



**284 Sheffield Street  
Mountainside, NJ 07092**

## **SDG NARRATIVE**

**USEPA**

**SDG # MBH6M8**

**CASE # 51835**

**CONTRACT # 68HERH20D0011**

**SOW# SFAM01.1**

**LAB NAME: Alliance Technical Group, LLC**

**LAB CODE: ACE**

**LAB ORDER ID # P4624**

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

12 Soil samples were delivered to the laboratory intact on 10/29/2024.

### **B. Parameters**

Test requested for Metals CLP MS FULL = Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc, Mercury, Cyanide.

### **C. Cooler Temp**

Indicator Bottle: Presence/Absence

Cooler: 2.4°C, 2.8°C

### **D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):**

Issue 1 : A "P" or "M" prefix was listed at the beginning of a CLP sample ID.

Issue 2: The attached COCs lists a 7-day TAT, but a 14-day TAT is scheduled for this Case.

### **E. Corrective Action taken for above:**

Resolution 1 : To maintain COC integrity, ASB requests no changes to the Sample IDs. The laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

Resolution 2: Per Region 2, the laboratory should note the issue in the SDG Narrative and proceed with the analysis of the samples as scheduled (14-day TAT).



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**F. Analytical Techniques:**

All analyses were based on CLP Methodology by method SFAM01.1.

**G. Calculation:**

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

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

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

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

**Example Calculation For Sample MBH6M7 For Arsenic :**

If C = 3.23 ppb

Vf = 500 ml

W = 1.15 g

S = 0.953(95.3/100)

DF = 1

$$\text{Concentration (mg/kg)} = 3.23 \times \frac{500}{1.15 \times 0.953} \times 1 / 1000$$

$$= 1.473607 \text{ mg/kg}$$

$$= 1.5 \text{ mg/kg (Reported Result with Signification)}$$

**Calculation for Hg Soil Sample:**

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

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



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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

**Example Calculation:**

If C = 0.1488 ppb

Vf = 100 mL

W = 0.58g

S = 0.827(82.7/100)

DF = 1

$$\text{Concentration (mg/kg)} = 0.1488 \frac{100}{0.58 \times 0.827} \times 1 / 1000$$

$$= 0.03102 \text{ mg/kg}$$

$$= 0.031 \text{ mg/kg (Reported Result with Signification)}$$

**Calculation for CN Soil Sample:**

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

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

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

**Example Calculation:**

If C = 6.2798 ppb

Vf = 50 ml

W = 1.03 g

S = 0.807(80.7/100)

DF = 1



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$$\text{Concentration (mg/kg)} = 6.2798 \times \frac{50}{1.03 \times 0.807} \times 1 / 1000$$

$$= 0.37775 \text{ mg/kg}$$

$$= 0.38 \text{ mg/kg (Reported Result with Signification)}$$

## H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Matrix Spike sample did meet requirements. Duplicate sample did meet requirements. Serial Dilution did meet requirements.

Internal standard 89Y(1) was out Side qc limit for sample MBH6M7 in Original so for this sample affected parameters are reported from 2X Dilution.

Internal standard 6Li was out Side qc limit for samples MBH6M8, MBH6M9, MBH6N0, MBH6N1, MBH6M6, MBH6N2 in Original so for these samples affected parameters are reported from 2X Dilution.

Internal standard 6Li was out Side qc limit for samples MBH6N6, MBH6N6D, MBH6N6S in Original & 2X Dilution So for these samples affected parameters are reported from Original.

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.

Internal Standard Association for ICP-MS analysis.

Target Analyte	Associated Internal Standard
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb



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Chromium	45Sc
Cobalt	45Sc
Copper	45Sc
Lead	209Bi
Manganese	45Sc
Nickel	45Sc
Selenium	89Y
Silver	159Tb
Thallium	209Bi
Vanadium	45Sc
Zinc	45Sc

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 Director or his designee, as verified by the following signature.

Signature \_\_\_\_\_

Name: Nimisha Pandya

Date \_\_\_\_\_

Title: Document Control Officer