

## Cover Page

**Order ID :** P4495

**Project ID :** NJ Soil PT

**Client :** Chemtech Consulting Group

### Lab Sample Number

P4495-01  
P4495-02  
P4495-03  
P4495-04  
P4495-05  
P4495-06  
P4495-07  
P4495-08  
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P4495-18  
P4495-19  
P4495-20  
P4495-21  
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P4495-23  
P4495-24  
P4495-25

### Client Sample Number

PT-AN-SOIL  
PT-CORR-SOIL  
PT-CN-SOIL  
PT-CN-SOIL  
PT-FP-SOIL  
PT-CR6-SOIL  
PT-NUT-SOIL  
PT-NUT-SOIL  
PT-OGR-SOIL  
PT-MET-SOIL  
PT-BNA-SOIL  
PT-TRIAZINE-SOIL  
PT-PAH-SOIL  
PT-DIES-SOIL  
PT-GAS-SOIL  
PT-NJEPH-SOIL  
PT-HERB-SOIL  
PT-PCB-SOIL  
PT-PCBO-SOIL  
PT-PEST-SOIL  
PT-CHLR-SOIL  
PT-TXP-SOIL  
PT-VOA-SOIL  
PT-SOL-SOIL  
PT-NO2-SOIL

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Date: 12/12/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: VOCMS Group1**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for VOCMS Group1.

### **C. Analytical Techniques:**

The analysis performed on instrument MSVOA\_Y were done using GC column Rxi-624Sil MS, which is 30 meters, 0.25 mm id, 1.4 um df, Restek Cat. #13868. The Trap was supplied by Supelco, VOCARB 3000, ATOMAX XYZ Concentrator. The analysis of VOCMS Group1 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 RPD for {VY1031SBSD01} with File ID: VY020088.D met criteria except for Methacrylonitrile[43%] and Tert butyl alcohol[21%] due to difference in results of BS-BSD.

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate for {VY1031SBSD01} with File ID: VY020088.D met requirements for all samples except for Diethyl Ether[120%], Methacrylonitrile[127%] and Tetrahydrofuran[120%] failing high but no positive hit in associated samples therefore no corrective action taken.

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

The Initial Calibration met the requirements .



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The Continuous Calibration met the requirements .  
The Tuning criteria met requirements.

Sample PT-VOA-SOIL was diluted due to high concentration.

**E. Additional Comments:**

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 un Logs for information on the manual integrations performed.

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: SVOCMS Group1**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for SVOCMS Group1.

### **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 analysis of SVOCMS Group1 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 for {PB164401BS} with File ID: BF140052.D met requirements for all samples except for 4,6-Dinitro-2-methylphenol[118%], 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-BF101824.M) for 2,4-Dinitrophenol, Benzidine, these compounds are passing on Linear Regression.



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The Continuous Calibration met the requirements .  
The Tuning criteria met requirements.

Sample PT-BNA-SOIL was diluted due to high concentration.

**E. Additional Comments:**

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

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

**F. Manual Integration Comments:**

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

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: PESTICIDE Group1**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for PESTICIDE Group1.

### **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 Group1s 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 .

Samples PT-PEST-SOIL, PT-PEST-SOILDL were diluted due to high concentrations.

### **E. Additional Comments:**



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**F. Manual Integration Comments:**

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: PCB**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for PCB.

### **C. Analytical Techniques:**

The analyses were performed on instrument GCECD\_O. 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 .

Samples PT-PCB-SOIL, PT-PCBO-SOIL were diluted due to high concentrations.

### **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**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: Metals ICP-Group1,Mercury**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for Metals ICP-Group1,Mercury.

### **C. Analytical Techniques:**

The analysis of Metals ICP-Group1 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.

Sample PT-MET-SOIL was diluted due to high concentrations for Mercury,Beryllium,Chromium,Lithium,Titanium.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

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

The Calibration met the requirements.

The Serial Dilution met the acceptable requirements.

### **E. Additional Comments:**

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: Hexavalent Chromium,TS,Corrosivity,Oil and Grease,Anions  
Group2,Cyanide,TOC,Phosphorus, Total,Flash Point,TKN,Ammonia,Anions  
Group1**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for Hexavalent Chromium,TS,Corrosivity,Oil and Grease,Anions Group2,Cyanide,TOC,Phosphorus, Total,Flash Point,TKN,Ammonia,Anions Group1.

### **C. Analytical Techniques:**

The analysis of Flash Point was based on method 1010B, The analysis of Hexavalent Chromium was based on method 7196A, The analysis of Cyanide was based on method 9012B, The analysis of Cyanide was based on method 9014, The analysis of Corrosivity was based on method 9045D, The analysis of Anions Group1,Anions Group2 was based on method 9056A, The analysis of TOC was based on method 9060A, The analysis of Oil and Grease was based on method 9071B, The analysis of TOC was based on method Lloyd Kahn, The analysis of TS was based on method SM2540 B, The analysis of TKN was based on method SM4500 N Org B or C and The analysis of Ammonia was based on method SM4500-NH3.

### **D. QA/ QC Samples:**

The Holding Times were met for all analysis.

Sample PT-AN-SOIL was diluted due to high concentrations for Chloride,Fluoride,Nitrate,Sulfate

& Sample PT-CN-SOIL was diluted due to high concentrations for Cyanide

& Sample PT-CN-SOIL was diluted due to high concentrations for Cyanide

& Sample PT-CR6-SOIL was diluted due to high concentrations for Hexavalent Chromium



& Sample PT-NUT-SOIL was diluted due to high concentrations for Ammonia as N,TKN,Phosphorus, Total

The Blank Spike met requirements for all samples.

The Duplicate (COMP-1DUP) analysis met criteria for all samples except for Ammonia as N but sample and Duplicate results are below reporting limit.

The Matrix Spike (COMP-1MS) analysis met criteria for all samples except for Orthophosphate as P due to matrix interference.

The Matrix Spike (WC-3(0-6)MS) analysis met criteria for all samples except for Oil and Grease due to matrix interference.

The Matrix Spike Duplicate (COMP-1MSD) analysis met criteria for all samples except for Orthophosphate as P due to matrix interference.

The Matrix Spike Duplicate (WC-3(0-6)MSD) analysis met criteria for all samples except for Oil and Grease due to matrix interference.

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

The Calibration met the requirements.

**E. Additional Comments:**

Lab has used least representable sample weight for the samples P4495-07 and P4495-08 for TOC analysis. Therefore Lab has reported the TOC result with "OR" qualifier

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: Gasoline Range Organics**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. 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 except for PT-GAS-SOIL [Alpha, Alpha and Alpha-Trifluorotoluene - 215%] but this sample was required dilution as well due to high concentration, therefore no further corrective action taken.

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 .

Samples PT-GAS-SOIL was diluted due to bad matrix The above samples original run is reported as screening data in miscellaneous data.



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**E. Additional Comments:**

**F. Manual Integration Comments:**

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: Herbicide Group1**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. This data package contains results for Herbicide Group1.

### **C. Analytical Techniques:**

The analysis was performed on instrument ECD\_S. The front column is RTX-CLPesticides which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 11139. The rear column is RTX-CLPesticides2 which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog #: 11324. The analysis of Herbicide Group1s was based on method 8151A 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 PT-HERB-SOIL [2,4-DCAA(1) - 184%], PT-HERB-SOILRE [2 and 4-DCAA(1) - 191%] the failure samples in surrogates were reanalyzed to confirm the results as per method and reported in the data.

The Retention Times were acceptable for all samples.

The MS {P4821-05MS} with File ID: PS028539.D recoveries met the requirements for all compounds except for Dalapon[57%], Dinoseb[9%], MCPA[69%], MCPP[64%], Pentachlorophenol[62%] and PICLORAM [60%] Due to matrix interference.

The MSD {P4821-05MSD} with File ID: PS028540.D recoveries met the acceptable requirements except for Dalapon[54%], Dinoseb[9%], MCPP[65%], Pentachlorophenol[63%] and PICLORAM [62%] Due to matrix interference.





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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:**

BP-F-2MS & MSD was reported with J flag on form 1 for Dinoseb based on reporting criteria of high concentration from both column. Now for other column compound detection is below MDL therefore it is not detecting on form 10.

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**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: Diesel Range Organics**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. 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 {P4518-01MS} with File ID: FF014766.D recoveries met the requirements for all compounds except for DRO[-4977.6%] Due to matrix interference.

The MSD {P4518-01MSD} with File ID: FF014767.D recoveries met the acceptable requirements except for DRO[-5575.2%] Due to matrix interference.

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 PT-DIES-SOIL was diluted due to bad matrix ,

The above sample original run reported as screening data in miscellaneous data.



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**E. Additional Comments:**

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

**F. Manual Integration Comments:**

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

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## **CASE NARRATIVE**

### **Chemtech Consulting Group**

**Project Name: NJ Soil PT**

**Project # N/A**

**Chemtech Project # P4495**

**Test Name: EPH**

### **A. Number of Samples and Date of Receipt:**

25 Solid samples were received on 10/23/2024.

### **B. Parameters**

According to the Chain of Custody document, the following analyses were requested: Ammonia, Anions Group1, Anions Group2, Corrosivity, Cyanide, Diesel Range Organics, EPH, Flash Point, Gasoline Range Organics, Herbicide Group1, Hexavalent Chromium, Mercury, Metals Group3, Metals ICP-Group1, Nitrite, Oil and Grease, PCB, PESTICIDE Group1, PESTICIDE Group2, PESTICIDE Group3, Phosphorus, Total, SVOCMS Group1, SVOCMS Group2, SVOCMS Group3, SVOCMS Group4, TKN, TOC, TS and VOCMS Group1. 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 analyses were performed on instrument FID\_D. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 10224. 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 {P4518-05MS} with File ID: FC067546.D recoveries met the requirements for all compounds except for Aliphatic C9-C12[145%], Aliphatic C12-C16[921%], Aliphatic C16-C21[762%], Aliphatic C21-C28[377%] and Aliphatic C28-C40[321%] due to matrix interference.

The MS {P4518-05MS} with File ID: FD048607.D recoveries met the requirements for all compounds except for Aromatic C12-C16[223%], Aromatic C16-C21[281%] due to matrix interference.

The MSD {P4518-05MSD} with File ID: FC067547.D recoveries met the acceptable requirements except for Aliphatic C9-C12[140%], Aliphatic C12-C16[856%], Aliphatic C16-C21[748%], Aliphatic C21-C28[350%] and Aliphatic C28-C40[307%] due to matrix interference.



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The MSD {P4518-05MSD} with File ID: FD048608.D recoveries met the acceptable requirements except for Aromatic C12-C16[180%], Aromatic C16-C21[277%] due to matrix interference.

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 .

Samples PT-NJEPH-SOIL, PT-NJEPH-SOILDL and PT-NJEPH-SOILDL2 were diluted due to high concentrations for Aliphatic compounds and Sample PT-NJEPH-SOIL was diluted due to high concentrations for Aromatic compounds.

**E. Additional Comments:**

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

**F. Manual Integration Comments:**

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

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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:

<b>J</b>	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).
<b>U</b>	Indicates the analyte was analyzed for, but not detected.
<b>ND</b>	Indicates the analyte was analyzed for, but not detected
<b>E</b>	Indicates the reported value is estimated because of the presence of interference
<b>M</b>	Indicates Duplicate injection precision not met.
<b>N</b>	Indicates the spiked sample recovery is not within control limits.
<b>S</b>	Indicates the reported value was determined by the Method of Standard Addition (MSA).
<b>*</b>	Indicates that the duplicate analysis is not within control limits.
<b>+</b>	Indicates the correlation coefficient for the MSA is less than 0.995.
<b>D</b>	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
<b>M</b>	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
<b>OR</b>	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>Q</b>	Indicates the LCS did not meet the control limits requirements
<b>H</b>	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 #: P4495

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: SOHIL JODHANI

Date: 12/12/2024