



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

## **CASE NARRATIVE**

### **Weston Solutions**

**Project Name: Ft Meade Tipton Airfield Parcel RI - PO 0111169**

**Project # N/A**

**Chemtech Project # P5076**

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

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

1 Solid sample was received on 12/04/2024.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: Anions Group1, Mercury, Metals ICP-TAL, METALS-TAL, pH and TOC. This data package contains results for Metals ICP-TAL,Mercury.

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

The analysis of Metals ICP-TAL was based on method 6020B, 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 (TAPIAL3-SB04I-10-120324-00-T1MS) analysis met criteria for all samples except for Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Nickel, Selenium, Silver, Thallium and Vanadium due to Chemical Interference during Digestion Process.

The Matrix Spike Duplicate (TAPIAL3-SB04I-10-120324-00-T1MSD) analysis met criteria for all samples except for Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Nickel, Selenium, Silver, Thallium and Vanadium due to Chemical Interference during Digestion Process.

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

The Calibration met the requirements.

The Serial Dilution met criteria for all samples.

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

P5076-01 sample analyzed Straight X5 dilution because of high interferent samples.

Collision cell is being used to remove potential interferences. The analytes Na, Mg, Al, K, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As are being analyzed with collision cell and analytes Be, B, Ca, Ti, Se, Sr, Zr, Mo, Ag, Cd, Sn, Sb, Ba, Tl, Pb, U are being analyzed with Non-Collision Cell. Helium gas is used for the Collision Cell analysis.



### **Calculation for ICP-MS Soil Sample:**

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

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

Where,

C = Instrument value in ppb (The average of all replicate integrations)

Vf = Final digestion 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 Hg Soil Sample:**

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

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

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

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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 \_\_\_\_\_