

CHEMTECH

**Alliance Technical Group LLC
284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

**USEPA
SDG # MYD599
CASE # 51495
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
CHEMTECH PROJECT #P2797
MODIFIED ANALYSIS#3208.0**

A. Number of Samples and Date of Receipt

15 Soil and 05 Water samples were delivered to the laboratory intact on 06/08/2024, 06/10/2024

B. Parameters

Test requested for Metals CLP Full = Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium & Zinc.

C. Cooler Temp

Indicator Bottle: **Presence/Absence**

Cooler: 2.1°C, 22.9°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 received samples without ice. The coolers had temperatures 24.2 degrees C, 23.2 degrees C, 23.8 degrees C, 24.1 degrees C, and 26.1 degrees C upon arrival. The laboratory would like to know how to proceed.

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 9, Case 51495 is for metals. There are no rinsates in those cooler so they don't require ice. The laboratory should 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):

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

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 MYD4P3 For Arsenic:

If C = 0.9141476 ppm

Vf = 100 ml

W = 1.15g

S = 0.982(98.2/100)

DF = 1

$$\text{Concentration (mg/kg)} = 0.9141476 \times \frac{100}{1.15 \times 0.982} \times 1$$

$$= 80.94816 \text{ mg/kg}$$

$$= 81 \text{ mg/kg (Reported Result with Signification)}$$

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Calculation for ICP-AES Water Sample:

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

Where,

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

V_f = Final digestion volume (mL)

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

DF = Dilution Factor

Example Calculation For Sample MYD599 For Manganese:

If C = 0.0020914 ppm

V_f = 50 ml

V_i = 50 ml

DF = 1

$$\text{Concentration or Result } (\mu\text{g/L}) = 0.0020914 \times \frac{50}{50} \times 1 \times 1000$$

$$= 2.0914 \mu\text{g/L}$$

$$= 2.1 \mu\text{g/L} \text{ (Reported Result with Signification)}$$

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, Selenium, Silver, Thallium. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for Chromium and Manganese.

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.

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

Date: 02/14/2024	MA: 3208.0	Title: ICP-AES Analysis Plus Molybdenum
Method Source: SFAM01.1	Method: ICP-AES	
Matrix: Aqueous/Water, Soil/Sediment		
Summary of Modification		
The purpose of this modified analysis is to analyze aqueous/water and soil/sediment samples by ICP-AES for the Target Analytes with the addition of the non-routine analyte Molybdenum (Mo). Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.		
I. Analyte Modifications		Not applicable <input type="checkbox"/>

Analyte	CAS Number	CRQL (µg/L)	CRQL (mg/kg)	Spike (µg/L)	Spike (mg/kg)
Molybdenum (Mo)	7439-98-7	10	5.0	100	50

II. Calibration and QC Requirements	Not applicable <input type="checkbox"/>
<p>The Laboratory shall:</p> <ul style="list-style-type: none"> • Ensure that Method Detection Limits have been determined for Mo in aqueous/water and soil/sediment matrices by the preparation and analysis methods used for the samples that meet all applicable SOW requirements. • Perform the Initial Calibration with a blank and at least one non-blank standard at or below the modified CRQL adjusted to µg/L as necessary. • Add Mo to the ICV and CCV at appropriate mid-point concentrations. • Evaluate the ICB and CCB against the modified aqueous CRQL. • Evaluate the Preparation Blanks using the appropriate modified CRQL. • Prepare the Matrix Spikes at the modified levels. Post-Digestion Spike requirements are per the SOW. • Flag the Duplicates based on the appropriate modified CRQL. • Add Mo to the LCS at 2 times the appropriate modified CRQL. • Note that the Laboratory is not required to add Mo to the ICSA/ICSAB solutions. The Laboratory shall use a true value of zero (0) and acceptance windows of +/- 1x the CRQL, unless a non-zero value has been determined for the solutions. 	
III. Preparation and Method Modifications	Not applicable <input checked="" type="checkbox"/>
IV. Special Reporting Requirements	Not applicable <input type="checkbox"/>
<p>The Laboratory shall:</p> <ul style="list-style-type: none"> • Add Mo to Form 1. • Report the "J" and "U" qualifiers in accordance with the requirements in Exhibit B, Section 3.4.3.2.4.2, using the modified CRQLs. • Ensure that the SDG Narrative is updated as stated in the SOW, including any technical and administrative problems encountered and the corrective actions taken. These problems may include interference problems encountered during analysis, dilutions, re-analyses, or re- 	

preparations performed, and problems with the analysis of samples. Also include a discussion of any SOW Modified Analyses including a copy of the approved modification with the SDG Narrative.