



**284 Sheffield Street  
Mountainside, NJ 07092**

## **SDG NARRATIVE**

**USEPA**

**SDG # MC0AZ0**

**CASE # 51973**

**CONTRACT # 68HERH20D0011**

**SOW# SFAM01.1**

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

**LAB CODE: ACE**

**LAB ORDER ID # Q1151**

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

10 Soil & 01 Water sample were delivered to the laboratory intact on 01/22/2025.

### **B. Parameters**

Test requested for Metals CLP FULL = Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc and Mercury.

### **C. Cooler Temp**

Indicator Bottle: Presence/Absence

Cooler: 2.3°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 laboratory would like confirmation that CLP Sample numbers MC0AZ7, MC0AZ8 and MC0AZ9 all refer to the same sample. If these sample numbers refer to the same sample, the laboratory would like confirmation that they can use MC0AZ7 as the CLP ID for both regular and QC analysis.

### **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 3, the use of MC0AZ7 as the CLP ID for the three samples is acceptable; please make note of the issue in the SDG Narrative and proceed with the analysis of the samples.



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#### **F. Analytical Techniques:**

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

Inter Element correction factors (IECs) are determined annually and correction factor are applied during ICP-AES analysis.

#### **G. Calculation:**

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

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

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

Where,

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

V<sub>f</sub> = Final digestion volume (mL)

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

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

DF = Dilution Factor

##### **Example Calculation For Sample MC0AZ0 For Antimony:**

If C = 5.496121 ppm

V<sub>f</sub> = 100 ml

W = 1.20 g

S = 0.303(30.3/100)

DF = 1

$$\text{Concentration (mg/kg)} = 5.496121 \times \frac{100}{1.20 \times 0.303} \times 1$$

$$= 1511.5844 \text{ mg/kg}$$

$$= 1500 \text{ mg/kg (Reported Result with Signification)}$$

##### **Calculation for ICP-AES Water Sample:**

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



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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

**Example Calculation For Sample MC0B02 For Silver:**

If C = 0.0012592 ppm

Vf = 50 ml

Vi = 50 ml

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 0.0012592 \times \frac{50}{50} \times 1 \times 1000$$

$$= 1.2592 \mu\text{g/L}$$

$$= 1.3 \mu\text{g/L (Reported Result with Signification)}$$

**Calculation for Hg 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  $\mu\text{g/L}$  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 For Sample MC0AZ0:**

If C = 6.7576 ppb

Vf = 100 mL

W = 0.51g

S = 0.303(30.3/100)

DF = 1

$$\text{Concentration (mg/kg)} = 6.7576 \times \frac{100}{0.51 \times 0.303} \times 1 / 1000$$



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$$= 4.3730 \text{ mg/kg}$$

$$= 4.4 \text{ mg/kg (Reported Result with Signification)}$$

#### **Calculation for Hg Water Sample:**

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

Where,

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

DF = Dilution Factor

#### **Example Calculation:**

$$\text{If } C = 0.0703 \text{ ppb}$$

$$\text{DF} = 1$$

$$\text{Concentration or Result } (\mu\text{g/L}) = 0.0703 \times 1$$

$$= 0.0703 \mu\text{g/L}$$

$$= 0.070 \mu\text{g/L (Reported Result with Signification)}$$

#### **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. Spike sample did meet requirements except for Antimony, Arsenic, Beryllium, Copper, Manganese, Selenium, Silver, and Zinc. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for Beryllium, and Copper.

Chemical or physical interference effect was suspected and the data for all affected analytes in the sample received and associated with this serial dilution were flagged.

Some samples have % solids results less than 50% but more than 30%. Please see below table for detail. Laboratory has processed these samples according to the SFAM01.1 SOW, Exhibit D, sections 10.1.1.8.

<b>EPA Sample ID</b>	<b>% Solid</b>
MC0AZ0	30.3
MC0AZ1	30.3
MC0AZ2	44.6
MC0AZ4	30.5
MC0AZ5	34.7



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MC0AZ6	42
MC0AZ7	41.4
MC0AZ7D	41.4
MC0AZ7S	41.4
MC0B00	45.1
MC0B01	40.2

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