



**284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

USEPA

SDG # ME2927

CASE # 51847

CONTRACT # 68HERH20D0011

SOW# SFAM01.1

LAB NAME: Alliance Technical Group, LLC

LAB CODE: ACE

LAB ORDER ID # P5354

A. Number of Samples and Date of Receipt

02 Water samples were delivered to the laboratory intact on 12/19/2024.

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, Cyanide.

C. Cooler Temp

Indicator Bottle: Presence/Absence

Cooler: 2.5°C , 2.4°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 COC lists Hardness (MA 3114) analysis for inorganic samples, but this analysis is not scheduled for Case 51847.

Issue 3: SDG ME2927 requires Laboratory QC for water samples for ICP-MS, Hg, CN analysis, but a sample was not designated on the COC. The laboratory selected sample ME2928 for Laboratory QC and confirmed this sample is not a blank, rinsate or PT sample.

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.



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Resolution 2: Per Region 5, the laboratory will note the issue in the SDG Narrative and disregard the request for Hardness (MA 3114) analysis.

Resolution 3: Per SFAM01.1 Exhibit A, Section 5.5.4.1., 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.

G. Calculation:

Calculation for ICP-MS Water Sample:

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

V_i

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 ME2927 For Calcium:

If $C = 20.67$ ppb

$V_f = 50$ ml

$V_i = 50$ ml

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 20.67 \times \frac{50}{50} \times 1$$

$$= 20.67 \mu\text{g/L}$$

$$= 21 \mu\text{g/L (Reported Result with Signification)}$$

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



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Example Calculation For Mercury:

$$\begin{aligned}\text{If } C &= 0.1811 \text{ ppb} \\ DF &= 1\end{aligned}$$

$$\begin{aligned}\text{Concentration or Result } (\mu\text{g/L}) &= 0.1811 \times 1 \\ &= 0.1811 \mu\text{g/L} \\ &= 0.18 \mu\text{g/L (Reported Result with Signification)}\end{aligned}$$

Calculation for CN Water Sample:

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

Where,

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

V_f = Final prepared (absorbing solution) volume (mL)

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

DF = Dilution Factor

Example Calculation For Cyanide:

$$\begin{aligned}\text{If } C &= 4.1106 \text{ ppb} \\ V_f &= 50 \text{ ml} \\ V_i &= 50 \text{ ml} \\ DF &= 1\end{aligned}$$

$$\begin{aligned}\text{Concentration or Result } (\mu\text{g/L}) &= 4.1106 \times \frac{50}{50} \times 1 \\ &= 4.1106 \mu\text{g/L} \\ &= 4.1 \mu\text{g/L (Reported Result with Signification)}\end{aligned}$$

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. Serial Dilution did meet requirements.

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.



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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
Thallium	209Bi
Vanadium	45Sc
Zinc	45Sc



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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