SDG COVER PAGE

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

Lab Code: ACE Case No.: 51772 MA No.: 3225.1,3226.1 SDG No.: MYDA19

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYDA19	P4294-01	X	X		
MYDA20	P4294-02	X	X		
MYDA21	P4294-03	X	X		
MYDA22	P4294-04	X	X		
MYDA23	P4294-05	X	X		
MYDA24	P4294-06	X	X		
MYDA25	P4294-07	X	X		
MYDA26	P4294-08	X	X		
MYDA27	P4294-09	X	X		
MYDA28	P4294-10	X	X		
MYDA29	P4294-11	X	X		
MYDA30	P4294-12	X	X		
MYDA31	P4294-13	X	X		
MYDA32	P4294-14	X	X		
MYDA33	P4294-15	X	X		
MYDA34	P4294-16	X	X		
MYDA35	P4294-17	X	X		
MYDA36	P4294-18	X	X		
MYDA37	P4294-19	X	X		
MYDA42	P4294-20	X	X		
MYDA42D	P4294-21	X	X		
MYDA42S	P4294-22	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: _____

68HERH20D0011

SDG # MYDA19

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 3804

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-072

No: 9-061924-140930-0072

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
90376-B-0003-01	MYDA18	Soil/ REAC	Grab	ICP-AES 11(21)	9-4976 (None) (1)	90376-B-0003	06/18/2024 16:39	
90376-E-0007-01	MYDA19	Soil/ REAC	Grab	ICP-AES 11(21)	9-4977 (None) (1)	90376-E-0007	06/18/2024 17:09	✓
90376-E-0010-01	MYDA20	Soil/ REAC	Grab	ICP-AES 11(21)	9-4978 (None) (1)	90376-E-0010	06/18/2024 17:10	✓
90376-E-0004-01	MYDA21	Soil/ REAC	Grab	ICP-AES 11(21)	9-4979 (None) (1)	90376-E-0004	06/18/2024 17:12	✓
90376-F-0002-01	MYDA22	Soil/ REAC	Grab	ICP-AES 11(21)	9-4980 (None) (1)	90376-F-0002	06/18/2024 14:17	✓
90376-F-0010-01	MYDA23	Soil/ REAC	Grab	ICP-AES 11(21)	9-4981 (None) (1)	90376-F-0010	06/18/2024 14:19	✓
90376-F-0006-01	MYDA24	Soil/ REAC	Grab	ICP-AES 11(21)	9-4982 (None) (1)	90376-F-0006	06/18/2024 14:20	✓
90376-F-0004-01	MYDA25	Soil/ REAC	Grab	ICP-AES 11(21)	9-4983 (None) (1)	90376-F-0004	06/18/2024 14:22	✓
90376-E-0009-01	MYDA26	Soil/ REAC	Grab	ICP-AES 11(21)	9-4984 (None) (1)	90376-E-0009	06/18/2024 16:50	✓
90376-C-0001-01	MYDA27	Soil/ REAC	Grab	ICP-AES 11(21)	9-4985 (None) (1)	90376-C-0001	06/18/2024 16:19	✓
90376-B-0011-01	MYDA28	Soil/ REAC	Grab	ICP-AES 11(21)	9-4986 (None) (1)	90376-B-0011	06/18/2024 15:50	✓
90376-B-0001-01	MYDA29	Soil/ REAC	Grab	ICP-AES 11(21)	9-4987 (None) (1)	90376-B-0001	06/18/2024 15:52	✓
90376-B-0007-01	MYDA30	Soil/ REAC	Grab	ICP-AES 11(21)	9-4988 (None) (1)	90376-B-0007	06/18/2024 15:52	✓
90376-C-0009-01	MYDA31	Soil/ REAC	Grab	ICP-AES 11(21)	9-4989 (None) (1)	90376-C-0009	06/18/2024 16:07	✓
90376-C-0009-02	MYDA32	Soil/ REAC	Grab	ICP-AES 11(21)	9-4990 (None) (1)	90376-C-0009	06/18/2024 16:08	✓
90376-C-0010-01	MYDA33	Soil/ REAC	Grab	ICP-AES 11(21)	9-4991 (None) (1)	90376-C-0010	06/18/2024 16:09	✓
90376-E-0002-01	MYDA34	Soil/ REAC	Grab	ICP-AES 11(21)	9-4992 (None) (1)	90376-E-0002	06/18/2024 16:43	✓
90376-C-0011-01	MYDA35	Soil/ REAC	Grab	ICP-AES 11(21)	9-4993 (None) (1)	90376-C-0011	06/18/2024 16:14	✓
90376-F-0001-01	MYDA36	Soil/ REAC	Grab	ICP-AES 11(21)	9-4994 (None) (1)	90376-F-0001	06/18/2024 14:28	✓

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

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-AES 11=ICP-AES 11+Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Sent TO LAB	WESSON	10/3/24 1600	R. Melendez	10/4/24 9:39	
					IR Gun #1 22.6 C
					Custody Seal intact
					No Temp/NO ICE

68HERH20D0011

SDG # MYDA19

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 3804

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-072

No: 9-061924-140930-0072
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
90376-C-0012-01	MYDA37	Soil/ REAC	Grab	ICP-AES 11(21)	9-4995 (None) (1)	90376-C-0012	06/18/2024 16:22	✓
90376-C-0008-01	MYDA38	Soil/ REAC	Grab	ICP-AES 11(21)	9-4996 (None) (1)	90376-C-0008	06/18/2024 16:24	
90376-A-0006-01	MYDA39	Soil/ REAC	Grab	ICP-AES 11(21)	9-4997 (None) (1)	90376-A-0006	06/18/2024 15:25	
90376-A-0012-01	MYDA40	Soil/ REAC	Grab	ICP-AES 11(21)	9-4998 (None) (1)	90376-A-0012	06/18/2024 15:27	
90376-A-0005-01	MYDA41	Soil/ REAC	Grab	ICP-AES 11(21)	9-4999 (None) (1)	90376-A-0005	06/18/2024 15:28	
90376-F-0011-03	MYDA42	Soil/ REAC	Grab	ICP-AES 11(21)	9-5000 (None) (1)	90376-F-0011	06/18/2024 14:25	✓

Sample(s) to be used for Lab QC: 90376-F-0011-03 Tag 9-5000 - 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

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: ICP-AES 11=ICP-AES 11+Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
SHIP TO LAB	WESTON	10/3/24 1600	R. Melendez	10/4/24 9:39	IR Gun #1 22.1°C
					Custody seal intact
					NO Temp / NO ICE

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 1
Received By (Print Name) Cassandra Reis		Log-in Date 10/4/2024
Received By (Signature)		
Case Number 51772	SDG No. MYDA19	MA No. 3225.1,3226.1

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	n/a
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	779000573804 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	22.1 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	10/04/2024
12.Time Received	09:39

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MYDA19	N/A	9-4977	P4294-01	Intact
2	MYDA20	N/A	9-4978	P4294-02	Intact
3	MYDA21	N/A	9-4979	P4294-03	Intact
4	MYDA22	N/A	9-4980	P4294-04	Intact
5	MYDA23	N/A	9-4981	P4294-05	Intact
6	MYDA24	N/A	9-4982	P4294-06	Intact
7	MYDA25	N/A	9-4983	P4294-07	Intact
8	MYDA26	N/A	9-4984	P4294-08	Intact
9	MYDA27	N/A	9-4985	P4294-09	Intact
10	MYDA28	N/A	9-4986	P4294-10	Intact
11	MYDA29	N/A	9-4987	P4294-11	Intact
12	MYDA30	N/A	9-4988	P4294-12	Intact
13	MYDA31	N/A	9-4989	P4294-13	Intact
14	MYDA32	N/A	9-4990	P4294-14	Intact
15	MYDA33	N/A	9-4991	P4294-15	Intact
16	MYDA34	N/A	9-4992	P4294-16	Intact
17	MYDA35	N/A	9-4993	P4294-17	Intact
18	MYDA36	N/A	9-4994	P4294-18	Intact
19	MYDA37	N/A	9-4995	P4294-19	Intact
20	MYDA42	N/A	9-5000	P4294-20	Intact
21	MYDA42D	N/A	9-5000	P4294-21	Intact
22	MYDA42S	N/A	9-5000	P4294-22	Intact
23	N/A	N/A	N/A	N/A	N/A

* Contact SMO and attach record of resolution

Reviewed By		Logbook No.	N/A
Date	10/4/24	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.	**51772**	SDG NO.	**MYDA19**
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	3	✓	
3 . Sample Log-In Sheet (DC-1)	4	4	✓	
4 . CSF Inventory Sheet (DC-2)	5	7	✓	
5 . SDG Narrative	8	17	✓	
6 . Communication Logs	NA	NA	✓	
7 . Percent Solids Log	18	20	✓	
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	21	40	✓	
9 . Instrument raw data by instrument in analysis order	41	721	✓	
Other Data				
10 . Standard and Reagent Preparation Logs	722	876	✓	
11 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	877	878	✓	
12 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	879	896	✓	
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	897	916	✓	
18 . Instrument raw data by instrument in analysis order	917	1948	✓	
Other Data				
19 . Standard and Reagent Preparation Logs	1949	2088	✓	
20 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	2089	2090	✓	
21 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	2091	2107	✓	
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)	2108	2108	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	2109	2111	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	2112	2115	✓	
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 # MYDA19
CASE # 51772
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4294
MODIFIED ANALYSIS #3225.1, 3226.1

A. Number of Samples and Date of Receipt

20 Soil samples were delivered to the laboratory intact on 10/04/2024.

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: 22.1^{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.

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.

F. Analytical Techniques:

All analyses were based on CLP Methodology by method SFAM01.1.

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Mountainside, NJ 07092

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 MYDA19 For Arsenic:

If C = 0.3717089 ppm
Vf = 100 ml
W = 1.14g
S = 0.994(99.4/100)
DF = 2

$$\text{Concentration (mg/kg)} = 0.3717089 \times \frac{100}{1.14 \times 0.994} \times 2$$

$$= 65.6057 \text{ mg/kg}$$

$$= 66 \text{ mg/kg (Reported Result with Signification)}$$

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 MYDA19 For Antimony :

If C = 20.24 ppb
Vf = 500 ml
W = 1.14 g
S = 0.994(99.4/100)
DF = 1

$$\text{Concentration (mg/kg)} = 20.24 \times \frac{500}{1.14 \times 0.994} \times 1 / 1000$$

= 8.93077 mg/kg

= 8.9 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, Copper Selenium, Zinc. 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.

Internal Standard Association for ICP-MS analysis.

Target Analyte	Associated Internal Standard
Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Chromium	45Sc
Cobalt	45Sc

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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: 09/04/2024	**MA:** 3225.0	**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.
  - 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: 09/04/2024	**MA:** 3226.0	**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.
  - 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: 10/7/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 13:50
In Date: 10/06/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 07:50
Out Date: 10/07/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB132786

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
P4294-01	MYDA19	1	1.18	8.44	9.62	9.57	99.4	
P4294-02	MYDA20	2	1.17	8.57	9.74	9.7	99.5	
P4294-03	MYDA21	3	1.18	8.74	9.92	9.82	98.9	
P4294-04	MYDA22	4	1.18	8.57	9.75	9.71	99.5	
P4294-05	MYDA23	5	1.17	8.60	9.77	9.74	99.7	
P4294-06	MYDA24	6	1.14	8.83	9.97	9.87	98.9	
P4294-07	MYDA25	7	1.15	8.80	9.95	9.9	99.4	
P4294-08	MYDA26	8	1.18	8.40	9.58	9.35	97.3	
P4294-09	MYDA27	9	1.18	8.51	9.69	9.58	98.7	
P4294-10	MYDA28	10	1.19	8.47	9.66	9.55	98.7	
P4294-11	MYDA29	11	1.15	8.83	9.98	9.9	99.1	
P4294-12	MYDA30	12	1.17	8.61	9.78	9.73	99.4	
P4294-13	MYDA31	13	1.15	8.65	9.8	9.72	99.1	
P4294-14	MYDA32	14	1.17	8.60	9.77	9.68	99.0	
P4294-15	MYDA33	15	1.18	8.44	9.62	9.55	99.2	
P4294-16	MYDA34	16	1.18	8.64	9.82	9.77	99.4	
P4294-17	MYDA35	17	1.16	8.77	9.93	9.8	98.5	
P4294-18	MYDA36	18	1.19	8.63	9.82	9.8	99.8	
P4294-19	MYDA37	19	1.18	8.53	9.71	9.66	99.4	
P4294-20	MYDA42	20	1.16	8.60	9.76	9.66	98.8	
P4294-21	MYDA42D	21	1.16	8.60	9.76	9.66	98.8	
P4294-22	MYDA42S	22	1.16	8.60	9.76	9.66	98.8	

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

WORKLIST(Hardcopy Internal Chain)

WB 132786

WorkList Name : %1-p4294 **WorkList ID :** 184155 **Department :** Wet-Chemistry **Date :** 10-06-2024 08:38:27

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4294-01	MYDA19	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-02	MYDA20	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-03	MYDA21	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-04	MYDA22	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-05	MYDA23	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-06	MYDA24	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-07	MYDA25	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-08	MYDA26	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-09	MYDA27	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-10	MYDA28	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-11	MYDA29	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-12	MYDA30	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-13	MYDA31	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-14	MYDA32	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-15	MYDA33	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-16	MYDA34	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-17	MYDA35	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-18	MYDA36	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-19	MYDA37	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-20	MYDA42	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO
P4294-21	MYDA42D	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO

Date/Time 10/06/24 13:30

Raw Sample Received by: JD WC

Raw Sample Relinquished by: CP SM

Date/Time 10/06/24 14:00

Raw Sample Received by: CP SM

Raw Sample Relinquished by: JD WC

WORKLIST(Hardcopy Internal Chain)

WB 132786

WorkList Name : %1-p4294 **WorkList ID :** 184155 **Department :** Wet-Chemistry **Date :** 10-06-2024 08:38:27

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4294-22	MYDA42S	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/18/2024	Chemtech -SO

Date/Time 10/06/24 13:30

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

Date/Time 14:00

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]