%
65	6.926	6.908	6.949	VV	399349	4701185	28.17%	1.120%
66	6.974	6.949	6.990	VV	148626	2257204	13.53%	0.538%
67	7.000	6.990	7.014	VV	76088	887105	5.32%	0.211%
68	7.021	7.014	7.038	VV	53419	696336	4.17%	0.166%
69	7.058	7.038	7.076	VV	253360	2817671	16.88%	0.671%
70	7.099	7.076	7.113	VV	100106	1601673	9.60%	0.381%
71	7.118	7.113	7.128	VV	77019	672047	4.03%	0.160%
72	7.135	7.128	7.150	VV	74774	795765	4.77%	0.190%
73	7.180	7.150	7.205	VV	195680	2939340	17.61%	0.700%
74	7.217	7.205	7.232	VV	53293	639018	3.83%	0.152%
75	7.251	7.232	7.268	VV	45472	775409	4.65%	0.185%
76	7.286	7.268	7.290	VV	70506	700531	4.20%	0.167%
77	7.304	7.290	7.325	VV	113185	1533083	9.19%	0.365%
78	7.345	7.325	7.374	VV	193204	2477187	14.84%	0.590%
79	7.411	7.374	7.435	VV	722775	8780365	52.61%	2.091%
80	7.448	7.435	7.472	VV	70741	1008334	6.04%	0.240%
81	7.491	7.472	7.526	VV	159093	2259416	13.54%	0.538%
82	7.546	7.526	7.576	VV	292077	3174590	19.02%	0.756%
83	7.593	7.576	7.608	VV	27978	354964	2.13%	0.085%
84	7.615	7.608	7.630	VV	16528	175151	1.05%	0.042%
85	7.646	7.630	7.661	VV	17810	259593	1.56%	0.062%
86	7.677	7.661	7.684	VV	14493	179238	1.07%	0.043%
87	7.716	7.684	7.745	VV	292524	3250736	19.48%	0.774%
88	7.774	7.745	7.788	VV	26317	470638	2.82%	0.112%
89	7.803	7.788	7.825	VV	30357	416269	2.49%	0.099%

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90	7.838	7.825	7.864	VV	9944	169150	1.01%	0.040%
91	7.890	7.864	7.917	VV	44170	577619	3.46%	0.138%
92	7.945	7.917	7.964	VV	20483	277732	1.66%	0.066%
93	7.976	7.964	7.996	PV	3997	47799	0.29%	0.011%
94	8.010	7.996	8.021	VV	5364	50573	0.30%	0.012%
95	8.054	8.021	8.072	VV	17122	286637	1.72%	0.068%
96	8.084	8.072	8.098	VV	9468	101209	0.61%	0.024%
97	8.108	8.098	8.124	VV	5533	63735	0.38%	0.015%
98	8.144	8.124	8.162	VV	17046	214211	1.28%	0.051%
99	8.176	8.162	8.189	VV	11857	148043	0.89%	0.035%
100	8.199	8.189	8.221	VV	11321	137643	0.82%	0.033%
101	8.241	8.221	8.262	VV	16697	186661	1.12%	0.044%
102	8.300	8.262	8.326	VV	41437	729424	4.37%	0.174%
103	8.347	8.326	8.379	VV	17333	257118	1.54%	0.061%
104	8.414	8.379	8.437	VV	64513	994812	5.96%	0.237%
105	8.443	8.437	8.455	VV	2292	22661	0.14%	0.005%
106	8.461	8.455	8.488	VV	2138	30008	0.18%	0.007%
107	8.521	8.488	8.536	PV	58062	667582	4.00%	0.159%
108	8.548	8.536	8.570	VV	33841	362150	2.17%	0.086%
109	8.594	8.570	8.618	VV	80608	854637	5.12%	0.204%
110	8.637	8.618	8.658	VV	7042	98945	0.59%	0.024%
111	8.685	8.658	8.726	VV	14637	276498	1.66%	0.066%
112	8.759	8.726	8.779	VV	8740	111660	0.67%	0.027%
113	8.796	8.779	8.829	VV	6220	88017	0.53%	0.021%
114	8.845	8.829	8.863	VV	3647	46323	0.28%	0.011%
115	8.884	8.863	8.908	VV	2251	40064	0.24%	0.010%
116	8.923	8.908	8.937	PV	1754	16920	0.10%	0.004%
117	8.972	8.937	8.990	VV	5310	121001	0.73%	0.029%
118	9.005	8.990	9.031	VV	5311	101432	0.61%	0.024%
119	9.053	9.031	9.074	VV	9844	153127	0.92%	0.036%
120	9.088	9.074	9.095	VV	4354	45889	0.27%	0.011%
121	9.132	9.095	9.155	VV	21723	324630	1.95%	0.077%
122	9.168	9.155	9.173	VV	2420	18940	0.11%	0.005%
123	9.187	9.173	9.221	VV	4208	72090	0.43%	0.017%
124	9.244	9.221	9.265	VV	11874	148630	0.89%	0.035%
125	9.279	9.265	9.294	VV	4613	50457	0.30%	0.012%
126	9.316	9.294	9.338	VV	4186	70142	0.42%	0.017%
127	9.368	9.338	9.383	VV	4574	75715	0.45%	0.018%
128	9.419	9.383	9.441	VV	38376	453242	2.72%	0.108%
129	9.455	9.441	9.473	VV	7658	86973	0.52%	0.021%
130	9.484	9.473	9.494	VV	1602	16798	0.10%	0.004%
131	9.507	9.494	9.524	VV	1624	20158	0.12%	0.005%
132	9.540	9.524	9.552	PV	866	9808	0.06%	0.002%
133	9.573	9.552	9.590	VV	4967	56330	0.34%	0.013%
134	9.604	9.590	9.621	VV	3994	34951	0.21%	0.008%
135	9.629	9.621	9.645	VV	729	5838	0.03%	0.001%
136	9.652	9.645	9.662	VV	234	1395	0.01%	0.000%
137	9.686	9.662	9.693	VV	2971	33903	0.20%	0.008%
138	9.707	9.693	9.726	VV	4564	62159	0.37%	0.015%
139	9.742	9.726	9.766	VV	3208	47834	0.29%	0.011%
140	9.794	9.766	9.827	VV	8861	173998	1.04%	0.041%
141	9.836	9.827	9.851	VV	2838	33398	0.20%	0.008%

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142	9.873	9.851	9.903	VV	4802	86245	0.52%	0.021%
143	9.924	9.903	9.937	VV	2634	37638	0.23%	0.009%
144	9.946	9.937	9.961	VV	2568	28996	0.17%	0.007%
145	9.977	9.961	10.027	VV	3492	64860	0.39%	0.015%
146	10.039	10.027	10.046	VV	432	4405	0.03%	0.001%
147	10.070	10.046	10.089	VV	27872	294739	1.77%	0.070%
148	10.106	10.089	10.148	VV	9491	147231	0.88%	0.035%
149	10.163	10.148	10.179	VV	2141	34677	0.21%	0.008%
150	10.199	10.179	10.244	VV	17610	226014	1.35%	0.054%
151	10.263	10.244	10.286	VV	2794	41929	0.25%	0.010%
152	10.306	10.286	10.336	VV	1844	34334	0.21%	0.008%
153	10.347	10.336	10.355	VV	356	2801	0.02%	0.001%
154	10.379	10.355	10.399	VV	1745	27996	0.17%	0.007%
155	10.408	10.399	10.423	VV	1082	10881	0.07%	0.003%
156	10.437	10.423	10.454	VV	1222	12341	0.07%	0.003%
157	10.476	10.454	10.494	PV	1916	28471	0.17%	0.007%
158	10.511	10.494	10.525	VV	2027	25152	0.15%	0.006%
159	10.542	10.525	10.548	VV	1774	18955	0.11%	0.005%
160	10.587	10.548	10.621	VV	8050	173913	1.04%	0.041%
161	10.636	10.621	10.661	VV	3226	55665	0.33%	0.013%
162	10.675	10.661	10.700	VV	2707	37370	0.22%	0.009%
163	10.719	10.700	10.767	VV	2259	47035	0.28%	0.011%
164	10.794	10.767	10.824	VV	1629	30144	0.18%	0.007%
165	10.865	10.824	10.909	VV	13366	234703	1.41%	0.056%
166	10.939	10.909	10.981	VV	10012	170780	1.02%	0.041%
167	11.009	10.981	11.031	VV	6076	107585	0.64%	0.026%
168	11.042	11.031	11.056	VV	1558	20554	0.12%	0.005%
169	11.075	11.056	11.103	VV	1682	30782	0.18%	0.007%
170	11.122	11.103	11.172	VV	2070	41983	0.25%	0.010%
171	11.197	11.172	11.231	VV	9494	139043	0.83%	0.033%
172	11.247	11.231	11.259	VV	3147	38640	0.23%	0.009%
173	11.272	11.259	11.297	VV	3589	53618	0.32%	0.013%
174	11.318	11.297	11.339	VV	4281	63501	0.38%	0.015%
175	11.360	11.339	11.379	VV	2981	51830	0.31%	0.012%
176	11.390	11.379	11.411	VV	1519	18721	0.11%	0.004%
177	11.416	11.411	11.433	VV	429	3457	0.02%	0.001%
178	11.450	11.433	11.463	VV	685	8404	0.05%	0.002%
179	11.469	11.463	11.483	VV	532	5327	0.03%	0.001%
180	11.506	11.483	11.526	VV	582	10265	0.06%	0.002%
181	11.558	11.526	11.562	PV	867	11836	0.07%	0.003%
182	11.589	11.562	11.622	VV	13820	204264	1.22%	0.049%
183	11.642	11.622	11.672	VV	6998	115220	0.69%	0.027%
184	11.686	11.672	11.714	VV	2057	42358	0.25%	0.010%
185	11.732	11.714	11.782	VV	3342	60535	0.36%	0.014%
186	11.801	11.782	11.816	VV	1601	23259	0.14%	0.006%
187	11.823	11.816	11.842	VV	1290	16960	0.10%	0.004%
188	11.850	11.842	11.871	VV	966	11638	0.07%	0.003%
189	11.900	11.871	11.927	VV	3902	68922	0.41%	0.016%
190	11.950	11.927	11.963	VV	2057	29384	0.18%	0.007%
191	11.978	11.963	11.987	VV	2330	27828	0.17%	0.007%
192	12.000	11.987	12.012	VV	2757	34783	0.21%	0.008%
193	12.028	12.012	12.045	VV	3800	57511	0.34%	0.014%
194	12.062	12.045	12.103	VV	3569	77921	0.47%	0.019%

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195	12.119	12.103	12.138	VV	1553	23937	0.14%	0.006%
196	12.150	12.138	12.160	VV	1095	12076	0.07%	0.003%
197	12.177	12.160	12.211	VV	1527	22203	0.13%	0.005%
198	12.228	12.211	12.243	PV	379	4787	0.03%	0.001%
199	12.279	12.243	12.296	VV	10242	137994	0.83%	0.033%
200	12.311	12.296	12.361	VV	5947	125418	0.75%	0.030%
201	12.374	12.361	12.380	VV	1413	15535	0.09%	0.004%
202	12.400	12.380	12.439	VV	2499	51501	0.31%	0.012%
203	12.464	12.439	12.519	VV	2240	54203	0.32%	0.013%
204	12.563	12.519	12.630	PV	111877	1401303	8.40%	0.334%
205	12.646	12.630	12.660	VV	1708	24210	0.15%	0.006%
206	12.683	12.660	12.688	VV	2322	31171	0.19%	0.007%
207	12.694	12.688	12.714	VV	2417	29896	0.18%	0.007%
208	12.734	12.714	12.759	VV	2062	39486	0.24%	0.009%
209	12.782	12.759	12.810	VV	974	18648	0.11%	0.004%
210	12.815	12.810	12.822	VV	305	1580	0.01%	0.000%
211	12.844	12.822	12.860	VV	495	6812	0.04%	0.002%
212	12.894	12.860	12.913	VV	1400	25517	0.15%	0.006%
213	12.943	12.913	12.976	VV	8230	155524	0.93%	0.037%
214	13.015	12.976	13.050	VV	12402	177963	1.07%	0.042%
215	13.066	13.050	13.079	VV	1094	14984	0.09%	0.004%
216	13.084	13.079	13.106	VV	826	11433	0.07%	0.003%
217	13.126	13.106	13.167	VV	909	23394	0.14%	0.006%
218	13.197	13.167	13.217	VV	2671	44205	0.26%	0.011%
219	13.222	13.217	13.255	VV	952	13103	0.08%	0.003%
220	13.278	13.255	13.294	VV	567	9329	0.06%	0.002%
221	13.315	13.294	13.329	VV	4625	52764	0.32%	0.013%
222	13.359	13.329	13.422	VV	4985	138287	0.83%	0.033%
223	13.443	13.422	13.448	PV	621	5271	0.03%	0.001%
224	13.451	13.448	13.463	VV	597	5372	0.03%	0.001%
225	13.470	13.463	13.486	VV	607	6750	0.04%	0.002%
226	13.505	13.486	13.524	VV	542	8995	0.05%	0.002%
227	13.569	13.524	13.588	VV	8215	129348	0.78%	0.031%
228	13.605	13.588	13.644	VV	6528	134424	0.81%	0.032%
229	13.650	13.644	13.701	VV	2182	41974	0.25%	0.010%
230	13.711	13.701	13.726	VV	770	9041	0.05%	0.002%
231	13.752	13.726	13.764	VV	1332	18648	0.11%	0.004%
232	13.789	13.764	13.819	VV	26008	306913	1.84%	0.073%
233	13.844	13.819	13.874	VV	19555	253607	1.52%	0.060%
234	13.905	13.874	13.932	VV	1238	24570	0.15%	0.006%
235	13.951	13.932	13.957	VV	1087	12306	0.07%	0.003%
236	13.979	13.957	13.983	VV	1277	17836	0.11%	0.004%
237	13.995	13.983	14.021	VV	1316	24148	0.14%	0.006%
238	14.043	14.021	14.076	VV	1747	36988	0.22%	0.009%
239	14.100	14.076	14.123	VV	3555	47290	0.28%	0.011%
240	14.149	14.123	14.201	VV	4207	91661	0.55%	0.022%
241	14.213	14.201	14.222	VV	1024	11286	0.07%	0.003%
242	14.256	14.222	14.315	VV	9736	141623	0.85%	0.034%
243	14.332	14.315	14.345	PV	481	6052	0.04%	0.001%
244	14.382	14.345	14.434	VV	1448	53888	0.32%	0.013%
245	14.441	14.434	14.464	VV	790	10484	0.06%	0.002%
246	14.482	14.464	14.492	VV	641	8901	0.05%	0.002%

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247	14.511	14.492	14.520	VV	1070	14562	0.09%	0.003%
248	14.544	14.520	14.599	VV	3934	99798	0.60%	0.024%
249	14.606	14.599	14.616	VV	1117	10469	0.06%	0.002%
250	14.622	14.616	14.672	VV	993	24712	0.15%	0.006%
251	14.713	14.672	14.739	VV	8704	133125	0.80%	0.032%
252	14.767	14.739	14.797	VV	2570	66593	0.40%	0.016%
253	14.810	14.797	14.832	VV	1595	28923	0.17%	0.007%
254	14.838	14.832	14.871	VV	1273	24057	0.14%	0.006%
255	14.879	14.871	14.895	VV	880	9320	0.06%	0.002%
256	14.928	14.895	14.955	VV	3666	67549	0.40%	0.016%
257	14.972	14.955	14.983	VV	1147	17173	0.10%	0.004%
258	14.993	14.983	15.010	VV	1018	14353	0.09%	0.003%
259	15.048	15.010	15.084	VV	176640	2460305	14.74%	0.586%
260	15.100	15.084	15.126	VV	2230	42527	0.25%	0.010%
261	15.144	15.126	15.171	VV	1849	33753	0.20%	0.008%
262	15.193	15.171	15.202	VV	1908	26371	0.16%	0.006%
263	15.209	15.202	15.222	VV	1821	21083	0.13%	0.005%
264	15.251	15.222	15.277	VV	8362	127856	0.77%	0.030%
265	15.298	15.277	15.347	VV	3121	65684	0.39%	0.016%
266	15.354	15.347	15.382	VV	765	11878	0.07%	0.003%
267	15.402	15.382	15.420	VV	821	12812	0.08%	0.003%
268	15.445	15.420	15.478	VV	1525	34824	0.21%	0.008%
269	15.515	15.478	15.547	VV	1703	41661	0.25%	0.010%
270	15.562	15.547	15.577	VV	714	10323	0.06%	0.002%
271	15.593	15.577	15.600	VV	956	11698	0.07%	0.003%
272	15.630	15.600	15.739	VV	84169	1332982	7.99%	0.317%
273	15.772	15.739	15.808	VV	9162	153950	0.92%	0.037%
274	15.850	15.808	15.886	VV	7502	138076	0.83%	0.033%
275	15.908	15.886	15.929	VV	888	16122	0.10%	0.004%
276	15.953	15.929	15.974	VV	1504	26879	0.16%	0.006%
277	15.990	15.974	16.004	VV	893	13878	0.08%	0.003%
278	16.010	16.004	16.054	VV	937	23264	0.14%	0.006%
279	16.078	16.054	16.082	VV	1151	15663	0.09%	0.004%
280	16.092	16.082	16.121	VV	1176	21904	0.13%	0.005%
281	16.154	16.121	16.183	VV	2695	56196	0.34%	0.013%
282	16.199	16.183	16.218	VV	954	14897	0.09%	0.004%
283	16.225	16.218	16.228	VV	518	2401	0.01%	0.001%
284	16.233	16.228	16.241	VV	477	3488	0.02%	0.001%
285	16.272	16.241	16.297	VV	9098	128773	0.77%	0.031%
286	16.309	16.297	16.317	VV	1073	11412	0.07%	0.003%
287	16.332	16.317	16.363	VV	1195	19507	0.12%	0.005%
288	16.370	16.363	16.394	VV	281	3680	0.02%	0.001%
289	16.402	16.394	16.420	VV	195	1548	0.01%	0.000%
290	16.446	16.420	16.462	PV	1059	17352	0.10%	0.004%
291	16.466	16.462	16.485	VV	829	9612	0.06%	0.002%
292	16.490	16.485	16.542	VV	683	13753	0.08%	0.003%
293	16.575	16.542	16.601	VV	1603	34774	0.21%	0.008%
294	16.606	16.601	16.614	VV	812	5902	0.04%	0.001%
295	16.645	16.614	16.691	VV	7533	148836	0.89%	0.035%
296	16.719	16.691	16.731	VV	1866	31253	0.19%	0.007%
297	16.755	16.731	16.808	VV	8956	133750	0.80%	0.032%
298	16.837	16.808	16.864	VV	4811	68530	0.41%	0.016%
299	16.884	16.864	16.898	VV	1036	12473	0.07%	0.003%

rteres

300	16.915	16.898	16.934	VV	785	11682	0.07%	0.003%
301	16.940	16.934	16.953	VV	375	3393	0.02%	0.001%
302	16.974	16.953	16.988	VV	375	5849	0.04%	0.001%
303	17.018	16.988	17.042	VV	1570	35566	0.21%	0.008%
304	17.059	17.042	17.094	VV	1437	36587	0.22%	0.009%
305	17.130	17.094	17.162	VV	1638	37013	0.22%	0.009%
306	17.221	17.162	17.248	PV	7324	117314	0.70%	0.028%

Sum of corrected areas: 419856881

FF123022.M Sat Jan 21 03:27:59 2023

CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

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

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**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	
O1233-03	**B-P34B**	**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	
O1233-04	**B-P36A**	**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	
O1233-05	**B-P36B**	**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	
O1233-06	**B-P37A**	**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	
O1233-07	**B-P37B**	**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	
O1233-08	**B-P38A**	**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	
O1233-09	**B-P38B**	**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	
O1233-10	**WC-38**	**TCLP**			**01/18/23**			**01/19/23**
			TCLP ICP Metals	6010D		01/24/23	01/25/23	

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LAB CHRONICLE

			TCLP Mercury	7470A		01/23/23	01/24/23
O1233-11	**B-P38C**	**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.: O1233 **Order ID:** O1233

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-P34A								
O1233-02	B-P34A	SOIL	Aluminum	10800		2.44	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Arsenic	7.51		0.23	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Barium	39.6		0.80	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Beryllium	0.68		0.023	0.33	mg/Kg
O1233-02	B-P34A	SOIL	Cadmium	0.13	J	0.030	0.33	mg/Kg
O1233-02	B-P34A	SOIL	Calcium	1060		7.90	111	mg/Kg
O1233-02	B-P34A	SOIL	Chromium	30.9		0.10	0.55	mg/Kg
O1233-02	B-P34A	SOIL	Cobalt	12.2		0.083	1.66	mg/Kg
O1233-02	B-P34A	SOIL	Copper	17.3		0.47	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Iron	20900		4.35	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Lead	19.1		0.29	0.66	mg/Kg
O1233-02	B-P34A	SOIL	Magnesium	2210		10.1	111	mg/Kg
O1233-02	B-P34A	SOIL	Manganese	286		0.12	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Mercury	0.018		0.0040	0.015	mg/Kg
O1233-02	B-P34A	SOIL	Nickel	56.2		0.20	2.21	mg/Kg
O1233-02	B-P34A	SOIL	Potassium	715		25.8	111	mg/Kg
O1233-02	B-P34A	SOIL	Silver	1.24		0.086	0.55	mg/Kg
O1233-02	B-P34A	SOIL	Sodium	61.2	J	25.9	111	mg/Kg
O1233-02	B-P34A	SOIL	Vanadium	24.4		0.35	2.21	mg/Kg
O1233-02	B-P34A	SOIL	Zinc	46.0		0.22	2.21	mg/Kg
Client ID : B-P34B								
O1233-03	B-P34B	SOIL	Aluminum	3100		2.42	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Arsenic	3.13		0.23	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Barium	24.2		0.79	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Beryllium	0.51		0.023	0.33	mg/Kg
O1233-03	B-P34B	SOIL	Cadmium	0.17	J	0.030	0.33	mg/Kg
O1233-03	B-P34B	SOIL	Calcium	1520		7.83	110	mg/Kg
O1233-03	B-P34B	SOIL	Chromium	54.3		0.099	0.55	mg/Kg
O1233-03	B-P34B	SOIL	Cobalt	9.66		0.082	1.65	mg/Kg
O1233-03	B-P34B	SOIL	Copper	7.54		0.46	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Iron	10800		4.31	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Lead	240		0.28	0.66	mg/Kg
O1233-03	B-P34B	SOIL	Magnesium	3560		9.99	110	mg/Kg
O1233-03	B-P34B	SOIL	Manganese	331		0.12	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Mercury	0.0070	J	0.0030	0.014	mg/Kg
O1233-03	B-P34B	SOIL	Nickel	128		0.20	2.19	mg/Kg
O1233-03	B-P34B	SOIL	Potassium	620		25.6	110	mg/Kg
O1233-03	B-P34B	SOIL	Silver	0.60		0.086	0.55	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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
O1233-03	B-P34B	SOIL	Sodium	117		25.7	110	mg/Kg
O1233-03	B-P34B	SOIL	Vanadium	10.3		0.35	2.19	mg/Kg
O1233-03	B-P34B	SOIL	Zinc	52.8		0.22	2.19	mg/Kg
Client ID :	**B-P36A**							
O1233-04	B-P36A	SOIL	Aluminum	7380		2.25	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Arsenic	8.08		0.21	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Barium	60.2		0.73	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Beryllium	0.82		0.021	0.31	mg/Kg
O1233-04	B-P36A	SOIL	Cadmium	0.63		0.028	0.31	mg/Kg
O1233-04	B-P36A	SOIL	Calcium	1650		7.28	102	mg/Kg
O1233-04	B-P36A	SOIL	Chromium	20.8		0.092	0.51	mg/Kg
O1233-04	B-P36A	SOIL	Cobalt	10.1		0.076	1.53	mg/Kg
O1233-04	B-P36A	SOIL	Copper	24.8		0.43	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Iron	17500		4.01	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Lead	69.2		0.27	0.61	mg/Kg
O1233-04	B-P36A	SOIL	Magnesium	3010		9.29	102	mg/Kg
O1233-04	B-P36A	SOIL	Manganese	202		0.11	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Mercury	0.0070	J	0.0030	0.014	mg/Kg
O1233-04	B-P36A	SOIL	Nickel	53.4		0.18	2.04	mg/Kg
O1233-04	B-P36A	SOIL	Potassium	789		23.7	102	mg/Kg
O1233-04	B-P36A	SOIL	Silver	1.08		0.080	0.51	mg/Kg
O1233-04	B-P36A	SOIL	Sodium	89.6	J	23.9	102	mg/Kg
O1233-04	B-P36A	SOIL	Vanadium	20.7		0.33	2.04	mg/Kg
O1233-04	B-P36A	SOIL	Zinc	88.8		0.20	2.04	mg/Kg
Client ID :	**B-P36B**							
O1233-05	B-P36B	SOIL	Aluminum	3890		2.26	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Arsenic	1.69		0.22	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Barium	24.5		0.74	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Beryllium	0.40		0.022	0.31	mg/Kg
O1233-05	B-P36B	SOIL	Cadmium	0.18	J	0.028	0.31	mg/Kg
O1233-05	B-P36B	SOIL	Calcium	6970		7.31	102	mg/Kg
O1233-05	B-P36B	SOIL	Chromium	10.0		0.092	0.51	mg/Kg
O1233-05	B-P36B	SOIL	Cobalt	5.02		0.077	1.54	mg/Kg
O1233-05	B-P36B	SOIL	Copper	8.78		0.43	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Iron	9590		4.03	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Lead	5.23		0.27	0.62	mg/Kg
O1233-05	B-P36B	SOIL	Magnesium	4880		9.33	102	mg/Kg
O1233-05	B-P36B	SOIL	Manganese	261		0.11	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Nickel	15.9		0.18	2.05	mg/Kg
O1233-05	B-P36B	SOIL	Potassium	603		23.9	102	mg/Kg
O1233-05	B-P36B	SOIL	Silver	0.56		0.080	0.51	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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
O1233-05	B-P36B	SOIL	Sodium	156		24.0	102	mg/Kg
O1233-05	B-P36B	SOIL	Vanadium	11.6		0.33	2.05	mg/Kg
O1233-05	B-P36B	SOIL	Zinc	19.8		0.21	2.05	mg/Kg
Client ID :	**B-P37A**							
O1233-06	B-P37A	SOIL	Aluminum	5130		2.24	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Arsenic	4.27		0.21	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Barium	47.5		0.73	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Beryllium	0.60		0.021	0.31	mg/Kg
O1233-06	B-P37A	SOIL	Cadmium	0.40		0.027	0.31	mg/Kg
O1233-06	B-P37A	SOIL	Calcium	890		7.25	102	mg/Kg
O1233-06	B-P37A	SOIL	Chromium	18.1		0.091	0.51	mg/Kg
O1233-06	B-P37A	SOIL	Cobalt	9.11		0.076	1.52	mg/Kg
O1233-06	B-P37A	SOIL	Copper	29.7		0.43	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Iron	13600		3.99	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Lead	33.5		0.26	0.61	mg/Kg
O1233-06	B-P37A	SOIL	Magnesium	2200		9.25	102	mg/Kg
O1233-06	B-P37A	SOIL	Manganese	328		0.11	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Mercury	0.032		0.0040	0.015	mg/Kg
O1233-06	B-P37A	SOIL	Nickel	54.5		0.18	2.03	mg/Kg
O1233-06	B-P37A	SOIL	Potassium	569		23.7	102	mg/Kg
O1233-06	B-P37A	SOIL	Silver	0.87		0.079	0.51	mg/Kg
O1233-06	B-P37A	SOIL	Sodium	71.8	J	23.8	102	mg/Kg
O1233-06	B-P37A	SOIL	Vanadium	17.5		0.33	2.03	mg/Kg
O1233-06	B-P37A	SOIL	Zinc	50.8		0.20	2.03	mg/Kg
Client ID :	**B-P37B**							
O1233-07	B-P37B	SOIL	Aluminum	4240		2.40	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Arsenic	1.84		0.23	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Barium	15.8		0.78	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Beryllium	0.51		0.023	0.33	mg/Kg
O1233-07	B-P37B	SOIL	Cadmium	0.23	J	0.029	0.33	mg/Kg
O1233-07	B-P37B	SOIL	Calcium	1010		7.74	108	mg/Kg
O1233-07	B-P37B	SOIL	Chromium	14.6		0.098	0.54	mg/Kg
O1233-07	B-P37B	SOIL	Cobalt	6.49		0.081	1.63	mg/Kg
O1233-07	B-P37B	SOIL	Copper	14.4		0.46	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Iron	13300		4.26	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Lead	7.88		0.28	0.65	mg/Kg
O1233-07	B-P37B	SOIL	Magnesium	2070		9.87	108	mg/Kg
O1233-07	B-P37B	SOIL	Manganese	71.3		0.12	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Mercury	0.021		0.0040	0.015	mg/Kg
O1233-07	B-P37B	SOIL	Nickel	37.7		0.20	2.17	mg/Kg
O1233-07	B-P37B	SOIL	Potassium	569		25.3	108	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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
O1233-07	B-P37B	SOIL	Silver	0.82		0.085	0.54	mg/Kg
O1233-07	B-P37B	SOIL	Sodium	59.0	J	25.4	108	mg/Kg
O1233-07	B-P37B	SOIL	Vanadium	17.1		0.35	2.17	mg/Kg
O1233-07	B-P37B	SOIL	Zinc	29.3		0.22	2.17	mg/Kg
Client ID :	**B-P38A**							
O1233-08	B-P38A	SOIL	Aluminum	9770		2.07	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Arsenic	5.73		0.20	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Barium	54.3		0.68	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Beryllium	0.93		0.020	0.28	mg/Kg
O1233-08	B-P38A	SOIL	Cadmium	0.79		0.025	0.28	mg/Kg
O1233-08	B-P38A	SOIL	Calcium	2820		6.69	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Chromium	40.9		0.084	0.47	mg/Kg
O1233-08	B-P38A	SOIL	Cobalt	20.6		0.070	1.41	mg/Kg
O1233-08	B-P38A	SOIL	Copper	21.6		0.39	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Iron	25800		3.68	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Lead	25.0		0.24	0.56	mg/Kg
O1233-08	B-P38A	SOIL	Magnesium	4700		8.54	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Manganese	872		0.10	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Mercury	0.049		0.0040	0.015	mg/Kg
O1233-08	B-P38A	SOIL	Nickel	207		0.17	1.87	mg/Kg
O1233-08	B-P38A	SOIL	Potassium	877		21.8	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Silver	1.67		0.073	0.47	mg/Kg
O1233-08	B-P38A	SOIL	Sodium	62.0	J	21.9	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Vanadium	29.6		0.30	1.87	mg/Kg
O1233-08	B-P38A	SOIL	Zinc	47.9		0.19	1.87	mg/Kg
Client ID :	**B-P38B**							
O1233-09	B-P38B	SOIL	Aluminum	2410		2.41	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Arsenic	4.14		0.23	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Barium	41.9		0.79	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Beryllium	0.66		0.023	0.33	mg/Kg
O1233-09	B-P38B	SOIL	Cadmium	0.37		0.029	0.33	mg/Kg
O1233-09	B-P38B	SOIL	Calcium	1190		7.80	109	mg/Kg
O1233-09	B-P38B	SOIL	Chromium	19.3		0.098	0.55	mg/Kg
O1233-09	B-P38B	SOIL	Cobalt	12.1		0.082	1.64	mg/Kg
O1233-09	B-P38B	SOIL	Copper	20.3		0.46	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Iron	15000		4.29	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Lead	9.01		0.28	0.66	mg/Kg
O1233-09	B-P38B	SOIL	Magnesium	5140		9.95	109	mg/Kg
O1233-09	B-P38B	SOIL	Manganese	391		0.12	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Nickel	120		0.20	2.18	mg/Kg
O1233-09	B-P38B	SOIL	Potassium	640		25.4	109	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

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
O1233-09	B-P38B	SOIL	Silver	0.87		0.085	0.55	mg/Kg
O1233-09	B-P38B	SOIL	Sodium	75.2	J	25.5	109	mg/Kg
O1233-09	B-P38B	SOIL	Vanadium	14.3		0.35	2.18	mg/Kg
O1233-09	B-P38B	SOIL	Zinc	31.3		0.22	2.18	mg/Kg
Client ID :	**B-P38C**							
O1233-11	B-P38C	SOIL	Aluminum	2800		2.40	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Arsenic	3.54		0.23	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Barium	29.2		0.78	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Beryllium	0.69		0.023	0.33	mg/Kg
O1233-11	B-P38C	SOIL	Cadmium	0.43		0.029	0.33	mg/Kg
O1233-11	B-P38C	SOIL	Calcium	549		7.77	109	mg/Kg
O1233-11	B-P38C	SOIL	Chromium	15.3		0.098	0.54	mg/Kg
O1233-11	B-P38C	SOIL	Cobalt	9.31		0.082	1.63	mg/Kg
O1233-11	B-P38C	SOIL	Copper	19.2		0.46	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Iron	15000		4.28	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Lead	9.68		0.28	0.65	mg/Kg
O1233-11	B-P38C	SOIL	Magnesium	2330		9.91	109	mg/Kg
O1233-11	B-P38C	SOIL	Manganese	551		0.12	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Nickel	95.3		0.20	2.18	mg/Kg
O1233-11	B-P38C	SOIL	Potassium	692		25.4	109	mg/Kg
O1233-11	B-P38C	SOIL	Silver	0.87		0.085	0.54	mg/Kg
O1233-11	B-P38C	SOIL	Sodium	33.2	J	25.5	109	mg/Kg
O1233-11	B-P38C	SOIL	Vanadium	15.9		0.35	2.18	mg/Kg
O1233-11	B-P38C	SOIL	Zinc	33.2		0.22	2.18	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-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	85.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	10800		1	2.44	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.76	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-38-2	Arsenic	7.51		1	0.23	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-39-3	Barium	39.6		1	0.80	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-41-7	Beryllium	0.68	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-43-9	Cadmium	0.13	J	1	0.030	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-70-2	Calcium	1060		1	7.90	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-47-3	Chromium	30.9		1	0.10	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-48-4	Cobalt	12.2		1	0.083	1.66	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-50-8	Copper	17.3	N	1	0.47	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-89-6	Iron	20900		1	4.35	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-92-1	Lead	19.1		1	0.29	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-95-4	Magnesium	2210		1	10.1	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-96-5	Manganese	286		1	0.12	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-97-6	Mercury	0.018		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:36	SW7471B	
7440-02-0	Nickel	56.2		1	0.20	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-09-7	Potassium	715		1	25.8	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7782-49-2	Selenium	0.48	U	1	0.48	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-22-4	Silver	1.24		1	0.086	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-23-5	Sodium	61.2	J	1	25.9	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-62-2	Vanadium	24.4		1	0.35	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-66-6	Zinc	46.0		1	0.22	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	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-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Level (low/med):	low	% Solid:	90.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3100		1	2.42	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.74	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-38-2	Arsenic	3.13		1	0.23	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-39-3	Barium	24.2		1	0.79	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-41-7	Beryllium	0.51	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-43-9	Cadmium	0.17	J	1	0.030	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-70-2	Calcium	1520		1	7.83	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-47-3	Chromium	54.3		1	0.099	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-48-4	Cobalt	9.66		1	0.082	1.65	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-50-8	Copper	7.54	N	1	0.46	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-89-6	Iron	10800		1	4.31	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-92-1	Lead	240		1	0.28	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-95-4	Magnesium	3560		1	9.99	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-96-5	Manganese	331		1	0.12	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-97-6	Mercury	0.0070	J	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:38	SW7471B	
7440-02-0	Nickel	128		1	0.20	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-09-7	Potassium	620		1	25.6	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-22-4	Silver	0.60		1	0.086	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-23-5	Sodium	117		1	25.7	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-62-2	Vanadium	10.3		1	0.35	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-66-6	Zinc	52.8		1	0.22	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	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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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-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	7380		1	2.25	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.55	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-38-2	Arsenic	8.08		1	0.21	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-39-3	Barium	60.2		1	0.73	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-41-7	Beryllium	0.82	N	1	0.021	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-43-9	Cadmium	0.63		1	0.028	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-70-2	Calcium	1650		1	7.28	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-47-3	Chromium	20.8		1	0.092	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-48-4	Cobalt	10.1		1	0.076	1.53	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-50-8	Copper	24.8	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-89-6	Iron	17500		1	4.01	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-92-1	Lead	69.2		1	0.27	0.61	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-95-4	Magnesium	3010		1	9.29	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-96-5	Manganese	202		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-97-6	Mercury	0.0070	J	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:40	SW7471B	
7440-02-0	Nickel	53.4		1	0.18	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-09-7	Potassium	789		1	23.7	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-22-4	Silver	1.08		1	0.080	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-23-5	Sodium	89.6	J	1	23.9	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-62-2	Vanadium	20.7		1	0.33	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-66-6	Zinc	88.8		1	0.20	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	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
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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:	B-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Level (low/med):	low	% Solid:	90.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3890		1	2.26	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.56	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-38-2	Arsenic	1.69		1	0.22	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-39-3	Barium	24.5		1	0.74	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-41-7	Beryllium	0.40	N	1	0.022	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-43-9	Cadmium	0.18	J	1	0.028	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-70-2	Calcium	6970		1	7.31	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-47-3	Chromium	10.0		1	0.092	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-48-4	Cobalt	5.02		1	0.077	1.54	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-50-8	Copper	8.78	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-89-6	Iron	9590		1	4.03	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-92-1	Lead	5.23		1	0.27	0.62	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-95-4	Magnesium	4880		1	9.33	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-96-5	Manganese	261		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-97-6	Mercury	0.0030	U	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:43	SW7471B	
7440-02-0	Nickel	15.9		1	0.18	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-09-7	Potassium	603		1	23.9	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-22-4	Silver	0.56		1	0.080	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-23-5	Sodium	156		1	24.0	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-62-2	Vanadium	11.6		1	0.33	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-66-6	Zinc	19.8		1	0.21	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	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
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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:	B-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Level (low/med):	low	% Solid:	87.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	5130		1	2.24	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.54	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-38-2	Arsenic	4.27		1	0.21	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-39-3	Barium	47.5		1	0.73	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-41-7	Beryllium	0.60	N	1	0.021	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-43-9	Cadmium	0.40		1	0.027	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-70-2	Calcium	890		1	7.25	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-47-3	Chromium	18.1		1	0.091	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-48-4	Cobalt	9.11		1	0.076	1.52	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-50-8	Copper	29.7	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-89-6	Iron	13600		1	3.99	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-92-1	Lead	33.5		1	0.26	0.61	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-95-4	Magnesium	2200		1	9.25	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-96-5	Manganese	328		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-97-6	Mercury	0.032		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:45	SW7471B	
7440-02-0	Nickel	54.5		1	0.18	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-09-7	Potassium	569		1	23.7	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.079	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-23-5	Sodium	71.8	J	1	23.8	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-62-2	Vanadium	17.5		1	0.33	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-66-6	Zinc	50.8		1	0.20	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	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-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Level (low/med):	low	% Solid:	83.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4240		1	2.40	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-36-0	Antimony	0.38	UN	1	0.38	2.71	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-38-2	Arsenic	1.84		1	0.23	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-39-3	Barium	15.8		1	0.78	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-41-7	Beryllium	0.51	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-43-9	Cadmium	0.23	J	1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-70-2	Calcium	1010		1	7.74	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-47-3	Chromium	14.6		1	0.098	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-48-4	Cobalt	6.49		1	0.081	1.63	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-50-8	Copper	14.4	N	1	0.46	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-89-6	Iron	13300		1	4.26	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-92-1	Lead	7.88		1	0.28	0.65	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-95-4	Magnesium	2070		1	9.87	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-96-5	Manganese	71.3		1	0.12	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-97-6	Mercury	0.021		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:47	SW7471B	
7440-02-0	Nickel	37.7		1	0.20	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-09-7	Potassium	569		1	25.3	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-22-4	Silver	0.82		1	0.085	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-23-5	Sodium	59.0	J	1	25.4	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-62-2	Vanadium	17.1		1	0.35	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-66-6	Zinc	29.3		1	0.22	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	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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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-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	9770		1	2.07	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-36-0	Antimony	0.33	UN	1	0.33	2.34	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-38-2	Arsenic	5.73		1	0.20	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-39-3	Barium	54.3		1	0.68	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-41-7	Beryllium	0.93	N	1	0.020	0.28	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-43-9	Cadmium	0.79		1	0.025	0.28	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-70-2	Calcium	2820		1	6.69	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-47-3	Chromium	40.9		1	0.084	0.47	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-48-4	Cobalt	20.6		1	0.070	1.41	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-50-8	Copper	21.6	N	1	0.39	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-89-6	Iron	25800		1	3.68	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-92-1	Lead	25.0		1	0.24	0.56	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-95-4	Magnesium	4700		1	8.54	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-96-5	Manganese	872		1	0.10	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-97-6	Mercury	0.049		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:50	SW7471B	
7440-02-0	Nickel	207		1	0.17	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-09-7	Potassium	877		1	21.8	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7782-49-2	Selenium	0.40	U	1	0.40	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-22-4	Silver	1.67		1	0.073	0.47	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-23-5	Sodium	62.0	J	1	21.9	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-28-0	Thallium	0.29	U	1	0.29	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-62-2	Vanadium	29.6		1	0.30	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-66-6	Zinc	47.9		1	0.19	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	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
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Q = indicates LCS control criteria did not meet requirements

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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:	B-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Level (low/med):	low	% Solid:	80.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2410		1	2.41	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.73	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-38-2	Arsenic	4.14		1	0.23	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-39-3	Barium	41.9		1	0.79	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-41-7	Beryllium	0.66	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-43-9	Cadmium	0.37		1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-70-2	Calcium	1190		1	7.80	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-47-3	Chromium	19.3		1	0.098	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-48-4	Cobalt	12.1		1	0.082	1.64	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-50-8	Copper	20.3	N	1	0.46	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-89-6	Iron	15000		1	4.29	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-92-1	Lead	9.01		1	0.28	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-95-4	Magnesium	5140		1	9.95	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-96-5	Manganese	391		1	0.12	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-97-6	Mercury	0.0040	U	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:52	SW7471B	
7440-02-0	Nickel	120		1	0.20	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-09-7	Potassium	640		1	25.4	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.085	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-23-5	Sodium	75.2	J	1	25.5	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-62-2	Vanadium	14.3		1	0.35	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-66-6	Zinc	31.3		1	0.22	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	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-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Level (low/med):	low	% Solid:	85.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2800		1	2.40	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-36-0	Antimony	0.38	UN	1	0.38	2.72	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-38-2	Arsenic	3.54		1	0.23	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-39-3	Barium	29.2		1	0.78	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-41-7	Beryllium	0.69	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-43-9	Cadmium	0.43		1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-70-2	Calcium	549		1	7.77	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-47-3	Chromium	15.3		1	0.098	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-48-4	Cobalt	9.31		1	0.082	1.63	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-50-8	Copper	19.2	N	1	0.46	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-89-6	Iron	15000		1	4.28	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-92-1	Lead	9.68		1	0.28	0.65	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-95-4	Magnesium	2330		1	9.91	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-96-5	Manganese	551		1	0.12	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-97-6	Mercury	0.0040	U	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:59	SW7471B	
7440-02-0	Nickel	95.3		1	0.20	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-09-7	Potassium	692		1	25.4	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.085	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-23-5	Sodium	33.2	J	1	25.5	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-62-2	Vanadium	15.9		1	0.35	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-66-6	Zinc	33.2		1	0.22	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	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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METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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

Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
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PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB150382BL		**SOLID**		**Batch Number:**	**PB150382**		**Prep Date:**	**01/20/2023**	
	Mercury	0.012	<0.012	U	0.012	CV	01/23/2023	11:31	LB123763

Metals
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PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
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MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1232-01 **client id:** B-P17AMS

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
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

metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1232-01 **client id:** B-P17AMSD

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
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

metals
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MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1252-01 **client id:** MH-9MS

Percent Solids for Sample: 94.2 **Spiked ID:** O1252-01MS **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.24		0.0080	J	0.27	86		CV

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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.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1252-01 **client id:** MH-9MSD

Percent Solids for Sample: 94.2 **Spiked ID:** O1252-01MSD **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.25		0.0080	J	0.26	95		CV

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Metals
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POST DIGEST SPIKE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Level:** LOW **Client ID:** B-P17AA

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1232-01 **Client ID:** B-P17ADUP

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
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"

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1232-01MS **Client ID:** B-P17AMSD

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
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"

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1252-01 **Client ID:** MH-9DUP

Percent Solids for Sample: 94.2 **Duplicate ID** O1252-01DUP **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.0080	J	0.0050	J	46		CV

"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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1252-01MS **Client ID:** MH-9MSD

Percent Solids for Sample: 94.2 **Duplicate ID** O1252-01MSD **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.24		0.25		5		CV

"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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150382BS							
Mercury	mg/Kg	0.27	0.23		84	80 - 120	CV

Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

B-P17AL

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123754 **Lab Sample ID :** O1232-01L **SDG No.:** O1233

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
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

Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

MH-9L

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123763 **Lab Sample ID :** O1252-01L **SDG No.:** O1233

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
Mercury	0.0080	J	0.064	U	100.0		CV

METAL PREPARATION & INSTRUMENT DATA

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150370**						
O1232-01DUP	B-P17ADUP	DUP	SOLID	01/20/2023	2.19	100.0	89.40
O1232-01MS	B-P17AMS	MS	SOLID	01/20/2023	2.20	100.0	89.40
O1232-01MSD	B-P17AMSD	MSD	SOLID	01/20/2023	2.14	100.0	89.40
O1233-02	B-P34A	SAM	SOLID	01/20/2023	2.12	100.0	85.30
O1233-03	B-P34B	SAM	SOLID	01/20/2023	2.01	100.0	90.70
O1233-04	B-P36A	SAM	SOLID	01/20/2023	2.19	100.0	89.60
O1233-05	B-P36B	SAM	SOLID	01/20/2023	2.16	100.0	90.40
O1233-06	B-P37A	SAM	SOLID	01/20/2023	2.24	100.0	87.90
O1233-07	B-P37B	SAM	SOLID	01/20/2023	2.21	100.0	83.50
O1233-08	B-P38A	SAM	SOLID	01/20/2023	2.39	100.0	89.30
O1233-09	B-P38B	SAM	SOLID	01/20/2023	2.27	100.0	80.70
O1233-11	B-P38C	SAM	SOLID	01/20/2023	2.14	100.0	85.90
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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Metals
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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150382**						
O1233-02	B-P34A	SAM	SOLID	01/20/2023	0.56	35.0	85.30
O1233-03	B-P34B	SAM	SOLID	01/20/2023	0.56	35.0	90.70
O1233-04	B-P36A	SAM	SOLID	01/20/2023	0.56	35.0	89.60
O1233-05	B-P36B	SAM	SOLID	01/20/2023	0.56	35.0	90.40
O1233-06	B-P37A	SAM	SOLID	01/20/2023	0.54	35.0	87.90
O1233-07	B-P37B	SAM	SOLID	01/20/2023	0.57	35.0	83.50
O1233-08	B-P38A	SAM	SOLID	01/20/2023	0.54	35.0	89.30
O1233-09	B-P38B	SAM	SOLID	01/20/2023	0.57	35.0	80.70
O1233-11	B-P38C	SAM	SOLID	01/20/2023	0.54	35.0	85.90
O1252-01DUP	MH-9DUP	DUP	SOLID	01/20/2023	0.57	35.0	94.20
O1252-01MS	MH-9MS	MS	SOLID	01/20/2023	0.55	35.0	94.20
O1252-01MSD	MH-9MSD	MSD	SOLID	01/20/2023	0.57	35.0	94.20
PB150382BL	PB150382BL	MB	SOLID	01/20/2023	0.57	35.0	100.00
PB150382BS	PB150382BS	LCS	SOLID	01/20/2023	0.52	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.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

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
O1232-01DUP	B-P17ADUP	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-P17AL	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-P17AMS	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-P17AMSD	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-P17AA	1	2057	Be,Cu,Sb
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

metals
- 14 -
ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

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
CCV94	CCV94	1	1100	HG
CCB94	CCB94	1	1102	HG
CCV95	CCV95	1	1127	HG
CCB95	CCB95	1	1129	HG
PB150382BL	PB150382BL	1	1131	HG
PB150382BS	PB150382BS	1	1134	HG
O1233-02	B-P34A	1	1136	HG
O1233-03	B-P34B	1	1138	HG
O1233-04	B-P36A	1	1140	HG
O1233-05	B-P36B	1	1143	HG
O1233-06	B-P37A	1	1145	HG
O1233-07	B-P37B	1	1147	HG
O1233-08	B-P38A	1	1150	HG
O1233-09	B-P38B	1	1152	HG
CCV96	CCV96	1	1154	HG
CCB96	CCB96	1	1156	HG
O1233-11	B-P38C	1	1159	HG
O1252-01DUP	MH-9DUP	1	1215	HG
O1252-01MS	MH-9MS	1	1217	HG
O1252-01MSD	MH-9MSD	1	1219	HG
CCV97	CCV97	1	1221	HG
CCB97	CCB97	1	1224	HG
O1252-01L	MH-9L	5	1230	HG
CCV98	CCV98	1	1235	HG
CCB98	CCB98	1	1237	HG

metals
- 14 -
ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

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
O1233-02	B-P34A	1	1404	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-03	B-P34B	1	1408	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-04	B-P36A	1	1412	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-05	B-P36B	1	1415	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-06	B-P37A	1	1419	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-07	B-P37B	1	1423	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
O1233-08	B-P38A	1	1442	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-09	B-P38B	1	1446	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-11	B-P38C	1	1450	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

CHEMTECH

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LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**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	
O1233-03	**B-P34B**	**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	
O1233-04	**B-P36A**	**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	
O1233-05	**B-P36B**	**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	
O1233-06	**B-P37A**	**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	
O1233-07	**B-P37B**	**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	
O1233-08	**B-38A**	**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	
O1233-09	**B-P38B**	**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	
O1233-10	**WC-38**	**TCLP**			**01/18/23**			**01/19/23**
			TCLP ICP Metals	6010D		01/24/23	01/25/23	

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LAB CHRONICLE

			TCLP Mercury	7470A		01/23/23	01/24/23
O1233-11	**B-P38C**	**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.: O1233 **Order ID:** O1233

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-38**							
O1233-10	WC-38	TCLP	Barium	1440		77.9	500	ug/L
O1233-10	WC-38	TCLP	Chromium	27.0	J	10.4	50.0	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-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	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 15:59	SW6010	SW3050
7440-39-3	Barium	1440		1	77.9	500	ug/L	01/24/23 14:00	01/25/23 15:59	SW6010	SW3050
7440-43-9	Cadmium	2.60	U	1	2.60	30.0	ug/L	01/24/23 14:00	01/25/23 15:59	SW6010	SW3050
7440-47-3	Chromium	27.0	J	1	10.4	50.0	ug/L	01/24/23 14:00	01/25/23 15:59	SW6010	SW3050
7439-92-1	Lead	19.4	U	1	19.4	60.0	ug/L	01/24/23 14:00	01/25/23 15:59	SW6010	SW3050
7439-97-6	Mercury	0.70	U	1	0.70	2.00	ug/L	01/23/23 14:15	01/24/23 11:15	SW7470A	
7782-49-2	Selenium	35.3	U	1	35.3	100	ug/L	01/24/23 14:00	01/25/23 15:59	SW6010	SW3050
7440-22-4	Silver	8.20	U	1	8.20	50.0	ug/L	01/24/23 14:00	01/25/23 15:59	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

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

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.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

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
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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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.:** O1233

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Metals
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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150390**						
O1233-10	WC-38	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.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150432**						
O1233-10	WC-38	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	

metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

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
O1233-10	WC-38	1	1115	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

metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

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
O1233-10	WC-38	1	1559	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

CHEMTECH

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LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 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,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-10	**WC-38**	**SOIL**			**01/18/23 23:55**			**01/19/23**
			Corrosivity	9045D			01/20/23 16:42	
			Ignitability	1030			01/20/23 15:55	
			Paint Filter	9095B			01/20/23 13:52	
			Reactive Cyanide	9012B		01/20/23	01/20/23 14:30	
			Reactive Sulfide	9034		01/20/23	01/20/23 13:14	

SAMPLE DATA

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23 23:55
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	WC-38	SDG No.:	O1233
Lab Sample ID:	O1233-10	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	7.45	H	1	0	0	pH		01/20/23 16:42	9045D
Ignitability	NO		1	0	0	oC		01/20/23 15:55	1030
Paint Filter	1.00	U	1	1.00	1.00	ml/100gm		01/20/23 13:52	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 13:14	9034

Comments: pH result reported at temperature 20.2 °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

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

Initial and Continuing Calibration Verification

Client:	Louis Berger U.S., Inc., A WSP Company	**SDG No.:**	O1233
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.:**	O1233
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.:** O1233

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

Preparation Blank Summary

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

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.: O1233
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.: O1233
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.: O1233
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.: O1233
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

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Duplicate Sample Summary

Client: Louis Berger U.S., Inc., A WSP Company
SDG No.: O1233
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
- ❑ RESULTS + QC
- ❑ New Jersey REDUCED
- ❑ New Jersey CLP
- ❑ USEPA CLP
- ❑ New York State ASP "B"
- ❑ New York State ASP "A"
- ❑ 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
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				

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 PROSSESSION 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 1806 1-19-23	RECEIVED FOR LAB BY 3. —

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 3.0 ❑ Ice in Cooler?:_____
MeOH extraction requires an additional 4oz. Jar for percent solid
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

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

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:

BILLING INFORMATION

BILL TO: Louis Berger PO# 31202661.297 Task 02
ADDRESS: 350 Mt. Kemble Ave
CITY: Morristown STATE: NJ ZIP: 07962
ATTENTION: Jon Ganz PHONE: 212-612-7995

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 Fitler - 3 Days

DATA DELIVERABLE INFORMATION

❑ RESULTS 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.	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	DATE/TIME
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 1535	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 2 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

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
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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

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❑ RESEULTS ONLY
❑ RESULTS + QC
❑ New Jersey REDUCED
❑ New Jersey CLP
❑ USEPA CLP
❑ New York State ASP "B"
❑ New York State ASP "A"
❑ 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-P38C	SOIL		X	1/18/23	2350	1	X	X	X	X	X					
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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 PROSSESSION INCLUDING COURIER DELIVERY

	DATE/TIME		
RELINQUISHED BY SAMPLER 1.	1/19/23	RECEIVED BY 1333	1-19-23
RELINQUISHED BY 2.	DATE/TIME	RECEIVED BY 2.	
RELINQUISHED BY 3.	DATE/TIME 1-19-23 1800	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 3 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

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	T104704488-23-16

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1233 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 1:53:00 PM
Project Name : NYCDDC Phase II SCI Arti
Receive DateTime : 1/19/2023 ~~12:00:00~~ AM
Purchase Order : 18:05

Project Mgr :
Report Type : Level 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
O1233-02	B-P34A	Solid	01/18/2023	21:15					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-03	B-P34B	Solid	01/18/2023	21:40					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-04	B-P36A	Solid	01/18/2023	22:10					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-05	B-P36B	Solid	01/18/2023	22:25					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-06	B-P37A	Solid	01/18/2023	23:00					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-07	B-P37B	Solid	01/18/2023	23:15					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-08	~~B-P38~~A B-P38A	Solid	01/18/2023	23:45					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-09	B-P38B	Solid	01/18/2023	23:55					
					VOC-TCLVOA-10		8260D		2 Bus. Days
O1233-11	B-P38C	Solid	01/18/2023	23:50					

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1233 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 1:53:00 PM
Project Name : NYCDDC Phase II SCI Artl
Receive DateTime : 1/19/2023 ~~12:00:00 A~~M
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	
O1233-12	FB01	Water	01/18/2023	12:05					
					VOC-TCLVOA-10		8260D	2 Bus. Days	

JAR samples

Stored in VOA FRZ #2

Relinguished By : CH
Date / Time : 1/20/23 9:20

Received By : [signature]
Date / Time : 1/20/23 9:20

Storage Area : VOA Refridgerator Room