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.: MYDAZ2

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method			
		ICP-AES	ICP-MS	Mercury	Cyanide
MYDAZ2	P4312-01	X	X		
MYDAZ3	P4312-02	X	X		
MYDAZ4	P4312-03	X	X		
MYDAZ5	P4312-04	X	X		
MYDAZ6	P4312-05	X	X		
MYDAZ7	P4312-06	X	X		
MYDAZ8	P4312-07	X	X		
MYDAZ9	P4312-08	X	X		
MYDB00	P4312-09	X	X		
MYDB01	P4312-10	X	X		
MYDB02	P4312-11	X	X		
MYDB03	P4312-12	X	X		
MYDB04	P4312-13	X	X		
MYDB05	P4312-14	X	X		
MYDB07	P4312-15	X	X		
MYDB08	P4312-16	X	X		
MYDB09	P4312-17	X	X		
MYDB10	P4312-18	X	X		
MYDB11	P4312-19	X	X		
MYDB17	P4312-20	X	X		
MYDB17D	P4312-21	X	X		
MYDB17S	P4312-22	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: _____

USEPA CLP COC (LAB COPY)

CHAIN OF CUSTODY RECORD

68HERH20D0011

SDG # MYDAZ2

No: 9-062124-085536-0078

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 6067

Case #: 51772
Cooler #: 51772-078

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
1108-J-0001-01	MYDAZ2	Soil/ REAC	Grab	ICP-AES 11(21)	9-5270 (None) (1)	1108-J-0001	06/20/2024 11:25	1
1108-I-0003-01	MYDAZ3	Soil/ REAC	Grab	ICP-AES 11(21)	9-5271 (None) (1)	1108-I-0003	06/20/2024 11:25	2
1108-J-0003-01	MYDAZ4	Soil/ REAC	Grab	ICP-AES 11(21)	9-5272 (None) (1)	1108-J-0003	06/20/2024 11:29	3
1108-J-0004-01	MYDAZ5	Soil/ REAC	Grab	ICP-AES 11(21)	9-5273 (None) (1)	1108-J-0004	06/20/2024 11:37	4
1108-H-0003-01	MYDAZ6	Soil/ REAC	Grab	ICP-AES 11(21)	9-5274 (None) (1)	1108-H-0003	06/20/2024 13:19	5
1108-G-0009-01	MYDAZ7	Soil/ REAC	Grab	ICP-AES 11(21)	9-5275 (None) (1)	1108-G-0009	06/20/2024 13:20	6
1108-G-0006-01	MYDAZ8	Soil/ REAC	Grab	ICP-AES 11(21)	9-5276 (None) (1)	1108-G-0006	06/20/2024 13:22	8
1108-H-0010-01	MYDAZ9	Soil/ REAC	Grab	ICP-AES 11(21)	9-5277 (None) (1)	1108-H-0010	06/20/2024 13:23	7
1108-G-0008-01	MYDB00	Soil/ REAC	Grab	ICP-AES 11(21)	9-5278 (None) (1)	1108-G-0008	06/20/2024 13:24	9
1108-L-0003-01	MYDB01	Soil/ REAC	Grab	ICP-AES 11(21)	9-5279 (None) (1)	1108-L-0003	06/20/2024 10:54	10
1108-C-0005-01	MYDB02	Soil/ REAC	Grab	ICP-AES 11(21)	9-5280 (None) (1)	1108-C-0005	06/20/2024 08:29	11
1108-G-0011-01	MYDB03	Soil/ REAC	Grab	ICP-AES 11(21)	9-5281 (None) (1)	1108-G-0011	06/20/2024 13:39	12
1108-G-0001-01	MYDB04	Soil/ REAC	Grab	ICP-AES 11(21)	9-5282 (None) (1)	1108-G-0001	06/20/2024 13:41	13
1108-G-0005-01	MYDB05	Soil/ REAC	Grab	ICP-AES 11(21)	9-5283 (None) (1)	1108-G-0005	06/20/2024 13:43	14
1108-H-0007-03	MYDB06	Soil/ REAC	Grab	ICP-AES 11(21)	9-5284 (None) (1)	1108-H-0007	06/20/2024 13:44	
1108-M-0001-01	MYDB07	Soil/ REAC	Grab	ICP-AES 11(21)	9-5285 (None) (1)	1108-M-0001	06/20/2024 13:44	15
1108-H-0011-01	MYDB08	Soil/ REAC	Grab	ICP-AES 11(21)	9-5286 (None) (1)	1108-H-0011	06/20/2024 13:47	16
1108-M-0006-01	MYDB09	Soil/ REAC	Grab	ICP-AES 11(21)	9-5287 (None) (1)	1108-M-0006	06/20/2024 13:47	17
1108-H-0005-01	MYDB10	Soil/ REAC	Grab	ICP-AES 11(21)	9-5288 (None) (1)	1108-H-0005	06/20/2024 13:49	18

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

Sample(s) to be used for Lab QC: 1108-H-0007-03 Tag 9-5284 - 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 #

Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
[signature] WESTON	10/3/24 1600	R. Mahendra	10/4/24 9:39	IR Gun #1 22.3°C Custody seal intact No Temp /no Ice

Items/Reason: Ship to LAS

USEPA CLP COC (LAB COPY)

CHAIN OF CUSTODY RECORD

68HERH20D0011

DateShipped: 10/3/2024

CarrierName: FedEx

AirbillNo: 7790 0057 6067

Case #: 51772

Cooler #: 51772-078

SDG # MYDAZ2

No: 9-062124-085536-0078

Lab: Alliance Technical Group LLC
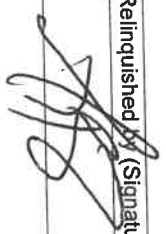
Lab Contact: Mohammad Ahmed

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
1108-M-0010-01	MYDB11	Soil/ REAC	Grab	ICP-AES 11(21)	9-5289 (None) (1)	1108-M-0010	06/20/2024 13:52	19
1108-A-0004-01	MYDB12	Soil/ REAC	Grab	ICP-AES 11(21)	9-5290 (None) (1)	1108-A-0004	06/20/2024 08:24	
1108-C-0006-01	MYDB13	Soil/ REAC	Grab	ICP-AES 11(21)	9-5291 (None) (1)	1108-C-0006	06/20/2024 08:25	
1108-C-0004-01	MYDB14	Soil/ REAC	Grab	ICP-AES 11(21)	9-5292 (None) (1)	1108-C-0004	06/20/2024 08:26	
1108-A-0005-01	MYDB15	Soil/ REAC	Grab	ICP-AES 11(21)	9-5293 (None) (1)	1108-A-0005	06/20/2024 08:46	
1108-A-0007-01	MYDB16	Soil/ REAC	Grab	ICP-AES 11(21)	9-5294 (None) (1)	1108-A-0007	06/20/2024 08:28	
1108-B-0002-03	MYDB17	Soil/ REAC	Grab	ICP-AES 11(21)	9-5295 (None) (1)	1108-B-0002	06/20/2024 08:44	20-0e
1108-C-0005-02	MYDB18	Soil/ REAC	Grab	ICP-AES 11(21)	9-5296 (None) (1)	1108-C-0005	06/20/2024 08:30	
1108-A-0006-01	MYDB19	Soil/ REAC	Grab	ICP-AES 11(21)	9-5297 (None) (1)	1108-A-0006	06/20/2024 08:32	
1108-C-0001-01	MYDB20	Soil/ REAC	Grab	ICP-AES 11(21)	9-5298 (None) (1)	1108-C-0001	06/20/2024 08:33	
1108-C-0007-01	MYDB21	Soil/ REAC	Grab	ICP-AES 11(21)	9-5299 (None) (1)	1108-C-0007	06/20/2024 08:33	
1108-C-0002-01	MYDB22	Soil/ REAC	Grab	ICP-AES 11(21)	9-5300 (None) (1)	1108-C-0002	06/20/2024 08:34	

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

Sample(s) to be used for Lab QC: 1108-B-0002-03 Tag 9-5295 - 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 #

Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
(signature) WESTON	10/3/24 1600	R. Mohuly	10/4/24 9:39	Ice Gun # 1 22.3°C

Items/Reason

SHP To LAB

Custody seal intact

No Temp/no Ice

Lab Name : Alliance Technical Group, LLC	Page 1 of 1
Received By (Print Name) Cassyjava Riner	Log-in Date 10/4/2024
Received By (Signature)	
Case Number 51772	SDG No. MYDAZ2	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.	779000576067 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	22.3 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		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1	MYDAZ2	N/A	9-5270	P4312-01	Intact
2	MYDAZ3	N/A	9-5271	P4312-02	Intact
3	MYDAZ4	N/A	9-5272	P4312-03	Intact
4	MYDAZ5	N/A	9-5273	P4312-04	Intact
5	MYDAZ6	N/A	9-5274	P4312-05	Intact
6	MYDAZ7	N/A	9-5275	P4312-06	Intact
7	MYDAZ8	N/A	9-5276	P4312-07	Intact
8	MYDAZ9	N/A	9-5277	P4312-08	Intact
9	MYDB00	N/A	9-5278	P4312-09	Intact
10	MYDB01	N/A	9-5279	P4312-10	Intact
11	MYDB02	N/A	9-5280	P4312-11	Intact
12	MYDB03	N/A	9-5281	P4312-12	Intact
13	MYDB04	N/A	9-5282	P4312-13	Intact
14	MYDB05	N/A	9-5283	P4312-14	Intact
15	MYDB07	N/A	9-5285	P4312-15	Intact
16	MYDB08	N/A	9-5286	P4312-16	Intact
17	MYDB09	N/A	9-5287	P4312-17	Intact
18	MYDB10	N/A	9-5288	P4312-18	Intact
19	MYDB11	N/A	9-5289	P4312-19	Intact
20	MYDB17	N/A	9-5295	P4312-20	Intact
21	MYDB17D	N/A	9-5295	P4312-21	Intact
22	MYDB17S	N/A	9-5295	P4312-22	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

LAB NAME	**Alliance Technical Group, LLC**	
LAB CODE	**ACE**	
CONTRACT NO.	**68HERH20D0011**	
CASE NO.	**51772**	SDG NO. **MYDAZ2**
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)

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
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	394	✔	

Other Data

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
10. Standard and Reagent Preparation Logs	395	546	✔	
11. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	547	548	✔	
12. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	549	571	✔	
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)

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
17. Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	572	591	✔	
18. Instrument raw data by instrument in analysis order	592	2547	✔	

Other Data

	PAGE NOs: FROM	PAGE NOs: TO	CHECK LAB	CHECK REGION
19. Standard and Reagent Preparation Logs	2548	2688	✔	
20. Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	2689	2690	✔	
21. Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	2691	2709	✔	
22. Performance Evaluation (PE)/Proficiency Testing (PT) Sample Instructions	NA	NA	✔	

	FROM	TO	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)

	FROM	TO	LAB	REGION
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

	FROM	TO	LAB	REGION
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)

	FROM	TO	LAB	REGION
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

	FROM	TO	LAB	REGION
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	✔	

Additional

44. EPA Shipping/Receiving Documents

	PAGE NOs: FROM	TO	CHECK LAB	REGION
Airbill (No. of Shipments ___1___)	2710	2710	✔	
Sample Tags	NA	NA	✔	
Sample Log-In Sheet (Lab)	2711	2713	✔	

45. Misc. Shipping/Receiving Records(list all individual records)

	FROM	TO	LAB	REGION
_____	NA	NA	✔	
_____				
_____				

46. Internal Lab Sample Transfer Records and Tracking Sheets
    (describe or list)

	FROM	TO	LAB	REGION
_____	2714	2717	✔	
_____				

47. Other Records and related Communication Logs
    (describe or list)

	FROM	TO	LAB	REGION
_____	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)

SDG NARRATIVE

USEPA
SDG # MYDAZ2
CASE # 51772
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4312
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/<u>Absence</u>**

Cooler: 22.3°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.

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 MYDAZ2 For Antimony:

If C = 0.0056679 ppm
Vf = 100 ml
W = 1.20g
S = 0.986(98.6/100)
DF = 2

$$\text{Concentration (mg/kg)} = 0.0056679 \times \frac{100}{1.20 \times 0.986} \times 2$$

$$= 0.95806 \text{ mg/kg}$$

$$= 0.96 \text{ mg/kg (Reported Result with Signification)}$$

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)

284 Sheffield Street
Mountainside, NJ 07092
DF = Dilution Factor

Example Calculation For Sample MYDAZ2 For Antimony :

If C = ppb
   Vf = 500 ml
   W = 1.20 g
   S   = 0.986(98.6/100)
   DF = 1

Concentration (mg/kg) = x $\underline{\quad 500 \quad}$ x 1 / 1000
                                     1.20 x 0.986

= mg/kg

= 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, 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

Alliance
TECHNICAL GROUP

284 Sheffield Street
Mountainside, NJ 07092

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.

3225.0

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.

3226.0

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				

Alliance TECHNICAL GROUP

PERCENT SOLID

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

OVENTEMP IN Celsius(°C): 107
Time IN: 13:25
In Date: 10/09/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 07:40
Out Date: 10/10/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB132843

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
P4312-01	MYDAZ2	1	1.15	8.35	9.5	9.38	98.6	
P4312-02	MYDAZ3	2	1.18	8.53	9.71	9.51	97.7	
P4312-03	MYDAZ4	3	1.11	8.58	9.69	9.47	97.4	
P4312-04	MYDAZ5	4	1.17	8.64	9.81	9.63	97.9	
P4312-05	MYDAZ6	5	1.15	8.40	9.55	9.26	96.5	
P4312-06	MYDAZ7	6	1.15	8.46	9.61	9.47	98.3	
P4312-07	MYDAZ8	7	1.15	8.48	9.63	9.47	98.1	
P4312-08	MYDAZ9	8	1.15	8.48	9.63	9.44	97.8	
P4312-09	MYDB00	9	1.15	8.35	9.5	9.24	96.9	
P4312-10	MYDB01	10	1.13	8.56	9.69	9.4	96.6	
P4312-11	MYDB02	11	1.18	8.45	9.63	9.42	97.5	
P4312-12	MYDB03	12	1.15	8.47	9.62	9.44	97.9	
P4312-13	MYDB04	13	1.15	8.80	9.95	9.64	96.5	
P4312-14	MYDB05	14	1.15	8.37	9.52	9.27	97.0	
P4312-15	MYDB07	15	1.15	8.44	9.59	9.44	98.2	
P4312-16	MYDB08	16	1.15	8.35	9.5	9.39	98.7	
P4312-17	MYDB09	17	1.17	8.58	9.75	9.58	98.0	
P4312-18	MYDB10	18	1.17	8.40	9.57	9.34	97.3	
P4312-19	MYDB11	19	1.16	8.55	9.71	9.44	96.8	
P4312-20	MYDB17	20	1.14	8.47	9.61	9.51	98.8	
P4312-21	MYDB17D	21	1.14	8.47	9.61	9.51	98.8	
P4312-22	MYDB17S	22	1.14	8.47	9.61	9.51	98.8	

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

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-p4312

WorkList ID : 184275

Department : Wet-Chemistry

Date : 10-09-2024 12:13:00

VB 132843

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4312-01	MYDAZ2	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-02	MYDAZ3	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-03	MYDAZ4	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-04	MYDAZ5	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-05	MYDAZ6	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-06	MYDAZ7	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-07	MYDAZ8	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-08	MYDAZ9	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-09	MYDB00	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-10	MYDB01	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-11	MYDB02	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-12	MYDB03	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-13	MYDB04	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-14	MYDB05	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-15	MYDB07	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-16	MYDB08	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-17	MYDB09	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-18	MYDB10	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-19	MYDB11	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-20	MYDB17	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4312-21	MYDB17D	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO

Date/Time 10/09/24 12:50

Raw Sample Received by:

Raw Sample Relinqished by:

Date/Time 10/09/24 13:30

Raw Sample Received by:

Raw Sample Relinquished by:

Page 1 of 2

WORKLIST(Hardcopy Internal Chain)

U13 2843

WorkList Name : %1-p4312

Department : Wet-Chemistry

Date : 10-09-2024 12:13:00

WorkList ID : 184275

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4312-22	MYDB17S	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO

Date/Time 10/09/24 12.50

Raw Sample Received by: _Jsl (weoc)_

Raw Sample Relinquished by: _Qp Sm_

Date/Time 10/09/24 13.30

Raw Sample Received by: _Qp Sm_

Raw Sample Relinquished by: _Jsl (weoc)_