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.: MYE531

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYE531	P4570-01	X	X		
MYE531D	P4570-02	X	X		
MYE531S	P4570-03	X	X		
MYE537	P4570-04	X	X		
MYE538	P4570-05	X	X		
MYE539	P4570-06	X	X		
MYE540	P4570-07	X	X		
MYE541	P4570-08	X	X		
MYE542	P4570-09	X	X		
MYE563	P4570-10	X	X		
MYE564	P4570-11	X	X		
MYE565	P4570-12	X	X		
MYE566	P4570-13	X	X		
MYE567	P4570-14	X	X		
MYE568	P4570-15	X	X		
MYE569	P4570-16	X	X		
MYE570	P4570-17	X	X		
MYE571	P4570-18	X	X		
MYE572	P4570-19	X	X		
MYE573	P4570-20	X	X		
MYE574	P4570-21	X	X		
MYE575	P4570-22	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#MYE531

USEPA CLP COC (LAB COPY)
DateShipped: 10/24/2024
CarrierName: FedEx
AirbillNo: 7793 0503 8463

CHAIN OF CUSTODY RECORD

Case #: 51817
Cooler #: EPA Cooler 08

No: 9-101424-084531-0143
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-J-0004-01	MYE525	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8193 (None) (1)	90029-J-0004	04/24/2024 11:03	
90029-J-0005-01	MYE526	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8194 (None) (1)	90029-J-0005	04/24/2024 10:44	
90029-J-0006-01	MYE527	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8195 (None) (1)	90029-J-0006	04/24/2024 11:06	
90029-J-0007-01	MYE528	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8196 (None) (1)	90029-J-0007	04/24/2024 10:33	
90029-J-0008-01	MYE529	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8197 (None) (1)	90029-J-0008	04/24/2024 10:48	
90029-J-0009-01	MYE530	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8198 (None) (1)	90029-J-0009	04/24/2024 10:30	
90029-J-0010-03	MYE531	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8199 (None) (1)	90029-J-0010	04/24/2024 10:59	QC
90029-J-0011-01	MYE532	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8200 (None) (1)	90029-J-0011	04/24/2024 10:42	/
90029-L-0001-01	MYE533	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8201 (None) (1)	90029-L-0001	04/24/2024 16:44	
90029-L-0002-01	MYE534	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8202 (None) (1)	90029-L-0002	04/24/2024 16:32	
90029-L-0003-01	MYE535	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8203 (None) (1)	90029-L-0003	04/24/2024 16:58	
90029-L-0004-01	MYE536	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8204 (None) (1)	90029-L-0004	04/24/2024 16:20	
90029-L-0005-01	MYE537	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8205 (None) (1)	90029-L-0005	04/24/2024 16:38	
90029-L-0006-01	MYE538	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8206 (None) (1)	90029-L-0006	04/24/2024 16:24	
90029-L-0007-01	MYE539	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8207 (None) (1)	90029-L-0007	04/24/2024 16:52	
90029-L-0008-01	MYE540	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8208 (None) (1)	90029-L-0008	04/24/2024 16:08	
90029-L-0009-01	MYE541	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8209 (None) (1)	90029-L-0009	04/24/2024 16:48	
90029-L-0010-01	MYE542	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8210 (None) (1)	90029-L-0010	04/24/2024 16:36	
90029-L-0011-03	MYE543	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8211 (None) (1)	90029-L-0011	04/24/2024 16:28	QC

Sample(s) to be used for Lab QC: 90029-J-0010-03 Tag 9-8199, 90029-L-0011-03 Tag 9-8211 - 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 057867	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
	Larry Whitten R9 ESAT	10/18/24 16:00		0948 10-25-2024	Temp 18.1°C IR Gun #1
					Custody seal intact
					Temp BK not present

68HERH20D0011

SDG#MYE531

USEPA CLP COC (LAB COPY)
DateShipped: 10/24/2024
CarrierName: FedEx
AirbillNo: 7793 0503 8577

CHAIN OF CUSTODY RECORD

Case #: 51817
Cooler #: EPA Cooler 09

No: 9-101424-084539-0144
Lab: Alliance Technical Group LLC
Lab Contact: Mohammad Ahmed
Lab Phone: 908-726-3151

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
242-A-001-01	MYE563	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8231 (None) (1)	242-A-001	04/26/2024 09:00	
242-A-002-01	MYE564	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8232 (None) (1)	242-A-002	04/26/2024 08:58	
242-A-003-01	MYE565	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8233 (None) (1)	242-A-003	04/26/2024 08:51	
242-A-004-01	MYE566	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8234 (None) (1)	242-A-004	04/26/2024 08:37	
242-A-004-02	MYE567	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8235 (None) (1)	242-A-004	04/26/2024 08:38	
242-A-005-01	MYE568	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8236 (None) (1)	242-A-005	04/26/2024 08:44	
242-A-006-01	MYE569	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8237 (None) (1)	242-A-006	04/26/2024 08:34	
242-A-007-01	MYE570	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8238 (None) (1)	242-A-007	04/26/2024 08:54	
242-A-008-01	MYE571	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8239 (None) (1)	242-A-008	04/26/2024 08:40	
242-B-001-01	MYE572	Soil/ REAC	Grab	ICP-AES and ICP-MS(21)	9-8240 (None) (1)	242-B-001	04/26/2024 09:22	
242-B-002-01	MYE573	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8241 (None) (1)	242-B-002	04/26/2024 09:23	
242-B-003-01	MYE574	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8242 (None) (1)	242-B-003	04/26/2024 09:22	
242-B-004-01	MYE575	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8243 (None) (1)	242-B-004	04/26/2024 08:56	
242-B-005-01	MYE576	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8244 (None) (1)	242-B-005	04/26/2024 09:07	
242-B-006-01	MYE577	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8245 (None) (1)	242-B-006	04/26/2024 09:25	
242-B-007-01	MYE578	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8246 (None) (1)	242-B-007	04/26/2024 09:19	
242-B-008-01	MYE579	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8247 (None) (1)	242-B-008	04/26/2024 09:11	
242-B-008-02	MYE580	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8248 (None) (1)	242-B-008	04/26/2024 09:11	
242-B-009-01	MYE581	Soil/ ERT	Grab	ICP-AES and ICP-MS(21)	9-8249 (None) (1)	242-B-009	04/26/2024 08:52	

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 057941

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
	Langdon Watkins R9 ESAT	10/18/24 16:05		0948 10.25.2024	Temp 18.3°C IR Gun #1
					Custody seal intact
					Temp BL NOT present

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 2
Received By (Print Name) Laxmana Rao		Log-in Date **10/25/2024**
Received By (Signature)		
Case Number 51817	SDG No. MYE531	MA No. 3225.1,3226.1

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	057867
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	779305038463 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	18.1 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	10/25/2024
12.Time Received	09:48

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MYE531	N/A	9-8199	P4570-01	Intact
2	MYE531D	N/A	9-8199	P4570-02	Intact
3	MYE531S	N/A	9-8199	P4570-03	Intact
4	MYE537	N/A	9-8205	P4570-04	Intact
5	MYE538	N/A	9-8206	P4570-05	Intact
6	MYE539	N/A	9-8207	P4570-06	Intact
7	MYE540	N/A	9-8208	P4570-07	Intact
8	MYE541	N/A	9-8209	P4570-08	Intact
9	MYE542	N/A	9-8210	P4570-09	Intact
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
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	S. M. Jodhani	Logbook No.	N/A
Date	10/25/2024	Logbook Page No.	N/A

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 2 of 2
Received By (Print Name) Cassgrave Lee		Log-in Date **10/25/2024**
Received By (Signature)		
Case Number 51817	SDG No. MYE531	MA No. 3225.1,3226.1

Remarks:	
1. Custody Seal (s)	Present, Intact
2. Custody Seal Nos.	057941
3. Traffic Reports/Chain Of Custody Records	Present
4. Airbill	Present
5. Airbill No. and Shipping Container ID No.	779305038577 2
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	18.3 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	10/25/2024
12.Time Received	09:48

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1	MYE563	N/A	9-8231	P4570-10	Intact
2	MYE564	N/A	9-8232	P4570-11	Intact
3	MYE565	N/A	9-8233	P4570-12	Intact
4	MYE566	N/A	9-8234	P4570-13	Intact
5	MYE567	N/A	9-8235	P4570-14	Intact
6	MYE568	N/A	9-8236	P4570-15	Intact
7	MYE569	N/A	9-8237	P4570-16	Intact
8	MYE570	N/A	9-8238	P4570-17	Intact
9	MYE571	N/A	9-8239	P4570-18	Intact
10	MYE572	N/A	9-8240	P4570-19	Intact
11	MYE573	N/A	9-8241	P4570-20	Intact
12	MYE574	N/A	9-8242	P4570-21	Intact
13	MYE575	N/A	9-8243	P4570-22	Intact
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
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		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.	**MYE531**
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	5	✓	
4 . CSF Inventory Sheet (DC-2)	6	8	✓	
5 . SDG Narrative	9	18	✓	
6 . Communication Logs	NA	NA	✓	
7 . Percent Solids Log	19	21	✓	
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	22	41	✓	
9 . Instrument raw data by instrument in analysis order	42	285	✓	
Other Data				
10 . Standard and Reagent Preparation Logs	286	426	✓	
11 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	427	428	✓	
12 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	429	443	✓	
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	444	463	✓	
18 . Instrument raw data by instrument in analysis order	464	2341	✓	
Other Data				
19 . Standard and Reagent Preparation Logs	2342	2482	✓	
20 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	2483	2484	✓	
21 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	2485	2503	✓	
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 2)	2504	2505	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	2506	2508	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	2509	2512	✓	
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 # MYE531
CASE # 51817
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4570
MODIFIED ANALYSIS #3225.1, 3226.1

A. Number of Samples and Date of Receipt

20 Soil samples were delivered to the laboratory intact on 10/25/2024

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: 18.1^{o}C, 18.3^{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.

284 Sheffield Street
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 MYE531 For Arsenic:

If C = 0.2279424 ppm
Vf = 100 ml
W = 1.24 g
S = 0.96(96.0/100)
DF = 2

$$\text{Concentration (mg/kg)} = 0.2279424 \times \frac{100}{1.24 \times 0.96} \times 2$$

$$= 38.29677 \text{ mg/kg}$$

$$= 38 \text{ mg/kg (Reported Result with Signification)}$$

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 MYE531 For Arsenic :

If C = 122.87 ppb
Vf = 500 ml
W = 1.24 g
S = 0.96(96.0/100)
DF = 1

$$\text{Concentration (mg/kg)} = 122.87 \times \frac{500}{1.24 \times 0.96} \times 1 / 1000$$

$$= 51.60870 \text{ mg/kg}$$

$$= 52 \text{ mg/kg (Reported Result with Signification)}$$

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. MS Spike sample (MYE531SRE)did meet requirements except for Silver. 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
Copper	45Sc

284 Sheffield Street
Mountainside, NJ 07092

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: 10/28/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 14:55
In Date: 10/27/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 07:38
Out Date: 10/28/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133155

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
P4570-01	MYE531	1	1.14	8.58	9.72	9.38	96.0	
P4570-02	MYE531D	2	1.14	8.58	9.72	9.38	96.0	
P4570-03	MYE531S	3	1.14	8.58	9.72	9.38	96.0	
P4570-04	MYE537	4	1.18	8.49	9.67	9.31	95.8	
P4570-05	MYE538	5	1.15	8.46	9.61	8.85	91.0	
P4570-06	MYE539	6	1.15	8.54	9.69	7.61	75.6	
P4570-07	MYE540	7	1.15	8.77	9.92	9.73	97.8	
P4570-08	MYE541	8	1.15	8.53	9.68	9.62	99.3	
P4570-09	MYE542	9	1.15	8.63	9.78	9.45	96.2	
P4570-10	MYE563	10	1.18	8.44	9.62	9.4	97.4	
P4570-11	MYE564	11	1.18	8.69	9.87	9.63	97.2	
P4570-12	MYE565	12	1.18	8.66	9.84	9.65	97.8	
P4570-13	MYE566	13	1.12	8.77	9.89	9.73	98.2	
P4570-14	MYE567	14	1.12	8.59	9.71	9.48	97.3	
P4570-15	MYE568	15	1.18	8.74	9.92	9.63	96.7	
P4570-16	MYE569	16	1.18	8.40	9.58	9.37	97.5	
P4570-17	MYE570	17	1.15	8.69	9.84	9.55	96.7	
P4570-18	MYE571	18	1.15	8.80	9.95	9.68	96.9	
P4570-19	MYE572	19	1.18	8.53	9.71	9.51	97.7	
P4570-20	MYE573	20	1.18	8.75	9.93	9.66	96.9	
P4570-21	MYE574	21	1.12	8.70	9.82	9.35	94.6	
P4570-22	MYE575	22	1.13	8.61	9.74	9.36	95.6	

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

WORKLIST(Hardcopy Internal Chain)

WB 133155

WorkList Name : %1-p4570 **WorkList ID :** 184838 **Department :** Wet-Chemistry **Date :** 10-27-2024 09:32:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4570-01	MYE531	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-02	MYE531D	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-03	MYE531S	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-04	MYE537	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-05	MYE538	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-06	MYE539	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-07	MYE540	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-08	MYE541	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-09	MYE542	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-10	MYE563	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/24/2024	Chemtech -SO
P4570-11	MYE564	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-12	MYE565	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-13	MYE566	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-14	MYE567	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-15	MYE568	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-16	MYE569	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-17	MYE570	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-18	MYE571	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-19	MYE572	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-20	MYE573	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO
P4570-21	MYE574	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO

Date/Time 10/27/24 14:20

Raw Sample Received by: JD WPC

Raw Sample Relinquished by: JD CSM

Date/Time 10/27/24 15:00

Raw Sample Received by: JD CSM

Raw Sample Relinquished by: JD Wolf

WORKLIST(Hardcopy Internal Chain)

JB 133155

WorkList Name : %1-p4570 **WorkList ID :** 184838 **Department :** Wet-Chemistry **Date :** 10-27-2024 09:32:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4570-22	MYE575	Solid	Percent Solids	Cool 4 deg C	USEP01	Q32	04/26/2024	Chemtech -SO

Date/Time 10/27/24 14:20

Raw Sample Received by: [signature]

Raw Sample Relinquished by: JD(SM)

Date/Time 10/27/24 15:00

Raw Sample Received by: JD(SM)

Raw Sample Relinquished by: [signature]