284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MBHCY5
CASE # 51698
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4497

A. Number of Samples and Date of Receipt

20 Soil samples were delivered to the laboratory intact on 10/23/2024.

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, Cyanide.

C. Cooler Temp

Indicator Bottle**: Presence/**Absence

Cooler: 2.5^{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.

Issue 2: Sample MBHCY5 is listed on the attached COC but was not received at the laboratory. The laboratory received three sample jars instead of two as listed on the attached COC for sample MBHDF0. One of the jars did not have any sample collection date and time listed on the label or the COC (see attached picture).

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.

284 Sheffield Street
Mountainside, NJ 07092

Resolution 2: Per Region 2, the extra jar received for sample MBHDF0 is for sample MBHCY5. The correct sample ID for the extra jar is P065-SS011-1218-02. Please 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 MBHCY5 For Antimony:

If C = 0.0072445 ppm
Vf = 100 ml
W = 1.20g
S = 0.812(81.2/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.0072445 \times \frac{100}{1.20 \times 0.812} \times 1$$

$$= 0.743483 \text{ mg/kg}$$

$$= 0.74 \text{ mg/kg (Reported Result with Signification)}$$

Calculation for Hg Soil Sample:

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

284 Sheffield Street
Mountainside, NJ 07092

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

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 MBHCY5:

If C =0.3909 ppb
Vf = 100 mL
W = 0.52g
S = 0.812(81.2/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.3909 \times \frac{100}{0.52 \times 0.812} \times 1 / 1000$$

$$= 0.092577 \text{ mg/kg}$$

= 0.093 mg/kg (Reported Result with Signification)

Calculation for CN Soil Sample:

Conversion of Results from µg /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 µg/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 For Sample MBHCY5:

If C = 6.761 ppb
Vf = 50 ml
W = 1.02 g
S = 0.812(81.2/100)

284 Sheffield Street
Mountainside, NJ 07092

DF = 1

$$\text{Concentration (mg/kg)} = 6.761 \times \frac{50}{1.02 \times 0.812} \times 1 / 1000$$

$$= 0.40815 \text{ mg/kg}$$

$$= 0.41 \text{ mg/kg (Reported Result with Signification)}$$

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. Spike sample did meet requirements except for Antimony, Arsenic, Nickel, Selenium, Silver, Thallium, Zinc, Mercury. Duplicate sample did meet requirements except for Barium, Calcium, Chromium, Lead, Magnesium, Manganese, Nickel, Sodium, Vanadium, Zinc . 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