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.: MYDB73

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYDB73	P4316-01	X	X		
MYDB74	P4316-02	X	X		
MYDB75	P4316-03	X	X		
MYDB76	P4316-04	X	X		
MYDB77	P4316-05	X	X		
MYDB78	P4316-06	X	X		
MYDB79	P4316-07	X	X		
MYDB80	P4316-08	X	X		
MYDB81	P4316-09	X	X		
MYDB82	P4316-10	X	X		
MYDB83	P4316-11	X	X		
MYDB84	P4316-12	X	X		
MYDB85	P4316-13	X	X		
MYDB86	P4316-14	X	X		
MYDB87	P4316-15	X	X		
MYDB88	P4316-16	X	X		
MYDB88D	P4316-17	X	X		
MYDB88S	P4316-18	X	X		
MYDB89	P4316-19	X	X		
MYDB90	P4316-20	X	X		
MYDB91	P4316-21	X	X		
MYDBA8	P4316-22	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: N. N. Pandya Name:

Date: 10/29/2024 Title:

APPROVED
Nimisha Pandya, QA/QC Supervisor , 10/29/2024, 4:18:02 PM

68HERH20D0011

SDG # MYDB73

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 6181

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-080

No: 9-062124-091430-0080
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-0011-01	MYDB73	Soil/ REAC	Grab	ICP-AES 11(21)	9-5351 (None) (1)	1108-M-0011	06/20/2024 14:24	1
1108-E-0004-01	MYDB74	Soil/ REAC	Grab	ICP-AES 11(21)	9-5352 (None) (1)	1108-E-0004	06/20/2024 09:41	2
1108-E-0009-01	MYDB75	Soil/ REAC	Grab	ICP-AES 11(21)	9-5353 (None) (1)	1108-E-0009	06/20/2024 09:42	3
1108-E-0003-01	MYDB76	Soil/ REAC	Grab	ICP-AES 11(21)	9-5354 (None) (1)	1108-E-0003	06/20/2024 09:43	4
1108-E-0001-01	MYDB77	Soil/ REAC	Grab	ICP-AES 11(21)	9-5355 (None) (1)	1108-E-0001	06/20/2024 09:44	5
1108-H-0002-01	MYDB78	Soil/ REAC	Grab	ICP-AES 11(21)	9-5356 (None) (1)	1108-H-0002	06/20/2024 09:51	6
1108-K-0001-02	MYDB79	Soil/ REAC	Grab	ICP-AES 11(21)	9-5357 (None) (1)	1108-K-0001	06/20/2024 10:45	7
1108-L-0007-01	MYDB80	Soil/ REAC	Grab	ICP-AES 11(21)	9-5358 (None) (1)	1108-L-0007	06/20/2024 10:57	8
1108-D-0001-01	MYDB81	Soil/ REAC	Grab	ICP-AES 11(21)	9-5359 (None) (1)	1108-D-0001	06/20/2024 09:27	9
1108-M-0003-02	MYDB82	Soil/ REAC	Grab	ICP-AES 11(21)	9-5360 (None) (1)	1108-M-0003	06/20/2024 14:08	10
1108-M-0004-01	MYDB83	Soil/ REAC	Grab	ICP-AES 11(21)	9-5361 (None) (1)	1108-M-0004	06/20/2024 13:59	11
1108-M-0009-01	MYDB84	Soil/ REAC	Grab	ICP-AES 11(21)	9-5362 (None) (1)	1108-M-0009	06/20/2024 14:02	12
1108-M-0007-01	MYDB85	Soil/ REAC	Grab	ICP-AES 11(21)	9-5363 (None) (1)	1108-M-0007	06/20/2024 14:04	13
1108-D-0008-01	MYDB86	Soil/ REAC	Grab	ICP-AES 11(21)	9-5364 (None) (1)	1108-D-0008	06/20/2024 09:12	14
1108-M-0003-01	MYDB87	Soil/ REAC	Grab	ICP-AES 11(21)	9-5365 (None) (1)	1108-M-0003	06/20/2024 14:07	15
1108-H-0004-03	MYDB88	Soil/ REAC	Grab	ICP-AES 11(21)	9-5366 (None) (1)	1108-H-0004	06/20/2024 13:26	MS 16
1108-L-0001-01	MYDB89	Soil/ REAC	Grab	ICP-AES 11(21)	9-5367 (None) (1)	1108-L-0001	06/20/2024 14:08	17
1108-L-0011-01	MYDB90	Soil/ REAC	Grab	ICP-AES 11(21)	9-5368 (None) (1)	1108-L-0011	06/20/2024 14:10	18
1108-M-0012-01	MYDB91	Soil/ REAC	Grab	ICP-AES 11(21)	9-5369 (None) (1)	1108-M-0012	06/20/2024 14:10	19

Sample(s) to be used for Lab QC: 1108-H-0004-03 Tag 9-5366 - Special Instructions: ICP-AES 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, 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 LABS	[signature] ICF WESTON	10/3/24 1600	CR	939 10-4-24	IR Gun #1 23.2° C
					Custody Seal Intact
					no Temp Blank
					no ICE

68HERH20D0011

SDG # MYDB73

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 6181

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-080

No: 9-062124-091430-0080
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
107A_3-C-0005-01	MYDBA8	Soil/ REAC	Grab	ICP-AES 11(21)	9-5386 (None) (1)	107A_3-C-0005	06/21/2024 10:09	20
107A_3-A-0007-01	MYDBA9	Soil/ REAC	Grab	ICP-AES 11(21)	9-5387 (None) (1)	107A_3-A-0007	06/21/2024 10:10	
107A_3-C-0002-01	MYDBB0	Soil/ REAC	Grab	ICP-AES 11(21)	9-5388 (None) (1)	107A_3-C-0002	06/21/2024 10:10	
107A_3-C-0007-01	MYDBB1	Soil/ REAC	Grab	ICP-AES 11(21)	9-5389 (None) (1)	107A_3-C-0007	06/21/2024 10:11	
107A_3-A-0001-01	MYDBB2	Soil/ REAC	Grab	ICP-AES 11(21)	9-5390 (None) (1)	107A_3-A-0001	06/21/2024 10:12	
107A_3-C-0006-01	MYDBB3	Soil/ REAC	Grab	ICP-AES 11(21)	9-5391 (None) (1)	107A_3-C-0006	06/21/2024 10:13	

Special Instructions: ICP-AES 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, 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		939 10-4-24	TR-Cu#1 23.2°C
					Custody Seal Intact
					No Temp Blank.
					NO ICE

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 1
Received By (Print Name) Gassapara Rene		Log-in Date 10/4/2024
Received By (Signature)		
Case Number 51772	SDG No. MYDB73	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.	779000576181 1
6. Shipping Container Temperature Indicator Bottle	Absent
7. Shipping Container Temperature	23.2 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	MYDB73	N/A	9-5351	P4316-01	Intact
2	MYDB74	N/A	9-5352	P4316-02	Intact
3	MYDB75	N/A	9-5353	P4316-03	Intact
4	MYDB76	N/A	9-5354	P4316-04	Intact
5	MYDB77	N/A	9-5355	P4316-05	Intact
6	MYDB78	N/A	9-5356	P4316-06	Intact
7	MYDB79	N/A	9-5357	P4316-07	Intact
8	MYDB80	N/A	9-5358	P4316-08	Intact
9	MYDB81	N/A	9-5359	P4316-09	Intact
10	MYDB82	N/A	9-5360	P4316-10	Intact
11	MYDB83	N/A	9-5361	P4316-11	Intact
12	MYDB84	N/A	9-5362	P4316-12	Intact
13	MYDB85	N/A	9-5363	P4316-13	Intact
14	MYDB86	N/A	9-5364	P4316-14	Intact
15	MYDB87	N/A	9-5365	P4316-15	Intact
16	MYDB88	N/A	9-5366	P4316-16	Intact
17	MYDB88D	N/A	9-5366	P4316-17	Intact
18	MYDB88S	N/A	9-5366	P4316-18	Intact
19	MYDB89	N/A	9-5367	P4316-19	Intact
20	MYDB90	N/A	9-5368	P4316-20	Intact
21	MYDB91	N/A	9-5369	P4316-21	Intact
22	MYDBA8	N/A	9-5386	P4316-22	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.	**MYDB73**
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	18	21	✓	
7 . Percent Solids Log	22	24	✓	
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	25	44	✓	
9 . Instrument raw data by instrument in analysis order	45	350	✓	
Other Data				
10 . Standard and Reagent Preparation Logs	351	505	✓	
11 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	506	507	✓	
12 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	508	530	✓	
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	531	550	✓	
18 . Instrument raw data by instrument in analysis order	551	1816	✓	
Other Data				
19 . Standard and Reagent Preparation Logs	1817	1957	✓	
20 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	1958	1959	✓	
21 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	1960	1976	✓	
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)	1977	1977	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	1978	1980	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	1981	1984	✓	
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 # MYDB73
CASE # 51772
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4316
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: 23.2^{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.

Issue 2: Samples were shipped to the laboratory on 10/3/2024 with COC# 9-062124-091430-0080 (attached). The samples are scheduled for ICP-AES and ICP-MS analysis. However, the COCs only list ICP-AES analysis. Please confirm if the laboratory should proceed with all scheduled analyses and if an updated COC will be provided.

284 Sheffield Street
Mountainside, NJ 07092

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.

Resolution 2: Per Region 9, an updated copy of the COC has been attached. The laboratory should note the issue in the SDG Narrative and proceed with the analysis of the samples.

F. Analytical Techniques:

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

Inter Element correction factors (IECs) are determined annually and correction factor are applied during ICP-AES analysis.

G. Calculation:

Calculation for ICP-AES Soil Sample:

Conversion of Results from mg/L or ppm to mg/kg (Dry Weight Basis):

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

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 MYDB73 For Antimony:

If C = 0.0073529 ppm
Vf = 100 ml
W = 1.49g
S = 0.969(96.9/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.0073529 \times \frac{100}{1.49 \times 0.969} \times 1$$

$$= 1.0185 \text{ mg/kg}$$

$$= 1.0 \text{ mg/kg (Reported Result with Signification)}$$

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Mountainside, NJ 07092

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)
DF = Dilution Factor

Example Calculation For Sample MYDB73 For Antimony:

If C = 1.64 ppb
Vf = 500 ml
W = 1.49 g
S = 0.969(96.9/100)
DF = 1

$$\text{Concentration (mg/kg)} = 1.64 \times \frac{500}{1.49 \times 0.969} \times 1 / 1000$$

$$= 0.5679 \text{ mg/kg}$$

$$= 0.57 \text{ mg/kg (Reported Result with Signification)}$$

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. Spike sample did meet requirements except for Antimony, Arsenic, Lead, Manganese, Selenium, Zinc. Spike sample(MYDB88SRE) did meet requirements except for silver. Spike sample did meet requirements. 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

284 Sheffield Street
Mountainside, NJ 07092

Antimony	159Tb
Arsenic	89Y
Barium	159Tb
Beryllium	6Li
Cadmium	159Tb
Chromium	45Sc
Cobalt	45Sc
Copper	45Sc
Lead	209Bi
Nickel	45Sc
Selenium	89Y
Silver	159Tb
Thallium	209Bi
Vanadium	45Sc
Zinc	45Sc

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature_____ Name: Nimisha Pandya

Date _____ Title: Document Control Officer

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

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-MS. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.

I. Analyte Modifications **Not applicable** ☒

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

Summary of Modification

The purpose of this modified analysis is to prepare samples by EPA Draft Method 3050C (see below) with additional modified LCS and Matrix Spikes and analyze for the scheduled target analytes by ICP-AES. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.

I. Analyte Modifications **Not applicable** ☒

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

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

From: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Sent: Wednesday, October 09, 2024 12:47 PM
To: Sohil Jodhani; Mohammad Ahmed; Deepak Parmar
Cc: R9RSCC (R9RSCC@epa.gov); carmon.jamie@epa.gov; Spiegel, Michael (he/him/his); Britz, Helen; Moody, Brett; Myer, Shari; Bauer, Heather E; Johnson, Matthew; Ackerman, Eric
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC | FINAL
Attachments: P4316-TR_0080-COC_revised.pdf

Good afternoon,

Please see the resolution below.

Issue: Samples were shipped to the laboratory on 10/3/2024 with COC# 9-062124-091430-0080 (attached). The samples are scheduled for ICP-AES and ICP-MS analysis. However, the COCs only list ICP-AES analysis. Please confirm if the laboratory should proceed with all scheduled analyses and if an updated COC will be provided.
Resolution: Per Region 9, an updated copy of the COC has been attached. The laboratory should note the issue in the SDG Narrative and proceed with the analysis of the samples.

Please note that the laboratory may contact the appropriate CLP PM should any defects need to be waived for this issue.

Thanks,
Miles Hairston
Associate Environmental Analyst
Under contract to EPA
QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346
Miles.Hairston@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave alert: October 14 and October 21 - 22

email shall not operate to bind GDIT to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of email for such purpose.

From: R9RSCC <R9RSCC@epa.gov>
Sent: Wednesday, October 9, 2024 11:53 AM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>; Carmon, Jamie (she/her/hers) <Carmon.Jamie@epa.gov>; Spiegel, Michael (he/him/his) <Spiegel.Michael@epa.gov>
Cc: Britz, Helen <Britz.Helen@epa.gov>; Moody, Brett <Moody.Brett@epa.gov>; Myer, Shari <Myer.Shari@epa.gov>; Bauer, Heather E <Heather.Bauer@gdit.com>; Johnson, Matthew <Matthew.Johnson32@gdit.com>; Eric.Ackerman@WestonSolutions.com; R9RSCC <R9RSCC@epa.gov>
Subject: RE: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Hi Miles,

Please proceed with the scheduled analyses.
Attached is the corrected COC, I believe this has been uploaded to the portal.

Thanks!
-Jamie
Jamie Carmon (she/her)
****
Region 9
RSCC (Regional Sample Control Coordinator)
Email: R9RSCC@epa.gov
The R9 lab will be closed Monday, October 14th in observance of the Federal holiday.

- The lab will resume normal hours October 15th.

From: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Sent: Tuesday, October 8, 2024 2:07 PM
To: R9RSCC <R9RSCC@epa.gov>; Carmon, Jamie (she/her/hers) <Carmon.Jamie@epa.gov>; Spiegel, Michael (he/him/his) <Spiegel.Michael@epa.gov>
Cc: Britz, Helen <Britz.Helen@epa.gov>; Moody, Brett <Moody.Brett@epa.gov>; Myer, Shari <Myer.Shari@epa.gov>; Bauer, Heather E <Heather.Bauer@gdit.com>; Johnson, Matthew <Matthew.Johnson32@gdit.com>; Eric.Ackerman@WestonSolutions.com
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Good afternoon,

Please see the below issue from ACE.

Issue: Samples were shipped to the laboratory on 10/3/2024 with COC# 9-062124-091430-0080 (attached). The samples are scheduled for ICP-AES and ICP-MS analysis. However, the COCs only list ICP-AES analysis. Please confirm if the laboratory should proceed with all scheduled analyses and if an updated COC will be provided.

Thanks,
Miles Hairston
Associate Environmental Analyst
Under contract to EPA
QSS Coordinator – EPA Regions 1, 8, 7, and 9

Work Phone: +1 571-454-0346
Miles.Hairston@gdit.com
15036 Conference Center Drive
Chantilly, VA 20151
www.gdit.com

Leave alert: October 14 and October 21 - 22

From: Deepak Parmar <Deepak.Parmar@alliancetg.com>
Sent: Tuesday, October 8, 2024 3:17 PM
To: Hairston, Miles (NE) <Miles.Hairston@gdit.com>
Subject: Region 09 | Case 51772 | Lab ACE | Issue Discrepancies with tags, jars, and/or COC

Good afternoon,

for Case 51772 The samples are scheduled for ICP-AES and ICP-MS analysis. However, Attached COC mentioned only list ICP-AES analysis. there for lab would like to confirm they should proceed with analysis ?

Please see attachment for your reference.

Thanks & Regards,

Deepak Parmar
QA/QC
An Alliance Technical Group Company
Main: 908-789-8900
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/11/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 13:50
In Date: 10/10/2024
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: 10/11/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB132859

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
P4316-01	MYDB73	1	1.13	8.64	9.77	9.5	96.9	
P4316-02	MYDB74	2	1.18	8.59	9.77	9.45	96.3	
P4316-03	MYDB75	3	1.15	8.78	9.93	9.61	96.4	
P4316-04	MYDB76	4	1.18	8.64	9.82	9.6	97.5	
P4316-05	MYDB77	5	1.18	8.66	9.84	9.41	95.0	
P4316-06	MYDB78	6	1.18	8.45	9.63	9.48	98.2	
P4316-07	MYDB79	7	1.16	8.57	9.73	9.46	96.8	
P4316-08	MYDB80	8	1.18	8.41	9.59	9.43	98.1	
P4316-09	MYDB81	9	1.16	8.53	9.69	9.55	98.4	
P4316-10	MYDB82	10	1.15	8.35	9.5	9.3	97.6	
P4316-11	MYDB83	11	1.16	8.50	9.66	9.41	97.1	
P4316-12	MYDB84	12	1.17	8.57	9.74	9.52	97.4	
P4316-13	MYDB85	13	1.17	8.40	9.57	9.37	97.6	
P4316-14	MYDB86	14	1.14	8.58	9.72	9.51	97.6	
P4316-15	MYDB87	15	1.17	8.34	9.51	9.34	98.0	
P4316-16	MYDB88	16	1.18	8.69	9.87	9.47	95.4	
P4316-17	MYDB88D	17	1.18	8.69	9.87	9.47	95.4	
P4316-18	MYDB88S	18	1.18	8.69	9.87	9.47	95.4	
P4316-19	MYDB89	19	1.16	8.40	9.56	9.35	97.5	
P4316-20	MYDB90	20	1.18	8.38	9.56	9.25	96.3	
P4316-21	MYDB91	21	1.2	8.68	9.88	9.69	97.8	
P4316-22	MYDBA8	22	1.15	8.68	9.83	9.67	98.2	

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

WORKLIST(Hardcopy Internal Chain)

VB 132859

WorkList Name : %1-P4316 **WorkList ID :** 184312 **Department :** Wet-Chemistry **Date :** 10-10-2024 11:40:20

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4316-01	MYDB73	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-02	MYDB74	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-03	MYDB75	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-04	MYDB76	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-05	MYDB77	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-06	MYDB78	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-07	MYDB79	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-08	MYDB80	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-09	MYDB81	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-10	MYDB82	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-11	MYDB83	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-12	MYDB84	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-13	MYDB85	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-14	MYDB86	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-15	MYDB87	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-16	MYDB88	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-17	MYDB88D	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-18	MYDB88S	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-19	MYDB89	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-20	MYDB90	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO
P4316-21	MYDB91	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/20/2024	Chemtech -SO

Date/Time 10/10/24 13:10

Raw Sample Received by: JD WC,

Raw Sample Relinquished by: JM (SM)

Date/Time 10/10/24 14:00

Raw Sample Received by: JM (SM)

Raw Sample Relinquished by: JD WC,

WORKLIST(Hardcopy Internal Chain)

VB132859

WorkList Name : %1-P4316 **WorkList ID :** 184312 **Department :** Wet-Chemistry **Date :** 10-10-2024 11:40:20

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4316-22	MYDBA8	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	06/21/2024	Chemtech -SO

Date/Time 10/10/24 13:10

Raw Sample Received by: JB (WC)

Raw Sample Relinquished by: Jun (SM)

JB

Date/Time ~~10/01~~ 10/10/24 14:00

Raw Sample Received by: Jun (SM)

Raw Sample Relinquished by: JB (WC)