SDG COVER PAGE

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51817 MA No.: 3225.1,3226.1 SDG No.: MYE5L0

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYE5L0	P4589-01	X	X		
MYE5L1	P4589-02	X	X		
MYE5L2	P4589-03	X	X		
MYE5M3	P4589-04	X	X		
MYE5M4	P4589-05	X	X		
MYE5M5	P4589-06	X	X		
MYE5M6	P4589-07	X	X		
MYE5M7	P4589-08	X	X		
MYE5M8	P4589-09	X	X		
MYE5M9	P4589-10	X	X		
MYE5N0	P4589-11	X	X		
MYE5N1	P4589-12	X	X		
MYE5N2	P4589-13	X	X		
MYE5N2D	P4589-14	X	X		
MYE5N2S	P4589-15	X	X		

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. All edits and manual integrations have been peer-reviewed. Release of the data contained in this hardcopy Complete SDG File and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

USEPA CLP COC (LAB COPY)
DateShipped: 10/25/2024
CarrierName: FedEx
AirbillNo: 7793 0735 9289

CHAIN OF CUSTODY RECORD

Case #: 51817

Cooler #: EPA Cooler 11

No: 9-101424-084551-0145
Lab: Alliance Technical Group LLC
Lab Contact: Mohammad Ahmed
Lab Phone: 908-728-3151

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
90029-K-0010-01	MYE5L0	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8368 (None) (1)	90029-K-0010	04/25/2024 16:49	✓
90029-K-0011-01	MYE5L1	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8369 (None) (1)	90029-K-0011	04/25/2024 16:47	✓
90029-K-0012-01	MYE5L2	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8370 (None) (1)	90029-K-0012	04/25/2024 16:32	✓
261-A-0002-01	MYE5M3	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8381 (None) (1)	261-A-0002	04/25/2024 14:50	✓
261-A-0004-01	MYE5M4	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8382 (None) (1)	261-A-0004	04/25/2024 14:41	✓
261-A-0006-01	MYE5M5	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8383 (None) (1)	261-A-0006	04/25/2024 14:38	✓
261-B-0002-02	MYE5M6	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8384 (None) (1)	261-B-0002	04/25/2024 15:01	✓
261-B-S0001-01	MYE5M7	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8385 (None) (1)	261-B-S0001	04/25/2024 15:04	✓
261-B-S0003-01	MYE5M8	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8386 (None) (1)	261-B-S0003	04/25/2024 15:03	✓
90029-A-0002-01	MYE5M9	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8387 (None) (1)	90029-A-0002	04/25/2024 17:00	✓
90029-A-0004-01	MYE5N0	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8388 (None) (1)	90029-A-0004	04/25/2024 16:50	✓
90029-A-0006-01	MYE5N1	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8389 (None) (1)	90029-A-0006	04/25/2024 17:07	✓
90029-A-0008-03	MYE5N2	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8390 (None) (1)	90029-A-0008	04/25/2024 17:00	✓ QC
90029-A-0010-01	MYE5N3	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8391 (None) (1)	90029-A-0010	04/25/2024 17:00	
90029-B-0001-03	MYE5N4	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8392 (None) (1)	90029-B-0001	04/25/2024 16:00	
90029-B-0003-01	MYE5N5	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8393 (None) (1)	90029-B-0003	04/25/2024 16:05	

Sample(s) to be used for Lab QC: 90029-A-0008-03 Tag 9-8390, 90029-A-0010-01 Tag 9-8391, 90029-B-0001-03 Tag 9-8392 -
Special Instructions: ICP-AES 11+Metals:Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn ICP-MS 11+ Metals: Ag, As, Ba,Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se,Tl, V, Zn 057865

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-AES and ICP-MS=Metals ICP-AES and ICP-MS

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	RG ESAT	10/18/24 1600		0900 10-26-2024	Temp 17.9°C IR Gun #1
					Custody seal intact
					Temp BK NOT present

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of __
Received By (Print Name) George Nelson		Log-in Date 10/26/2024
Received By (Signature) [signature]		
Case Number 51817	SDG No. MYE5L0	MA No. 3225.1,3226.1

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	057865
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	779305151408 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	17.0 Degree C
8. Sample Condition	Intact
9. Sample Tags Sample Tag Numbers	Absent Listed on Traffic Report
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	10/26/2024
12.Time Received	09:00

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MYE5L0	N/A	9-8368	P4589-01	Intact
2	MYE5L1	N/A	9-8369	P4589-02	Intact
3	MYE5L2	N/A	9-8370	P4589-03	Intact
4	MYE5M3	N/A	9-8381	P4589-04	Intact
5	MYE5M4	N/A	9-8382	P4589-05	Intact
6	MYE5M5	N/A	9-8383	P4589-06	Intact
7	MYE5M6	N/A	9-8384	P4589-07	Intact
8	MYE5M7	N/A	9-8385	P4589-08	Intact
9	MYE5M8	N/A	9-8386	P4589-09	Intact
10	MYE5M9	N/A	9-8387	P4589-10	Intact
11	MYE5N0	N/A	9-8388	P4589-11	Intact
12	MYE5N1	N/A	9-8389	P4589-12	Intact
13	MYE5N2	N/A	9-8390	P4589-13	Intact
14	MYE5N2D	N/A	9-8390	P4589-14	Intact
15	MYE5N2S	N/A	9-8390	P4589-15	Intact
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A

* Contact SMO and attach record of resolution

Reviewed By [signature]	Logbook No. N/A
Date 10/28/24	Logbook Page No. N/A

FORM DC-2
COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME	**Alliance Technical Group, LLC**		
LAB CODE	**ACE**		
CONTRACT NO.	**68HERH20D0011**		
CASE NO.	**51817**	SDG NO.	**MYE5L0**
MA NO.	**3225.1,3226.1**	SOW NO.	**SFAM01.1**

All documents delivered in the Complete SDG File must be original documents where possible.
(Reference - Exhibit B Section 2.4)

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
1 . SDG Cover Page	1	1	✓	
2 . Traffic Report/Chain of Custody Record(s)	2	2	✓	
3 . Sample Log-In Sheet (DC-1)	3	3	✓	
4 . CSF Inventory Sheet (DC-2)	4	6	✓	
5 . SDG Narrative	7	16	✓	
6 . Communication Logs	NA	NA	✓	
7 . Percent Solids Log	17	18	✓	
Analysis Forms and Data (ICP-AES)				
8 . Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	19	31	✓	
9 . Instrument raw data by instrument in analysis order	32	391	✓	
Other Data				
10 . Standard and Reagent Preparation Logs	392	535	✓	
11 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	536	537	✓	
12 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	538	547	✓	
13 . Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
14 . Extraction Logs for TCLP and SPLP	NA	NA	✓	
15 . Raw GPC Data	NA	NA	✓	
16 . Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (ICP-MS)				
17 . Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	548	560	✓	
18 . Instrument raw data by instrument in analysis order	561	1931	✓	
Other Data				
19 . Standard and Reagent Preparation Logs	1932	2069	✓	
20 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	2070	2071	✓	
21 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	2072	2083	✓	
22 . Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	

	PAGE NOs: FROM	TO	CHECK LAB	REGION
23. Extraction Logs for TCLP and SPLP	NA	NA	✓	
24. Raw GPC Data	NA	NA	✓	
25. Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (Mercury)				
26. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
27. Instrument raw data by instrument in analysis order	NA	NA	✓	
Other Data				
28. Standard and Reagent Preparation Logs	NA	NA	✓	
29. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
30. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
31. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
32. Extraction Logs for TCLP and SPLP	NA	NA	✓	
33. Raw GPC Data	NA	NA	✓	
34. Raw Florisil Data	NA	NA	✓	
Analysis Forms and Data (Cyanide)				
35. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	NA	NA	✓	
36. Instrument raw data by instrument in analysis order	NA	NA	✓	
Other Data				
37. Standard and Reagent Preparation Logs	NA	NA	✓	
38. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	NA	NA	✓	
39. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	NA	NA	✓	
40. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✓	
41. Extraction Logs for TCLP and SPLP	NA	NA	✓	
42. Raw GPC Data	NA	NA	✓	
43. Raw Florisil Data	NA	NA	✓	

	PAGE NOs: FROM	TO	CHECK LAB	REGION
Additional				
44. EPA Shipping/Receiving Documents				
Airbill (No. of Shipments 1)	2084	2084	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	2085	2086	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	2087	2088	✓	
47. Other Records and related Communication Logs (describe or list)				
	NA	NA	✓	

48. Comments:

Completed by: (CLP Lab)		Nimisha Pandya, Document Control Officer	
	(Signature)	(Print Name & Title)	(Date)
Audited by: (EPA)			
	(Signature)	(Print Name & Title)	(Date)

284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MYE5L0
CASE # 51817
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4589
MODIFIED ANALYSIS #3225.1, 3226.1

A. Number of Samples and Date of Receipt

13 Soil samples were delivered to the laboratory intact on 10/26/2024.

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.

Test requested for Metals CLP MS FULL = Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

C. Cooler Temp

Indicator Bottle**:** Presence**/Absence**

Cooler: 17.0^{o}C

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

Issue: A "P" or "M" prefix was listed at the beginning of a CLP sample ID.

E. Corrective Action taken for above:

Resolution: 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 MYE5L0 For Arsenic:

If C = 0.1753570 ppm
Vf = 100 ml
W = 1.29 g
S = 0.934(93.4/100)
DF = 2

$$\text{Concentration (mg/kg)} = 0.1753570 \times \frac{100}{1.29 \times 0.934} \times 2$$

$$= 29.1082 \text{ mg/kg}$$

$$= 29 \text{ mg/kg (Reported Result with Signification)}$$

Calculation for ICP-MS 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 value in ppb (The average of all replicate integrations)
Vf = Final digestion volume (mL)
W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)
S = % Solids / 100 (Fraction of Percent Solids)

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DF = Dilution Factor

Example Calculation For Sample MYE5L0 For Antimony:

If C = 2.41 ppb
Vf = 500 ml
W = 1.29 g
S = 0.934(93.4/100)
DF = 1

$$\text{Concentration (mg/kg)} = 2.41 \times \frac{500}{1.29 \times 0.934} \times 1 / 1000$$

$$= 1.000116 \text{ mg/kg}$$

= 1.0 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. AES Spike sample did meet requirements except for Arsenic, Lead, Zinc. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for Zinc.

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.

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
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Chromium	45Sc

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Cobalt	45Sc
Copper	45Sc
Lead	209Bi
Nickel	45Sc
Selenium	89Y
Silver	159Tb
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

Date: 09/11/2024	**MA:** 3225.1	**Title:** ICP-MS with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-MS	
Matrix: Soil/Sediment		

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-MS. 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** ☒

II. Calibration and QC Requirements **Not applicable** ☐

The Laboratory shall:

- Use the Method Detection Limits (MDLs) determined for routine soil analyses (i.e., Method 200.8) to report the results for these analyses. The Laboratory is NOT required to perform an MDL study for Draft Method 3050C.
- Prepare and analyze an additional Laboratory Control Sample (LCS) spiked at the CRQL. Percent Recovery limits do NOT apply to this LCS and no corrective actions are required.
- Prepare a Matrix Spike spiked at three times the levels specified in the SOW.
- Prepare and analyze an additional Matrix Spike sample spiked at five times the levels specified for this Modified Analysis (i.e., 15x the levels specified in the SOW).
- Post-Digestion Spike requirements apply to the 5x Matrix Spike only.
- Post-Digestion Spike corrective actions apply to Sb.

III. Preparation and Method Modifications **Not applicable** ☐

The Laboratory shall:

- Prepare and analyze the sample by EPA Draft Method 3050C as follows:
  - Mix sample thoroughly and transfer 1.00 – 1.50 g to a digestion vessel.
  - Add 10 mL 1:1 HNO_3 and 5 mL 1:1 HCl, heat the sample at 95°C (±3°C) and reflux 10-15 minutes.
  - Add 5 mL concentrated HNO_3 and reflux for 30 minutes at 95°C (±3°C), repeat until digestion complete.
  - Concentrate sample to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Cool sample, add 2mL water and 3 mL 30% H_2O_2. Heat at 95°C (±3°C) and add additional 1 mL aliquots of 30% H_2O_2 until effervescence is minimal.
  - Reduce volume to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Dilute to 100 mL with water, centrifuge or filter as necessary prior to analysis.
- The same sample extracts can be used for ICP-AES analysis. Separate Matrix Spikes and LCS will need to be prepared for both ICP-AES and ICP-MS analyses.
- Analyze the samples starting at an initial 5x dilution. Subsequently, dilute samples as necessary to bring the analyte concentrations within the calibration range of the instrument per the SOW.
- Method Blanks, both LCSs, and all instrument QC are to be analyzed undiluted.

IV. Special Reporting Requirements	**Not applicable** ☐

The Laboratory shall:

- Ensure the SDG Narrative is updated as stated in the SOW, including any technical and administrative problems encountered and the resolution or corrective actions taken. These problems may include interference problems encountered during analysis, dilutions, re-analyses and/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 form with the SDG Narrative.
- Initial analysis data are reported with a dilution factor of 1.0 and a final volume of 500 mL, per the SOW.
- Report the additional LCS as “LCSD” in the raw data and in the EDD with QCType “Laboratory_Control_Sample_Duplicate”.
- Report the additional Matrix Spike with an “SRE” suffix in the raw data and EDD.
- Report any Post-Digestion Spike of the additional 5x Matrix Spike with an “ARE” suffix.

Date: 09/11/2024	**MA:** 3226.1	**Title:** ICP-AES with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-AES	
Matrix: Soil/Sediment		

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-AES. 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** ☒

II. Calibration and QC Requirements **Not applicable** ☐

The Laboratory shall:

- Use the Method Detection Limits determined for routine soil analyses (i.e., Method 3050B) to report the results for these analyses. The Laboratory is NOT required to perform an MDL study for Draft Method 3050C.
- Prepare and analyze an additional Laboratory Control Sample (LCS) spiked at the CRQL. Percent Recovery limits do NOT apply to this LCS and no corrective actions are required.
- Prepare a Matrix Spike spiked at two times the levels specified in the SOW.
- Post-Digestion Spike requirements apply to the 2x Matrix Spike.
- Post-Digestion Spike corrective actions apply to Sb.

III. Preparation and Method Modifications **Not applicable** ☐

The Laboratory shall:

- Prepare and analyze the sample by EPA Draft Method 3050C as follows:
  - Mix sample thoroughly and transfer 1.00 – 1.50 g to a digestion vessel.
  - Add 10 mL 1:1 HNO_3 and 5 mL 1:1 HCl, heat the sample at 95°C (±3°C) and reflux 10 -15 minutes.
  - Add 5 mL concentrated HNO_3 and reflux for 30 minutes at 95°C (±3°C), repeat until digestion complete.
  - Concentrate sample to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Cool sample, add 2mL water and 3 mL 30% H_2O_2. Heat at 95°C (±3°C) and add additional 1 mL aliquots of 30% H_2O_2 until effervescence is minimal.
  - Reduce volume to 5 mL or reflux without boiling for 2 hours at 95°C (±3°C).
  - Dilute to 100 mL with water, centrifuge or filter as necessary prior to analysis.
- The same sample extracts can also be used for ICP-MS analysis. Separate Matrix Spikes and LCS will need to be prepared for both ICP-AES and ICP-MS analyses.
- Analyze the samples starting at an initial 2x dilution. Subsequently, dilute samples as necessary to bring the analyte concentrations within the calibration range of the instrument per the SOW.
- Verify that the dilution was adequate to reduce interferents to within the method calibration range. This can optionally be verified by visual verification of the spectrogram or by analysis of a serial dilution. There are other acceptable means to provide assurance, e.g. some software may automatically provide guidance to the analyst.
- Method Blanks, both LCS, and all instrument QC are to be analyzed undiluted.

IV. Special Reporting Requirements **Not applicable** ☐

The Laboratory shall:

- Ensure the SDG Narrative is updated as stated in the SOW, including any technical and administrative problems encountered and the resolution or corrective actions taken. These problems may include interference problems encountered during analysis, dilutions, re-analyses and/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 form with the SDG Narrative.
- Initial analysis data are reported with a dilution factor of 2.0 and a final volume of 100 mL, per the SOW.
- Report the additional LCS as "LCSD" in the raw data and in the EDD with QCType "Laboratory_Control_Sample_Duplicate".
- Ensure that up-to-date Interelement Correction Factors (IECs) are provided with the data package.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
As 189.042 {479}	☒	1	Fe	-0.000064	0.000000	No
Tl 190.856 {477}	☒	5	Mo	-0.002450	0.000000	No
			Co	0.002248	0.000000	No
			Ti	-0.000500	0.000000	No
			Mn	0.000370	0.000000	No
			V	-0.012340	0.000000	No
Pb 220.353 {453}	☒	6	Mo	-0.001480	0.000000	No
			Al	-0.000075	0.000000	No
			Cu	0.001400	0.000000	No
			Fe	0.000030	0.000000	No
			Mn	0.000340	0.000000	No
			Ni	0.000630	0.000000	No
Se 196.090 {472}	☒	3	Fe	-0.000308	0.000000	No
			Mn	0.000470	0.000000	No
			Co	-0.000630	0.000000	No
Sb 206.833 {463}	☒	4	Cr	0.010700	0.000000	No
			V	-0.001168	0.000000	No
			Mo	-0.002850	0.000000	No
			Ni	-0.000440	0.000000	No
Al 396.152 { 85}	☒	1	Mo	0.037230	0.000000	No
Ba 493.409 { 68}	☐	None				
Be 234.861 {144}	☒	3	Mo	-0.000320	0.000000	No
			Fe	0.000010	0.000000	No
			Mn	-0.000047	0.000000	No
Cd 214.438 {457}	☒	1	Fe	0.000040	0.000000	No
Ca 373.690 { 90}	☐	None				
Cr 267.716 {126}	☒	1	Mn	0.000160	0.000000	No
Co 228.616 {448}	☒	2	Ti	0.001840	0.000000	No
			Mo	-0.001230	0.000000	No
Cu 324.754 {104}	☒	4	Co	-0.000796	0.000000	No
			Fe	-0.000100	0.000000	No
			Mn	0.000345	0.000000	No
			Ni	0.000895	0.000000	No
Fe 259.837 {130}	☐	None				
Mn 257.610 {131}	☒	1	Ni	0.000897	0.000000	No
Mg 279.079 {121}	☐	None				
Ni 231.604 {446}	☐	None				
Ag 328.068 {103}	☒	3	Fe	-0.000100	0.000000	No
			Mn	0.000146	0.000000	No
			V	-0.000889	0.000000	No
Na 818.326 { 41}	☐	None				
V 292.402 {115}	☒	2	Mo	-0.008480	0.000000	No
			Cr	-0.002220	0.000000	No
Zn 206.200 {464}	☐	None				
Zn 213.856 {158}	☒	1	Ni	0.007280	0.000000	No
K 769.896 { 44}	☐	None				
P 177.495 {490}	☒	2	Ni	0.001640	0.000000	No
			Cu	-0.012530	0.000000	No
B 249.678 {135}	☒	3	Co	0.002880	0.000000	No
			V	-0.002000	0.000000	No
			Fe	-0.001360	0.000000	No
Mo 202.030 {467}	☐	None				
S 182.034 {485}	☒	2	Mo	-0.008000	0.000000	No
			Mn	0.002700	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Si 251.611 {134}	☒	2	Mo	0.010520	0.000000	No
			Ti	0.005650	0.000000	No
Sn 189.989 {478}	☐	None				
Ti 336.121 {100}	☒	1	Ni	-0.001000	0.000000	No
Li 670.784 { 50}	☐	None				
Y 224.306 {450}*	☐	None				
Y 360.073 { 94}*	☐	None				
Y 371.030 { 91}*	☐	None				
Y 224.306 {150}*	☐	None				
In 230.606 {446}*	☐	None				
Sr 407.771 { 83}	☐	None				

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/30/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 13:35
In Date: 10/29/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 07:55
Out Date: 10/30/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133186

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4589-01	MYE5L0	1	1.15	8.80	9.95	9.37	93.4	
P4589-02	MYE5L1	2	1.16	8.47	9.63	9.2	94.9	
P4589-03	MYE5L2	3	1.18	8.45	9.63	9.35	96.7	
P4589-04	MYE5M3	4	1.15	8.54	9.69	9.57	98.6	
P4589-05	MYE5M4	5	1.17	8.53	9.7	9.41	96.6	
P4589-06	MYE5M5	6	1.15	8.48	9.63	9.44	97.8	
P4589-07	MYE5M6	7	1.15	8.73	9.88	9.51	95.8	
P4589-08	MYE5M7	8	1.13	8.42	9.55	9.48	99.2	
P4589-09	MYE5M8	9	1.13	8.51	9.64	9.36	96.7	
P4589-10	MYE5M9	10	1.16	8.42	9.58	9.42	98.1	
P4589-11	MYE5N0	11	1.17	8.76	9.93	9.75	97.9	
P4589-12	MYE5N1	12	1.16	8.43	9.59	9.43	98.1	
P4589-13	MYE5N2	13	1.15	8.44	9.59	9.36	97.3	
P4589-14	MYE5N2D	14	1.15	8.44	9.59	9.36	97.3	
P4589-15	MYE5N2S	15	1.15	8.44	9.59	9.36	97.3	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

WS 133186

WorkList Name : %1-p4589 **WorkList ID :** 184902 **Department :** Wet-Chemistry **Date :** 10-29-2024 11:35:39

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4589-01	MYE5L0	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-02	MYE5L1	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-03	MYE5L2	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-04	MYE5M3	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-05	MYE5M4	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-06	MYE5M5	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-07	MYE5M6	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-08	MYE5M7	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-09	MYE5M8	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-10	MYE5M9	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-11	MYE5N0	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-12	MYE5N1	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-13	MYE5N2	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-14	MYE5N2D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO
P4589-15	MYE5N2S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q31	04/25/2024	Chemtech -SO

Date/Time 10/29/24 13:00
Raw Sample Received by: [signature]
Raw Sample Relinquished by: [signature]

Date/Time 10/29/24 13:40
Raw Sample Received by: [signature]
Raw Sample Relinquished by: [signature]