

Cover Page

Order ID : Q1664

Project ID : RFP 905

Client : Weston Solutions, Inc.

Lab Sample Number

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Client Sample Number

P001-BBDGA-001-01
Q1664-01MS
Q1664-01MSD
P001-BBDGA-001-01
Q1664-04MS
Q1664-04MSD
P001-BBDGA-001-02
P001-BBDGA-001-02
P001-BBDGA-002-01
P001-BBDGA-002-01
P001-BBDGA-003-01
P001-BBDGA-003-01
P001-BBDGA-004-01
P001-BBDGA-004-01
P001-BBDGA-005-01
P001-BBDGA-005-01
P001-BBDGA-006-01
P001-BBDGA-006-01
P001-BBDGA-007-01
P001-BBDGA-007-01
P001-BBDGA-008-01
P001-BBDGA-008-01

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Date: 4/8/2025



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CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: VOC-TCLVOA-10

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for VOC-TCLVOA-10.

C. Analytical Techniques:

The analysis performed on instrument MSVOA_Y were done using GC column Rxi-624SIL MS 30m, 0.25mm, 1.4 um, Cat. #13868. 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.

The Internal Standards Areas met the acceptable requirements except for P001-BBDGA-001-01MS passing in parent sample and MSD therefore no correction action taken.

The Retention Times were acceptable for all samples.

The MS {Q1664-02MS} with File ID: VY021740.D recoveries met the requirements for all compounds except for Methyl Acetate[462%] due to matrix interference.

The MSD {Q1664-03MSD} with File ID: VY021741.D recoveries met the acceptable requirements except for Methyl Acetate[369%] due to matrix interference.

The RPD for {Q1664-03MSD} with File ID: VY021741.D met criteria except for Acetone[22%], Methyl Acetate[22%] due to difference in results of MS and MSD.

The Blank Spike met requirements for all samples.

The Blank Spike Duplicate met requirements for all samples.

The Blank analysis did not indicate the presence of lab contamination.



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The %RSD is greater than 20% in the Initial Calibration method (82Y032725S.M) for Methylene Chloride is passing on Linear Regression. The Continuous Calibration met the requirements.

The Tuning criteria met requirements.

E. Calculation:

Low Level Soil Calculation in ug/Kg dry weight basis

$$\frac{(A_x)(I_s)(Df)}{(A_{is})(RRF)(W_s)(D)}$$

Where

Ax = Area for the compound to be measured

Ais = Area for the specific internal standard

Is = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the initial calibration curve standard.

Df = Dilution factor

Ws= Weight of sample

D= 100 - %moisture

F. Additional Comments:

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 <20% 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 > 20% for the Initial Calibration curve for SW-846 analysis.

G. 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

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: SPLP VOA

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for SPLP VOA.

C. Analytical Techniques:

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 of SPLP VOA was based on method 8260D.

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 {Q1664-05MS} with File ID: VN086163.D recoveries met the requirements for all compounds except for 1,1,2,2-Tetrachloroethane[33%], due to matrix interference.

The MSD {Q1664-06MSD} with File ID: VN086164.D recoveries met the acceptable requirements except for 1,1,2,2-Tetrachloroethane[35%] and Tetrachloroethene[161%], due to matrix interference.

The RPD for {Q1664-06MSD} with File ID: VN086164.D met criteria except for Bromomethane[32%], due to difference in results of MS and MSD.

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.



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The Continuous Calibration File ID VN086140.D met the requirements except for 2-Hexanone and 4-Methyl-2-Pentanone, are failing high but no positive hit in associate samples therefore no corrective action taken.
The Tuning criteria met requirements.

E. Calculation:

Water Calculation in ug/L

$$\frac{(A_x)(I_s)(Df)}{(A_{is})(RRF)(V_0)}$$

Where,

A_x = Area for the compound to be measured

A_{is} = Area for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the initial calibration curve standard.

V₀ = Volume of water purged in milliliters (mL)

Df = Dilution factor.

F. Additional Comments:

Trip Blank was not provided with this set of samples.

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 <20% 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 > 20% for the Initial Calibration curve for SW-846 analysis.

G. Manual Integration Comments:

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

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

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CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 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_M using GC Column ZB-Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GG. The 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 except for PB167369BS [Terphenyl-d14 - 112%], marginally out of QC limits, therefore no corrective action was taken.

The Internal Standards Areas met the acceptable requirements except for P001-BBDGA-001-02, P001-BBDGA-002-01, P001-BBDGA-005-01 and P001-BBDGA-006-01, The sample was reanalyzed to confirm internal standard failure, both run were reported in Hard Copy.

The Retention Times were acceptable for all samples.

The MS {Q1664-02MS} with File ID: BM049797.D recoveries met the requirements for all compounds except for 2,2-oxybis(1-Chloropropane)[111%], 2-Chlorophenol[111%], 3+4-Methylphenols[117%], Atrazine[172%] and Benzaldehyde[111%], due to matrix interference therefore no corrective action is required.

The MSD {Q1664-03MSD} with File ID: BM049798.D recoveries met the acceptable requirements except for 2,2-oxybis(1-Chloropropane)[117%], 2,3,4,6-Tetrachlorophenol[117%], 2-Chlorophenol[111%], 3+4-Methylphenols[122%], 4-

Chlorophenyl-phenylether[111%], Atrazine[178%] and Benzaldehyde[117%], due to matrix interference, therefore no corrective action is required.

The RPD for {Q1664-03MSD} with File ID: BM049798.D met criteria except for 4-Chloroaniline[22%], due to matrix interference, no corrective action was taken.

The Blank Spike for {PB167369BS} with File ID: BF142177.D met requirements for all samples except for 2,4,5-Trichlorophenol[106%], 2,4-Dinitrotoluene[112%], 2,6-Dinitrotoluene[106%], 2-Chloronaphthalene[100%], 3,3-Dichlorobenzidine[19%], 4,6-Dinitro-2-methylphenol[118%], 4-Chlorophenyl-phenylether[106%], Acenaphthylene[106%], Anthracene[106%], Benzo(a)anthracene[106%], Benzo(a)pyrene[112%], Carbazole[100%], Chrysene[106%], Dimethylphthalate[100%], Hexachlorobenzene[106%], Hexachlorobutadiene[106%], Hexachlorocyclopentadiene [185%], Isophorone [100%], N-Nitrosodiphenylamine[100%], Pentachlorophenol[106%] and Pyrene[106%], The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Blank analysis did not indicate the presence of lab contamination.

The % RSD is greater than 20% in the Initial Calibration (8270-BF031025.M) for 2,4-Dinitrophenol, this compound is passing on Linear Regression.

The % RSD is greater than 20% in the Initial Calibration (8270-BM031325.M) for 4-Nitroaniline, this compound is passing on Linear Regression, and 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol passing on Quadratic regression.

The Continuous Calibration File ID BF142175.D met the requirements except for Benzaldehyde, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Continuous Calibration File ID BM049784.D met the requirements except for Terphenyl-d14, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Tuning criteria met requirements.

E. Additional Comments:

Concentration of SOIL Sample:

Concentration ug/Kg,
(dry weight basis) = $\frac{(Ax) (Is) (Vt) (DF) (GPC)}{(Ais) (RRF) (Vi) (Wt) (D)}$



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Where,

A_x = Area of the characteristic ion for the compound to be measured.

A_{is} = Area of the characteristic ion for the internal standard.

I_s = Amount of internal standard injected in ng.

V_i = Volume of extract injected in microliters (uL)

V_t = Volume of concentrated extract in microliters (uL)

W_t = Weight of the original sample extracted in g

D_f = Dilution factor

RRF = Mean Relative Response Factor determined from the initial calibration standard.

GPC = V_{in} = GPC factor (If no GPC is performed, GPC=1)

V_{out} = Volume of extract collected after GPC cleanup.

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 <20% 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 > 20% 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

Weston Solutions, Inc.
Project Name: RFP 905
Project # N/A
Chemtech Project # Q1664
Test Name: SPLP BNA

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for SPLP BNA.

C. Analytical Techniques:

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 analysis of SPLP BNA 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 except for P001-BBDGA-005-01 [2,4 and 6-Tribromophenol - 138%], as per method two surrogates are allowed to failed, therefore no corrective action was taken.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS {Q1664-05MS} with File ID: BG064135.D recoveries met the requirements for all compounds except for 1,4-Dioxane[30%], 2,3,4,6-Tetrachlorophenol[122%], 2,4,5-Trichlorophenol[123%], 2,4,6-Trichlorophenol[123%] and Hexachlorocyclopentadiene [230%], due to matrix interference, no corrective action is required.

The MSD {Q1664-06MSD} with File ID: BG064136.D recoveries met the acceptable requirements except for 1,2,4,5-Tetrachlorobenzene[103%], 1,4-Dioxane[32%], 2,3,4,6-Tetrachlorophenol[129%], 2,4,5-Trichlorophenol[125%], 2,4,6-Trichlorophenol[127%], Atrazine[164%], Hexachlorocyclopentadiene[240%] and Nitrobenzene[114%], due to matrix interference, no corrective action is required.

The RPD met criteria .

The Blank Spike for {PB167393BS} with File ID: BG064173.D met requirements for all samples except for 2,4,5-Trichlorophenol[107%], 2-Nitrophenol[118%], 3+4-Methylphenols[109%], 4,6-Dinitro-2-methylphenol[133%], Atrazine[135%], Butylbenzylphthalate[108%] and Hexachlorocyclopentadiene[230%], The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Blank analysis did not indicate the presence of lab contamination.

The % RSD is greater than 20% in the Initial Calibration (8270-BG030525.M) for Benzoic acid, 2,6-Dinitrotoluene, 2,4-Dinitrophenol, 2,4-Dinitrotoluene, 4,6-Dinitro-2-methylphenol, Butylbenzylphthalate, these compounds are passing on Linear Regression and 2-Nitrophenol, 2-Nitroaniline, are passing on Quadratic regression.

The Continuous Calibration File ID BG064130.D met the requirements except for Hexachlorocyclopentadiene, The associate samples have no positive hit for this compound therefore no corrective action was taken. .

The Continuous Calibration File ID BG064164.D met the requirements except for 2,4-Dinitrophenol, 2-Nitrophenol, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadiene, The associate samples have no positive hit for these compounds therefore no corrective action was taken.

The Tuning criteria met requirements.

E. Additional Comments:

The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% 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 > 20% 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

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: Pesticide-TCL

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 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-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11. 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 File ID PL094947.D met the requirements except for 4,4-DDD is failing high in 2nd column but no positive hits in associated samples & associated QC passing within limits therefor no corrective action taken.

E. Additional Comments:

The soil samples results are based on a dry weight basis.

F. Calculation for Concentration in Soil samples:

$$\text{Concentration ug/Kg (Dry weight basis)} = \frac{(Ax) (Vt) (DF) (GPC)}{(CF) (Vi) (Ws) (D)}$$

Where,

Ax = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/ng).

Vt = Volume of the concentrated extract in uL

Vi = Volume of extract injected (uL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).

Ws = Weight of sample extracted (g).

D = % dry weight or $\frac{100 - \% \text{Moisture}}{100}$

$$GPC = \frac{V_{in}}{V_{out}} = \text{GPC factor (If no GPC is performed, GPC=1)}$$

Vin = Volume of extract loaded onto GPC column.

Vout = Volume of extract collected after GPC cleanup.

DF = Dilution Factor

G. 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

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: SPLP Pesticide

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for SPLP Pesticide.

C. Analytical Techniques:

The analysis was performed on instrument ECD_L. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df.; Catalog # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 7HMG017- 11. The analysis of SPLP Pesticides 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 except for P001-BBDGA-005-01 [Tetrachloro-m-xylene(2) - 129%], P001-BBDGA-006-01 [Tetrachloro-m-xylene(2) - 127%] and P001-BBDGA-007-01 [Tetrachloro-m-xylene(2) - 127%], as per method one surrogate is allowed to failed, therefore no corrective action was taken.

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 .



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E. Additional Comments:

F. Calculation for Concentration in Water Samples:

$$\text{Concentration ug/L} = \frac{(A_x) (V_t) (DF) (GPC)}{(CF) (V_o) (V_i)}$$

Where,

A_x = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/ng).

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

V_{in} = Volume of extract loaded onto GPC column.

V_{out} = Volume of extract collected after GPC cleanup.

DF = Dilution Factor.

G. 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

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: PCB

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 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 μ m df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 μ m; Catalogue # 7HM-G017-11. The analyses were performed on instrument GCECD_O. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 μ m df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 μ m; 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 File ID PO110098.D met the requirements except for Decachlorobiphenyl is failing in 1st column but passing in 2nd column therefore no corrective action taken.

E. Additional Comments:

The soil samples results are based on a dry weight basis.

F. Calculation for Concentration in Soil samples:

$$\text{Concentration ug/Kg (Dry weight basis)} = \frac{(Ax) (Vt) (DF) (GPC)}{(CF) (Vi) (Ws) (D)}$$

Where,

Ax = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/ng).

Vt = Volume of the concentrated extract in uL

Vi = Volume of extract injected (uL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).

Ws = Weight of sample extracted (g).

D = % dry weight or $\frac{100 - \% \text{Moisture}}{100}$

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

Vin = Volume of extract loaded onto GPC column.

Vout = Volume of extract collected after GPC cleanup.

DF = Dilution Factor

G. Manual Integration Comments:

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

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

Signature_____



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Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: SPLP PCB

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for SPLP 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 μ m df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 μ m; Catalogue # 7HM-G017-11. The analyses were performed on instrument GCECD_O. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 μ m df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 μ m; Catalogue # 7HM-G017-11. The analysis of SPLP 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:

F. Calculation for Concentration in Water Samples:

$$\text{Concentration in ug/L} = \frac{(A_x) (V_t) (DF) (GPC)}{(CF) (V_o) (V_i)}$$

Where,

A_x = Response (peak area or height) of the compound to be measured.

CF = Mean Calibration Factor from the initial calibration (area/ng).

V_o = Volume of water extracted in mL.

V_i = Volume of extract injected in uL.

V_t = Volume of the concentrated extract in uL

GPC = $\frac{V_{in}}{V_{out}}$ = GPC factor (If no GPC is performed, GPC=1)

V_{in} = Volume of extract loaded onto GPC column.

V_{out} = Volume of extract collected after GPC cleanup.

DF = Dilution Factor.

G. 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

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: EPH

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for EPH.

C. Analytical Techniques:

The analysis were performed on instrument FID_C. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 10224. The analysis were performed on instrument FID_G. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 13302. 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 EPHs was based on method NJEPH 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 for {Q1664-06} with File ID: FG015600.D met criteria except for Aromatic C16-C21[29.3%] due to difference in results of MS and MSD.

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 .



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E. Additional Comments:

The soil samples results are based on a dry weight basis.

F. Calculation for Concentration in Water Samples:

$$C \text{ (ug/L)} = \frac{(A) (D) (Ve)}{CF (Vs)}$$

Where:

C = Concentration of each compound or hydrocarbon range, ug/L

A = Area response of each compound or carbon range to be measured

D = Dilution Factor

Vs = Volume of sample extracted, mL

Ve = Final volume of extract, uL

CF = Calibration factor of each compound or carbon range for each fraction

G. Calculation for Concentration in Soil Samples:

$$C \text{ (ug/g)} = \frac{(A) (D) (Ve)}{CF (S)}$$

Where:

C = Concentration of each compound or hydrocarbon range, ug/g (dry weight basis)

A = Area response of each compound or carbon range to be measured

D = Dilution Factor

Ve = Final volume of extract, uL

CF = Calibration factor of each compound or carbon range for each fraction

S = Dry sample weight, mg

Total EPH concentration = Total of 4 Aromatic Carbon Ranges and 4 Aliphatic Carbon Ranges.

H. Manual Integration Comments:

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

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

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CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: Metals ICP-TAL,Mercury

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for Metals ICP-TAL,Mercury.

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 (P001-BBDGA-001-01DUP) analysis met criteria for all samples except for Copper due to matrix interference.

The Duplicate (P001-BBDGA-001-01MSD) analysis met criteria for all samples except for Copper due to matrix interference..

The Matrix Spike (P001-BBDGA-001-01MS) analysis met criteria for all samples except for Antimony, Barium due to matrix interference.

The Matrix Spike Duplicate (P001-BBDGA-001-01MSD) analysis met criteria for all samples except for Antimony, Zinc due to matrix interference.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Serial Dilution (P001-BBDGA-001-01L) met criteria for all samples except for Chromium, Copper due to unknown interference.

E. Calculation:

Calculation for ICP-AES Soil Sample:

Conversion of Results from mg/L or ppm to mg/kg (Dry Weight Basis):



$$\text{Concentration (mg/kg)} = \frac{C \times V_f}{W \times S} \times DF$$

Where,

C = Instrument value in ppm (The average of all replicate exposures)

Vf = Final digestion volume (mL)

W = Initial aliquot amount (g) (Sample amount taken in prep)

S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor

Calculation for Hg Soil Sample:

Conversion of Results from $\mu\text{g/L}$ or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = \frac{C \times V_f}{W \times S} \times DF / 1000$$

Where,

C = Instrument response in $\mu\text{g/L}$ from the calibration curve.

Vf = Final prepared (absorbing solution) volume (mL)

W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)

S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor

F. Additional Comments:

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CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: SPLP Mercury, SPLP ICP Metals

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for SPLP Mercury, SPLP ICP Metals.

C. Analytical Techniques:

The analysis of SPLP ICP Metals was based on method 6010D, digestion based on method 3050 (soils). The analysis of SPLP Mercury was based on method 7470A and digestion was based on method 7471B (soils).

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 (P001-BBDGA-001-01MS) analysis met criteria for all samples except for Copper due to matrix interference.

The Matrix Spike Duplicate (P001-BBDGA-001-01MSD) analysis met criteria for all samples except for Copper due to matrix interference.

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:

Calculation for ICP-AES Water Sample:

$$\text{Concentration or Result } (\mu\text{g/L}) = C \times \frac{V_f}{V_i} \times DF \times 1000$$



Where,

C = Instrument value in ppm (The average of all replicate exposures)

Vf = Final digestion volume (mL)

Vi = Initial aliquot amount (mL) (Sample amount taken in prep)

DF = Dilution Factor

Calculation for Hg Water Sample:

Concentration or Result ($\mu\text{g/L}$) = C x DF

Where,

C = Instrument response in $\mu\text{g/L}$ from the calibration curve.

DF = Dilution Factor

F. Additional Comments:

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CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 905

Project # N/A

Chemtech Project # Q1664

Test Name: Cyanide, SPLP Cyanide

A. Number of Samples and Date of Receipt:

22 Solid samples were received on 03/27/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, EPH, Mercury, Metals ICP-TAL, METALS TAL+CN, PCB, Pesticide-TCL, SPLP BNA, SPLP Cyanide, SPLP Extraction, SPLP ICP Metals, SPLP Mercury, SPLP PCB, SPLP Pesticide, SPLP VOA, SPLP ZHE Ext, SVOC-TCL BNA -20 and VOC-TCLVOA-10. This data package contains results for Cyanide, SPLP Cyanide.

C. Analytical Techniques:

The analysis of Cyanide, SPLP Cyanide was based on method 9012B.

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.

E. Calculations:

Calculation for CN Soil Sample:

Conversion of Results from $\mu\text{g/L}$ or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = C \times \frac{V_f}{W \times S} \times \text{DF} / 1000$$

Where,

C = Instrument response in $\mu\text{g/L}$ CN from the calibration curve.

Vf = Final prepared (absorbing solution) volume (mL)

W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)

S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor



Calculation for CN SPLP Sample:

$$\text{Concentration or Result (mg/L)} = \frac{C \times V_f}{V_i} \times \text{DF} / 1000$$

Where,

C = Instrument response in $\mu\text{g/L}$ CN from the calibration curve.

Vf = Final prepared (absorbing solution) volume (mL)

Vi = Initial aliquot amount (mL) (Sample amount taken in prep)

DF = Dilution Factor

F. Additional Comments:

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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 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 #: Q1664

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

✓

QA Review Signature: PRADIP PRAJAPATI

Date: 04/08/2025