



**284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

**USEPA
SDG # E29T2
CASE # 51880
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4831**

A. Number of Samples and Date of Receipt

13 Water samples were delivered to the laboratory intact on 11/13/2024, 11/14/2024.

B. Parameters

Test requested for Metals CLP MS = 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: **Presence**/Absence

Cooler: 2.3°C, 2.4°C, 2.1°C

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

Issue: The COC lists the Case number 51701 and the sample containers list Case number 51880.

E. Corrective Action taken for above:

Resolution: Per Region 5, The correct Case number is 51880 and a revised COC has been provided. 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.

G. Calculation:

Calculation for ICP-MS Water Sample:



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

Where,

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

V_f = Final digestion volume (mL)

V_i = Initial aliquot amount (mL) (Sample amount taken in prep)

DF = Dilution Factor

Example Calculation For Sample E29S4 For Antimony:

If C = 0.22 ppb

V_f = 50 ml

V_i = 50 ml

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 0.22 \times \frac{50}{50} \times 1$$

$$= 0.22 \mu\text{g/L}$$

$$= 0.22 \mu\text{g/L (Reported Result with Signification)}$$

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 For Sample E29W0:

If C = 0.0473 ppb

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 0.0473 \times 1$$

$$= 0.0473 \mu\text{g/L}$$

$$= 0.047 \mu\text{g/L (Reported Result with Signification)}$$

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. Duplicate sample did meet requirements except for Manganese. Serial Dilution did meet requirements.



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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
Aluminum	45Sc
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Calcium	45Sc
Chromium	45Sc
Cobalt	45Sc
Copper	45Sc
Iron	45Sc
Lead	209Bi
Magnesium	45Sc
Manganese	45Sc
Nickel	45Sc
Potassium	45Sc
Selenium	89Y
Silver	159Tb
Sodium	45Sc



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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