284 Sheffield Street
Mountainside, NJ 07092

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SDG NARRATIVE

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USEPA
SDG # MC0PI1
CASE # 51716
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4584

A. Number of Samples and Date of Receipt

15 Soil and 01 Water samples were delivered to the laboratory intact on 10/26/2024 and 10/29/2024.

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, Mercury.

C. Cooler Temp

Indicator Bottle**: <u>Presence</u>/**Absence

Cooler: 2.1, 2.0^{o}C, 2.4^{o}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.

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.

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):

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

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

Example Calculation For Sample MC0PI0 For Antimony:

If C = 0.0171752 ppm
Vf = 100 ml
W = 1.42g
S = 0.707 (70.7/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.0171752 \times \frac{100}{1.42 \times 0.707} \times 1$$

$$= 1.7108 \text{ mg/kg}$$

$$= 1.7 \text{ mg/kg (Reported Result with Signification)}$$

Calculation for ICP-AES Water Sample:

$$\text{Concentration or Result (µg/L)} = C \times \frac{Vf}{Vi} \times DF \times 1000$$

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

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Example Calculation For Arsenic:

If C = 0.0103045 ppm
Vf = 50 ml
Vi = 50 ml
DF = 1
Concentration or Result (µg/L) = 0.0103045x $\frac{50}{50}$ x 1 x 1000

= 10.3045 µg/L

= 10 µg/L (Reported Result with Signification)

Calculation for Hg Soil Sample:

Conversion of Results from µg /L or ppb to mg/kg :

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

Where,
C = Instrument response in µg/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 MC0PI0:

If C =0.6597 ppb
Vf = 100 mL
W = 0.55g
S   = 0.707(70.7/100)
DF = 1

Concentration (mg/kg) =   0.6597 x $\frac{100}{0.55 \times 0.707}$ x 1 / 1000

= 0.1697 mg/kg

= 0.17 mg/kg (Reported Result with Signification)

Calculation for Hg Water Sample:

Concentration or Result (μg/L) =   C x DF
Where,

      C   = Instrument response in μg/L from the calibration curve.
      DF = Dilution Factor

Example Calculation For Sample:

    If C   = 0.1236 ppb
      DF = 1
      Concentration or Result (μg/L) =   0.1236 x 1

                              =   0.1236 μg/L

                        =   0.12 μg/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 Lead, and Selenium. Duplicate sample did meet requirements. Serial Dilution did meet requirements.

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