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.: MYD0B5

SOW No. : SFAM01.1

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MYD0B5	P4291-01	X	X		
MYD0B6	P4291-02	X	X		
MYD0B7	P4291-03	X	X		
MYD0B8	P4291-04	X	X		
MYD0B8D	P4291-05	X	X		
MYD0B8S	P4291-06	X	X		
MYD0B9	P4291-07	X	X		
MYD0C0	P4291-08	X	X		
MYD0C1	P4291-09	X	X		
MYD0C2	P4291-10	X	X		
MYD0C3	P4291-11	X	X		
MYD0C4	P4291-12	X	X		
MYD0C5	P4291-13	X	X		
MYD0C6	P4291-14	X	X		
MYD0C7	P4291-15	X	X		
MYD0C8	P4291-16	X	X		
MYD0C9	P4291-17	X	X		
MYD0D0	P4291-18	X	X		
MYD0D1	P4291-19	X	X		
MYD0D2	P4291-20	X	X		
MYD0D3	P4291-21	X	X		
MYD0D4	P4291-22	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 # MYD0B5

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 7394

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-124

No: 9-092024-161212-0124

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
1914-BKG-0001-01-0-2	MYD0B5	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7572 (None) (1)	1914	10/01/2024 16:46	
1914-BKG-0001-01-2-5	MYD0B6	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7573 (None) (1)	1914	10/01/2024 16:47	
1914-BKG-0001-01-8-11	MYD0B7	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7574 (None) (1)	1914	10/01/2024 16:48	
1914-BKG-0001-03-5-8	MYD0B8	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7575 (None) (1)	1914	10/01/2024 17:37	
1914-BKG-0002-01-0-2	MYD0B9	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7576 (None) (1)	1914-0002	10/01/2024 16:39	
1914-BKG-0002-01-2-5	MYD0C0	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7577 (None) (1)	1914-0002	10/01/2024 16:40	
1914-BKG-0002-01-5-8	MYD0C1	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7578 (None) (1)	1914-0002	10/01/2024 16:40	
1914-BKG-0002-01-8-11	MYD0C2	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7579 (None) (1)	1914-0002	10/01/2024 16:41	
268-BKG-0001-01-0-2	MYD0C3	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7580 (None) (1)	268	10/01/2024 16:18	
268-BKG-0001-01-2-5	MYD0C4	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7581 (None) (1)	268	10/01/2024 16:20	

Sample(s) to be used for Lab QC: 1914-BKG-0001-03-5-8 Tag 9-7575 - 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-MS 11=CLP ICP-AES 11 Metals and ICP-MS 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	WESTON	10/3/24 1600	R. Melendez	10/4/24 9:39	IR Gun #1 22.3 C
					Custody seal intact
					No Temp / no ICE

68HERH20D0011

SDG # MYD0B5

USEPA CLP COC (LAB COPY)

DateShipped: 10/3/2024
CarrierName: FedEx
AirbillNo: 7790 0057 7394

CHAIN OF CUSTODY RECORD

Case #: 51772
Cooler #: 51772-124

No: 9-092024-161212-0124
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
268-BKG-0001-01-5-8	MYD0C5	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7582 (None) (1)	268	10/01/2024 16:21	
268-BKG-0001-01-8-11	MYD0C6	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7583 (None) (1)	268	10/01/2024 16:22	
45066-BKG-0001-01-0-2	MYD0C7	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7584 (None) (1)	45066	10/01/2024 16:32	
45066-BKG-0001-01-2-5	MYD0C8	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7585 (None) (1)	45066	10/01/2024 16:33	
45066-BKG-0001-01-5-8	MYD0C9	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7586 (None) (1)	45066	10/01/2024 16:34	
45066-BKG-0001-01-8-11	MYD0D0	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7587 (None) (1)	45066	10/01/2024 16:35	
90036-BKG-0002-01-0-2	MYD0D1	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7588 (None) (1)	90036-0002	10/01/2024 10:26	
90036-BKG-0002-01-2-5	MYD0D2	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7589 (None) (1)	90036-0002	10/01/2024 16:25	
90036-BKG-0002-01-5-8	MYD0D3	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7590 (None) (1)	90036-0002	10/01/2024 16:28	
90036-BKG-0002-01-8-11	MYD0D4	Soil/ REAC	Grab	ICP-AES 11 ICP-MS 11(21)	9-7591 (None) (1)	90036-0002	10/01/2024 16:30	

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-MS 11=CLP ICP-AES 11 Metals and ICP-MS 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	WESTON	10/3/24 1600	R. Molenday	10/4/24 9:39	IR Gun #1 22.3 C
					Custody Seal intact
					NO Temp / NO ICE

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name : Alliance Technical Group, LLC		Page 1 of 1
Received By (Print Name) Casanova Reis		Log-in Date 10/4/2024
Received By (Signature)		
Case Number 51772	SDG No. MYD0B5	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.	779000577394 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	MYD0B5	N/A	9-7572	P4291-01	Intact
2	MYD0B6	N/A	9-7573	P4291-02	Intact
3	MYD0B7	N/A	9-7574	P4291-03	Intact
4	MYD0B8	N/A	9-7575	P4291-04	Intact
5	MYD0B8D	N/A	9-7575	P4291-05	Intact
6	MYD0B8S	N/A	9-7575	P4291-06	Intact
7	MYD0B9	N/A	9-7576	P4291-07	Intact
8	MYD0C0	N/A	9-7577	P4291-08	Intact
9	MYD0C1	N/A	9-7578	P4291-09	Intact
10	MYD0C2	N/A	9-7579	P4291-10	Intact
11	MYD0C3	N/A	9-7580	P4291-11	Intact
12	MYD0C4	N/A	9-7581	P4291-12	Intact
13	MYD0C5	N/A	9-7582	P4291-13	Intact
14	MYD0C6	N/A	9-7583	P4291-14	Intact
15	MYD0C7	N/A	9-7584	P4291-15	Intact
16	MYD0C8	N/A	9-7585	P4291-16	Intact
17	MYD0C9	N/A	9-7586	P4291-17	Intact
18	MYD0D0	N/A	9-7587	P4291-18	Intact
19	MYD0D1	N/A	9-7588	P4291-19	Intact
20	MYD0D2	N/A	9-7589	P4291-20	Intact
21	MYD0D3	N/A	9-7590	P4291-21	Intact
22	MYD0D4	N/A	9-7591	P4291-22	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.	**MYD0B5**
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	15	✓	
6 . Communication Logs	NA	NA	✓	
7 . Percent Solids Log	16	18	✓	
Analysis Forms and Data (ICP-AES)				
8 . Sample Analysis Data Forms (1A-OR, 1B-OR, and 1-IN) for each sample or sample analysis, laboratory QC as applicable	19	38	✓	
9 . Instrument raw data by instrument in analysis order	39	348	✓	
Other Data				
10 . Standard and Reagent Preparation Logs	349	498	✓	
11 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	499	500	✓	
12 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	501	528	✓	
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	529	548	✓	
18 . Instrument raw data by instrument in analysis order	549	1580	✓	
Other Data				
19 . Standard and Reagent Preparation Logs	1581	1720	✓	
20 . Original Preparation and Cleanup forms or copies of Preparation and Cleanup Logbooks	1721	1722	✓	
21 . Original Analysis or Instrument Run forms or copies of Analysis or Instrument Logbooks	1723	1733	✓	
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)	1734	1734	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	1735	1737	✓	
45. Misc. Shipping/Receiving Records (list all individual records)				
	NA	NA	✓	
46. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
	1738	1741	✓	
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 # MYD0B5
CASE # 51772
CONTRACT # 68HERH20D0011
SOW# SFAM01.1
LAB NAME: Alliance Technical Group, LLC
LAB CODE: ACE
LAB ORDER ID # P4291
MODIFIED ANALYSIS #3225.1, 3226.1

A. Number of Samples and Date of Receipt

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

B. Parameters

Test requested for Metals CLP FULL = Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc.

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

C. Cooler Temp

Indicator Bottle**:** Presence**/Absence**
Cooler: 22.3^{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.

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 MYD0B5 For Antimony:

If C = 0.0049784ppm
Vf = 100 ml
W = 1.17g
S = 0.924(92.4/100)
DF = 2

$$\text{Concentration (mg/kg)} = 0.0049784 \times \frac{100}{1.17 \times 0.924} \times 2$$

$$= 0.92100 \text{ mg/kg}$$

= 0.92 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)
DF = Dilution Factor

284 Sheffield Street
Mountainside, NJ 07092

Example Calculation For Sample MYD0B5 For Antimony :

If C = 0.98 ppb
Vf = 500 ml
W = 1.17 g
S = 0.924(92.4/100)
DF = 1

$$\text{Concentration (mg/kg)} = 0.98 \times \frac{500}{1.17 \times 0.924} \times 1 / 1000$$

$$= 0.45325 \text{ mg/kg}$$

= 0.45 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 (MYD0B8S) did meet requirements except for Arsenic, Chromium, Copper. Duplicate sample did meet requirements except for Barium. 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: 09/04/2024	**MA:** 3225.0	**Title:** ICP-MS with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-MS	
Matrix: Soil/Sediment		

Summary of Modification

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

I. Analyte Modifications **Not applicable** ☒

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

The Laboratory shall:

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

Date: 09/04/2024	**MA:** 3226.0	**Title:** ICP-AES with Modified Preparation Method and Analysis of Soils with Additional Laboratory QC
Method Source: SFAM01.1	**Method:** ICP-AES	
Matrix: Soil/Sediment		

Summary of Modification

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

I. Analyte Modifications **Not applicable** ☒

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

The Laboratory shall:

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

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

The Laboratory shall:

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

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

The Laboratory shall:

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

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 10/7/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 12:25
In Date: 10/06/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

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

QC: LB132783

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
P4291-01	MYD0B5	1	1.15	8.43	9.58	8.94	92.4	
P4291-02	MYD0B6	2	1.14	8.66	9.8	8.74	87.8	
P4291-03	MYD0B7	3	1.19	8.58	9.77	8.53	85.5	
P4291-04	MYD0B8	4	1.18	8.41	9.59	8.48	86.8	
P4291-05	MYD0B8D	5	1.18	8.41	9.59	8.48	86.8	
P4291-06	MYD0B8S	6	1.18	8.41	9.59	8.48	86.8	
P4291-07	MYD0B9	7	1.18	8.43	9.61	9.34	96.8	
P4291-08	MYD0C0	8	1.18	8.48	9.66	8.91	91.2	
P4291-09	MYD0C1	9	1.17	8.35	9.52	8.84	91.9	
P4291-10	MYD0C2	10	1.14	8.44	9.58	8.94	92.4	
P4291-11	MYD0C3	11	1.16	8.53	9.69	9.55	98.4	
P4291-12	MYD0C4	12	1.18	8.37	9.55	9.22	96.1	
P4291-13	MYD0C5	13	1.12	8.44	9.56	9.1	94.5	
P4291-14	MYD0C6	14	1.16	8.50	9.66	9.01	92.4	
P4291-15	MYD0C7	15	1.16	8.70	9.86	9.54	96.3	
P4291-16	MYD0C8	16	1.18	8.47	9.65	8.92	91.4	
P4291-17	MYD0C9	17	1.18	8.73	9.91	9.04	90.0	
P4291-18	MYD0D0	18	1.15	8.70	9.85	9.12	91.6	
P4291-19	MYD0D1	19	1.12	8.28	9.4	9.24	98.1	
P4291-20	MYD0D2	20	1.18	8.73	9.91	9.6	96.4	
P4291-21	MYD0D3	21	1.19	8.53	9.72	9.21	94.0	
P4291-22	MYD0D4	22	1.15	4.68	5.83	5.56	94.2	

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

WORKLIST(Hardcopy Internal Chain)

VB 132783

WorkList Name : %1-p4291 **WorkList ID :** 184152 **Department :** Wet-Chemistry **Date :** 10-06-2024 08:36:03

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4291-01	MYD0B5	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-02	MYD0B6	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-03	MYD0B7	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-04	MYD0B8	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-05	MYD0B8D	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-06	MYD0B8S	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-07	MYD0B9	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-08	MYD0C0	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-09	MYD0C1	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-10	MYD0C2	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-11	MYD0C3	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-12	MYD0C4	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-13	MYD0C5	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-14	MYD0C6	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-15	MYD0C7	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-16	MYD0C8	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-17	MYD0C9	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-18	MYD0D0	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-19	MYD0D1	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-20	MYD0D2	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO
P4291-21	MYD0D3	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO

Date/Time 10/06/24 12:00

Raw Sample Received by: JD WC

Raw Sample Relinquished by: [signature]

Date/Time 10/06/24 12:30

Raw Sample Received by: [signature]

Raw Sample Relinquished by: JD WC

WORKLIST(Hardcopy Internal Chain)

WB 132783

WorkList Name : %1-p4291 **WorkList ID :** 184152 **Department :** Wet-Chemistry **Date :** 10-06-2024 08:36:03

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4291-22	MYD0D4	Solid	Percent Solids	Cool 4 deg C	USEP01	A11	10/01/2024	Chemtech -SO

Date/Time 10/06/24 12:00

Raw Sample Received by: JG WC

Raw Sample Relinquished by: CP SM

Date/Time 10/06/24 12:30

Raw Sample Received by: CP SM

Raw Sample Relinquished by: JG WC