

DATA PACKAGE

GENERAL CHEMISTRY
METALS

PROJECT NAME : USACE NAB SEDIMENT PROJECT 25

US ARMY CORP OF ENGINEERS

2 Hopkins Plaza

Baltimore, MD - 21201

Phone No: 1-800-434-0988

ORDER ID : Q2085

ATTENTION : Kendall Rosenberg



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q2085

Project ID : USACE NAB Sediment Project 25

Client : US Army Corp of Engineers

Lab Sample Number

Q2085-01
Q2085-02
Q2085-03
Q2085-04
Q2085-05
Q2085-06
Q2085-07
Q2085-08

Client Sample Number

SC-4-SED-051525
SC-3-SED-051525
SC-2-SED-051525
SC-1-SED-051625
SC-1-SED-051625MS
SC-1-SED-051625MSD
SC-COMP-SED-051625
DUPE-1-SC

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 manager or his designee, as verified by the following signature.

Signature :

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 9:20 am, Jun 03, 2025

Date: 6/3/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CASE NARRATIVE

US Army Corp of Engineers

Project Name: USACE NAB Sediment Project 25

Project # N/A

Order ID # Q2085

Test Name: Mercury, Metals ICP-Group

A. Number of Samples and Date of Receipt:

8 Solid samples were received on 05/20/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Ammonia, Mercury, Metals Group2, Metals ICP-Group, Phosphorus, Total, TKN and TOC. This data package contains results for Mercury, Metals ICP-Group.

C. Analytical Techniques:

The analysis of Metals ICP-Group was based on method 6020B, digestion based on method 3050 (soils). The analysis and digestion of Mercury was based on method 7471B.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate (SC-1-SED-051625DUP) analysis met criteria for all samples except for Antimony and Zinc due to sample matrix interference.

The Matrix Spike (SC-1-SED-051625MS) analysis met criteria for all samples except for Aluminum, Arsenic, Iron and Silver due to Chemical Interference during digestion process.

The Matrix Spike Duplicate (SC-1-SED-051625MSD) analysis met criteria for all samples except for Aluminum, Arsenic, Iron and Silver due to Chemical Interference during digestion process.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Serial Dilution met criteria for all samples.

E. Additional Comments:

The Post Digest Spike (SC-1-SED-051625A) analysis met criteria for all samples except for Aluminum, Arsenic, Iron and Silver, due to unknown chemical interferences of matrix with the addition of spike amount after digestion and before analysis, matrix has suppression effect during addition of spike.

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.

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APPROVED

By Nimisha Pandya, QA/QC Supervisor at 9:20 am, Jun 03, 2025

Signature_____



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

US Army Corp of Engineers

Project Name: USACE NAB Sediment Project 25

Project # N/A

Order ID # Q2085

Test Name: Ammonia, Phosphorus, Total, TKN, TOC

A. Number of Samples and Date of Receipt:

8 Solid samples were received on 05/20/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Ammonia, Mercury, Metals Group2, Metals ICP-Group, Phosphorus, Total, TKN and TOC. This data package contains results for Ammonia, Phosphorus, Total, TKN, TOC.

C. Analytical Techniques:

The analysis of TOC was based on method 9060A, The analysis of Phosphorus-Total was based on method 365.3, The analysis of TKN was based on method SM4500 N Org B or C and The analysis of Ammonia was based on method SM4500-NH3.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike (SC-4-SED-051525MS) analysis met criteria for all samples except for Phosphorus, Total due to matrix interference.

The Matrix Spike Duplicate (SC-4-SED-051525MSD) analysis met criteria for all samples except for Phosphorus, Total due to matrix interference.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments:

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. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 9:21 am, Jun 03, 2025

Signature _____

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2085

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 06/03/2025

LAB CHRONICLE

OrderID:	Q2085	OrderDate:	5/20/2025 11:40:33 AM
Client:	US Army Corp of Engineers	Project:	USACE NAB Sediment Project 25
Contact:	Kendall Rosenberg	Location:	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2085-01	SC-4-SED-051525	SOIL			05/15/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	
Q2085-02	SC-3-SED-051525	SOIL			05/15/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	
Q2085-03	SC-2-SED-051525	SOIL			05/15/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	
Q2085-04	SC-1-SED-051625	SOIL			05/16/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	
Q2085-07	SC-COMP-SED-051625	SOIL			05/16/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	
Q2085-08	DUPE-1-SC	SOIL			05/16/25			05/20/25
			Mercury	7471B		05/27/25	05/29/25	
			Metals ICP-Group	6020B		05/21/25	05/21/25	

Hit Summary Sheet
SW-846

SDG No.: Q2085 **Order ID:** Q2085
Client: US Army Corp of Engineers **Project ID:** USACE NAB Sediment Project 25

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : SC-4-SED-051525									
Q2085-01	SC-4-SED-051525	SOIL	Aluminum	2200		0.37	1.04	2.08	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Arsenic	3.41		0.012	0.026	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Barium	4.16		0.034	0.13	1.04	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Beryllium	0.28		0.033	0.078	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Cadmium	0.052	J	0.019	0.078	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Calcium	281		4.98	19.8	52.0	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Chromium	5.17		0.027	0.052	0.21	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Cobalt	1.35		0.0090	0.026	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Copper	2.71		0.068	0.10	0.21	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Iron	6160		0.96	1.30	5.20	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Lead	3.40		0.033	0.078	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Magnesium	790		2.01	19.8	52.0	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Manganese	32.7		0.035	0.052	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Nickel	3.00		0.045	0.078	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Potassium	383		3.99	19.8	52.0	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Sodium	2000		7.30	26.0	52.0	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Thallium	0.034	J	0.015	0.052	0.10	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Vanadium	9.05		0.011	0.026	0.52	mg/Kg
Q2085-01	SC-4-SED-051525	SOIL	Zinc	11.5		0.094	0.16	0.52	mg/Kg
Client ID : SC-3-SED-051525									
Q2085-02	SC-3-SED-051525	SOIL	Aluminum	6540		0.42	1.18	2.36	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Arsenic	5.41		0.014	0.029	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Barium	27.4		0.039	0.15	1.18	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Beryllium	0.25		0.038	0.088	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Cadmium	0.078	J	0.021	0.088	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Calcium	268		5.64	22.4	58.9	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Chromium	13.6		0.031	0.059	0.24	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Cobalt	2.29		0.011	0.029	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Copper	8.56		0.077	0.12	0.24	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Iron	10100		1.08	1.47	5.89	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Lead	6.12		0.038	0.088	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Magnesium	1660		2.27	22.4	58.9	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Manganese	52.8		0.040	0.059	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Nickel	6.71		0.051	0.088	0.12	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Potassium	899		4.52	22.4	58.9	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Sodium	1860		8.27	29.5	58.9	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Thallium	0.058	J	0.016	0.059	0.12	mg/Kg

Hit Summary Sheet SW-846

SDG No.: Q2085 **Order ID:** Q2085
Client: US Army Corp of Engineers **Project ID:** USACE NAB Sediment Project 25

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Q2085-02	SC-3-SED-051525	SOIL	Vanadium	19.3		0.013	0.029	0.59	mg/Kg
Q2085-02	SC-3-SED-051525	SOIL	Zinc	24.3		0.11	0.18	0.59	mg/Kg
Client ID : SC-2-SED-051525									
Q2085-03	SC-2-SED-051525	SOIL	Aluminum	608		0.36	0.99	1.99	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Arsenic	0.70		0.012	0.025	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Barium	7.12		0.033	0.12	0.99	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Beryllium	0.050	J	0.032	0.074	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Calcium	160		4.76	18.9	49.6	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Chromium	1.88		0.026	0.050	0.20	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Cobalt	0.51		0.0090	0.025	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Copper	1.19		0.065	0.099	0.20	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Iron	987		0.91	1.24	4.96	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Lead	1.95		0.032	0.074	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Magnesium	306		1.92	18.9	49.6	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Manganese	11.7		0.034	0.050	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Nickel	0.98		0.043	0.074	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Potassium	168		3.81	18.9	49.6	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Sodium	1520		6.97	24.8	49.6	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Thallium	0.017	J	0.014	0.050	0.099	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Vanadium	1.64		0.011	0.025	0.50	mg/Kg
Q2085-03	SC-2-SED-051525	SOIL	Zinc	6.76		0.089	0.15	0.50	mg/Kg
Client ID : SC-1-SED-051625									
Q2085-04	SC-1-SED-051625	SOIL	Aluminum	3290		0.37	1.01	2.03	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Antimony	2.12		0.046	0.076	0.20	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Arsenic	2.49		0.012	0.025	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Barium	7.23		0.033	0.13	1.01	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Beryllium	0.24		0.032	0.076	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Cadmium	0.097	J	0.018	0.076	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Calcium	430		4.85	19.3	50.7	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Chromium	5.35		0.026	0.051	0.20	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Cobalt	1.94		0.0090	0.025	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Copper	3.71		0.066	0.10	0.20	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Iron	6010		0.93	1.27	5.07	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Lead	4.25		0.032	0.076	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Magnesium	1020		1.96	19.3	50.7	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Manganese	50.7		0.034	0.051	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Nickel	4.38		0.044	0.076	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Potassium	620		3.89	19.3	50.7	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Sodium	2270		7.11	25.3	50.7	mg/Kg

Hit Summary Sheet SW-846

SDG No.:	Q2085	Order ID:	Q2085
Client:	US Army Corp of Engineers	Project ID:	USACE NAB Sediment Project 25

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Q2085-04	SC-1-SED-051625	SOIL	Thallium	0.062	J	0.014	0.051	0.10	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Vanadium	7.42		0.011	0.025	0.51	mg/Kg
Q2085-04	SC-1-SED-051625	SOIL	Zinc	27.3		0.091	0.15	0.51	mg/Kg
Client ID : SC-COMP-SED-051625									
Q2085-07	SC-COMP-SED-051625	SOIL	Aluminum	3100		0.37	1.04	2.08	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Arsenic	3.24		0.012	0.026	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Barium	7.49		0.034	0.13	1.04	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Beryllium	0.23		0.033	0.078	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Cadmium	0.083	J	0.019	0.078	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Calcium	326		4.97	19.7	51.9	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Chromium	6.49		0.027	0.052	0.21	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Cobalt	1.78		0.0090	0.026	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Copper	4.06		0.068	0.10	0.21	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Iron	6670		0.96	1.30	5.19	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Lead	3.57		0.033	0.078	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Magnesium	1020		2.00	19.7	51.9	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Manganese	47.1		0.035	0.052	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Nickel	4.03		0.045	0.078	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Potassium	546		3.99	19.7	51.9	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Sodium	2280		7.29	26.0	51.9	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Thallium	0.071	J	0.015	0.052	0.10	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Vanadium	9.66		0.011	0.026	0.52	mg/Kg
Q2085-07	SC-COMP-SED-051625	SOIL	Zinc	16.3		0.093	0.16	0.52	mg/Kg
Client ID : DUPE-1-SC									
Q2085-08	DUPE-1-SC	SOIL	Aluminum	2170		0.34	0.93	1.86	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Arsenic	1.74		0.011	0.023	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Barium	8.35		0.031	0.12	0.93	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Beryllium	0.15		0.030	0.070	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Cadmium	0.046	J	0.017	0.070	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Calcium	246		4.46	17.7	46.5	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Chromium	4.20		0.024	0.047	0.19	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Cobalt	1.78		0.0080	0.023	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Copper	2.73		0.060	0.093	0.19	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Iron	4240		0.86	1.16	4.65	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Lead	2.85		0.030	0.070	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Magnesium	838		1.80	17.7	46.5	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Manganese	35.8		0.032	0.047	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Nickel	3.54		0.040	0.070	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Potassium	375		3.57	17.7	46.5	mg/Kg

Hit Summary Sheet
SW-846

SDG No.:	Q2085	Order ID:	Q2085
Client:	US Army Corp of Engineers	Project ID:	USACE NAB Sediment Project 25

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Q2085-08	DUPE-1-SC	SOIL	Sodium	2230		6.53	23.3	46.5	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Thallium	0.039	J	0.013	0.047	0.093	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Vanadium	4.78		0.010	0.023	0.47	mg/Kg
Q2085-08	DUPE-1-SC	SOIL	Zinc	14.4		0.084	0.14	0.47	mg/Kg



SAMPLE DATA

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-4-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-01	Matrix:	SOIL
Level (low/med):	low	% Solid:	75.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2200	N	1	0.37	1.04	2.08	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-36-0	Antimony	0.078	U*	1	0.047	0.078	0.21	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-38-2	Arsenic	3.41	N	1	0.012	0.026	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-39-3	Barium	4.16		1	0.034	0.13	1.04	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-41-7	Beryllium	0.28		1	0.033	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-43-9	Cadmium	0.052	J	1	0.019	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-70-2	Calcium	281		1	4.98	19.8	52.0	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-47-3	Chromium	5.17		1	0.027	0.052	0.21	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-48-4	Cobalt	1.35		1	0.0090	0.026	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-50-8	Copper	2.71		1	0.068	0.10	0.21	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7439-89-6	Iron	6160	N	1	0.96	1.30	5.20	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7439-92-1	Lead	3.40		1	0.033	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7439-95-4	Magnesium	790		1	2.01	19.8	52.0	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7439-96-5	Manganese	32.7		1	0.035	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7439-97-6	Mercury	0.013	U	1	0.0090	0.013	0.016	mg/Kg	05/27/25 13:44	05/29/25 12:02	7471B	
7440-02-0	Nickel	3.00		1	0.045	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-09-7	Potassium	383		1	3.99	19.8	52.0	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7782-49-2	Selenium	0.47	U	1	0.29	0.47	0.52	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-22-4	Silver	0.052	UN	1	0.027	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-23-5	Sodium	2000		1	7.30	26.0	52.0	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-28-0	Thallium	0.034	J	1	0.015	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-62-2	Vanadium	9.05		1	0.011	0.026	0.52	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050
7440-66-6	Zinc	11.5	*	1	0.094	0.16	0.52	mg/Kg	05/21/25 10:20	05/21/25 16:54	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-3-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	73.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	6540	N	1	0.42	1.18	2.36	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-36-0	Antimony	0.088	U*	1	0.053	0.088	0.24	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-38-2	Arsenic	5.41	N	1	0.014	0.029	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-39-3	Barium	27.4		1	0.039	0.15	1.18	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-41-7	Beryllium	0.25		1	0.038	0.088	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-43-9	Cadmium	0.078	J	1	0.021	0.088	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-70-2	Calcium	268		1	5.64	22.4	58.9	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-47-3	Chromium	13.6		1	0.031	0.059	0.24	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-48-4	Cobalt	2.29		1	0.011	0.029	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-50-8	Copper	8.56		1	0.077	0.12	0.24	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7439-89-6	Iron	10100	N	1	1.08	1.47	5.89	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7439-92-1	Lead	6.12		1	0.038	0.088	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7439-95-4	Magnesium	1660		1	2.27	22.4	58.9	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7439-96-5	Manganese	52.8		1	0.040	0.059	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7439-97-6	Mercury	0.013	U	1	0.0090	0.013	0.016	mg/Kg	05/27/25 13:44	05/29/25 12:05	7471B	
7440-02-0	Nickel	6.71		1	0.051	0.088	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-09-7	Potassium	899		1	4.52	22.4	58.9	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7782-49-2	Selenium	0.53	U	1	0.33	0.53	0.59	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-22-4	Silver	0.059	UN	1	0.031	0.059	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-23-5	Sodium	1860		1	8.27	29.5	58.9	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-28-0	Thallium	0.058	J	1	0.016	0.059	0.12	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-62-2	Vanadium	19.3		1	0.013	0.029	0.59	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050
7440-66-6	Zinc	24.3	*	1	0.11	0.18	0.59	mg/Kg	05/21/25 10:20	05/21/25 17:32	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-2-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-03	Matrix:	SOIL
Level (low/med):	low	% Solid:	79.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	608	N	1	0.36	0.99	1.99	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-36-0	Antimony	0.074	U*	1	0.045	0.074	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-38-2	Arsenic	0.70	N	1	0.012	0.025	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-39-3	Barium	7.12		1	0.033	0.12	0.99	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-41-7	Beryllium	0.050	J	1	0.032	0.074	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-43-9	Cadmium	0.074	U	1	0.018	0.074	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-70-2	Calcium	160		1	4.76	18.9	49.6	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-47-3	Chromium	1.88		1	0.026	0.050	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-48-4	Cobalt	0.51		1	0.0090	0.025	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-50-8	Copper	1.19		1	0.065	0.099	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7439-89-6	Iron	987	N	1	0.91	1.24	4.96	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7439-92-1	Lead	1.95		1	0.032	0.074	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7439-95-4	Magnesium	306		1	1.92	18.9	49.6	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7439-96-5	Manganese	11.7		1	0.034	0.050	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7439-97-6	Mercury	0.012	U	1	0.0080	0.012	0.015	mg/Kg	05/27/25 13:44	05/29/25 12:07	7471B	
7440-02-0	Nickel	0.98		1	0.043	0.074	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-09-7	Potassium	168		1	3.81	18.9	49.6	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7782-49-2	Selenium	0.45	U	1	0.28	0.45	0.50	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-22-4	Silver	0.050	UN	1	0.026	0.050	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-23-5	Sodium	1520		1	6.97	24.8	49.6	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-28-0	Thallium	0.017	J	1	0.014	0.050	0.099	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-62-2	Vanadium	1.64		1	0.011	0.025	0.50	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050
7440-66-6	Zinc	6.76	*	1	0.089	0.15	0.50	mg/Kg	05/21/25 10:20	05/21/25 17:35	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/16/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-1-SED-051625	SDG No.:	Q2085
Lab Sample ID:	Q2085-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	70.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3290	N	1	0.37	1.01	2.03	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-36-0	Antimony	2.12	*	1	0.046	0.076	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-38-2	Arsenic	2.49	N	1	0.012	0.025	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-39-3	Barium	7.23		1	0.033	0.13	1.01	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-41-7	Beryllium	0.24		1	0.032	0.076	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-43-9	Cadmium	0.097	J	1	0.018	0.076	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-70-2	Calcium	430		1	4.85	19.3	50.7	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-47-3	Chromium	5.35		1	0.026	0.051	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-48-4	Cobalt	1.94		1	0.0090	0.025	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-50-8	Copper	3.71		1	0.066	0.10	0.20	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7439-89-6	Iron	6010	N	1	0.93	1.27	5.07	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7439-92-1	Lead	4.25		1	0.032	0.076	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7439-95-4	Magnesium	1020		1	1.96	19.3	50.7	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7439-96-5	Manganese	50.7		1	0.034	0.051	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7439-97-6	Mercury	0.014	U	1	0.010	0.014	0.017	mg/Kg	05/27/25 13:44	05/29/25 12:10	7471B	
7440-02-0	Nickel	4.38		1	0.044	0.076	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-09-7	Potassium	620		1	3.89	19.3	50.7	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7782-49-2	Selenium	0.46	U	1	0.28	0.46	0.51	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-22-4	Silver	0.051	UN	1	0.026	0.051	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-23-5	Sodium	2270		1	7.11	25.3	50.7	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-28-0	Thallium	0.062	J	1	0.014	0.051	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-62-2	Vanadium	7.42		1	0.011	0.025	0.51	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050
7440-66-6	Zinc	27.3	*	1	0.091	0.15	0.51	mg/Kg	05/21/25 10:20	05/21/25 17:39	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/16/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-COMP-SED-051625	SDG No.:	Q2085
Lab Sample ID:	Q2085-07	Matrix:	SOIL
Level (low/med):	low	% Solid:	73.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3100	N	1	0.37	1.04	2.08	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-36-0	Antimony	0.078	U*	1	0.047	0.078	0.21	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-38-2	Arsenic	3.24	N	1	0.012	0.026	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-39-3	Barium	7.49		1	0.034	0.13	1.04	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-41-7	Beryllium	0.23		1	0.033	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-43-9	Cadmium	0.083	J	1	0.019	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-70-2	Calcium	326		1	4.97	19.7	51.9	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-47-3	Chromium	6.49		1	0.027	0.052	0.21	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-48-4	Cobalt	1.78		1	0.0090	0.026	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-50-8	Copper	4.06		1	0.068	0.10	0.21	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7439-89-6	Iron	6670	N	1	0.96	1.30	5.19	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7439-92-1	Lead	3.57		1	0.033	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7439-95-4	Magnesium	1020		1	2.00	19.7	51.9	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7439-96-5	Manganese	47.1		1	0.035	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7439-97-6	Mercury	0.013	U	1	0.0090	0.013	0.016	mg/Kg	05/27/25 13:44	05/29/25 12:48	7471B	
7440-02-0	Nickel	4.03		1	0.045	0.078	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-09-7	Potassium	546		1	3.99	19.7	51.9	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7782-49-2	Selenium	0.47	U	1	0.29	0.47	0.52	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-22-4	Silver	0.052	UN	1	0.027	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-23-5	Sodium	2280		1	7.29	26.0	51.9	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-28-0	Thallium	0.071	J	1	0.015	0.052	0.10	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-62-2	Vanadium	9.66		1	0.011	0.026	0.52	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050
7440-66-6	Zinc	16.3	*	1	0.093	0.16	0.52	mg/Kg	05/21/25 10:20	05/21/25 17:56	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N = Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/16/25
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	DUPE-1-SC	SDG No.:	Q2085
Lab Sample ID:	Q2085-08	Matrix:	SOIL
Level (low/med):	low	% Solid:	76.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2170	N	1	0.34	0.93	1.86	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-36-0	Antimony	0.070	U*	1	0.042	0.070	0.19	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-38-2	Arsenic	1.74	N	1	0.011	0.023	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-39-3	Barium	8.35		1	0.031	0.12	0.93	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-41-7	Beryllium	0.15		1	0.030	0.070	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-43-9	Cadmium	0.046	J	1	0.017	0.070	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-70-2	Calcium	246		1	4.46	17.7	46.5	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-47-3	Chromium	4.20		1	0.024	0.047	0.19	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-48-4	Cobalt	1.78		1	0.0080	0.023	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-50-8	Copper	2.73		1	0.060	0.093	0.19	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7439-89-6	Iron	4240	N	1	0.86	1.16	4.65	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7439-92-1	Lead	2.85		1	0.030	0.070	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7439-95-4	Magnesium	838		1	1.80	17.7	46.5	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7439-96-5	Manganese	35.8		1	0.032	0.047	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7439-97-6	Mercury	0.013	U	1	0.0090	0.013	0.016	mg/Kg	05/27/25 13:44	05/29/25 12:50	7471B	
7440-02-0	Nickel	3.54		1	0.040	0.070	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-09-7	Potassium	375		1	3.57	17.7	46.5	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7782-49-2	Selenium	0.42	U	1	0.26	0.42	0.47	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-22-4	Silver	0.047	UN	1	0.024	0.047	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-23-5	Sodium	2230		1	6.53	23.3	46.5	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-28-0	Thallium	0.039	J	1	0.013	0.047	0.093	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-62-2	Vanadium	4.78		1	0.010	0.023	0.47	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050
7440-66-6	Zinc	14.4	*	1	0.084	0.14	0.47	mg/Kg	05/21/25 10:20	05/21/25 18:00	6020B	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	Metals Group2			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N = Spiked sample recovery not within control limits



METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers **SDG No.:** Q2085

Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV21	Mercury	3.84	4.0	96	90 - 110	CV	05/29/2025	11:18	LB135943

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers **SDG No.:** Q2085

Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV76	Mercury	4.83	5.0	97	90 - 110	CV	05/29/2025	11:22	LB135943
CCV77	Mercury	5.09	5.0	102	90 - 110	CV	05/29/2025	12:25	LB135943
CCV78	Mercury	5.16	5.0	103	90 - 110	CV	05/29/2025	13:01	LB135943
CCV79	Mercury	5.26	5.0	105	90 - 110	CV	05/29/2025	13:19	LB135943

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers SDG No.: Q2085
Contract: USAR03 Lab Code: CHEM Case No.: Q2085 SAS No.: Q2085
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	470	500	94	90 - 110	P	05/21/2025	14:30	LB135886
	Antimony	197	200	98	90 - 110	P	05/21/2025	14:30	LB135886
	Arsenic	198	200	99	90 - 110	P	05/21/2025	14:30	LB135886
	Barium	99.2	100	99	90 - 110	P	05/21/2025	14:30	LB135886
	Beryllium	106	100	106	90 - 110	P	05/21/2025	14:30	LB135886
	Cadmium	101	100	101	90 - 110	P	05/21/2025	14:30	LB135886
	Calcium	1880	2000	94	90 - 110	P	05/21/2025	14:30	LB135886
	Chromium	101	100	100	90 - 110	P	05/21/2025	14:30	LB135886
	Cobalt	105	100	105	90 - 110	P	05/21/2025	14:30	LB135886
	Copper	108	100	108	90 - 110	P	05/21/2025	14:30	LB135886
	Iron	1970	2000	98	90 - 110	P	05/21/2025	14:30	LB135886
	Lead	203	200	102	90 - 110	P	05/21/2025	14:30	LB135886
	Magnesium	1170	1200	97	90 - 110	P	05/21/2025	14:30	LB135886
	Manganese	101	100	101	90 - 110	P	05/21/2025	14:30	LB135886
	Nickel	111	110	101	90 - 110	P	05/21/2025	14:30	LB135886
	Potassium	1930	2000	97	90 - 110	P	05/21/2025	14:30	LB135886
	Selenium	207	200	104	90 - 110	P	05/21/2025	14:30	LB135886
	Silver	47.6	50.0	95	90 - 110	P	05/21/2025	14:30	LB135886
	Sodium	1940	2000	97	90 - 110	P	05/21/2025	14:30	LB135886
	Thallium	206	210	98	90 - 110	P	05/21/2025	14:30	LB135886
	Vanadium	98.6	100	99	90 - 110	P	05/21/2025	14:30	LB135886
	Zinc	212	200	106	90 - 110	P	05/21/2025	14:30	LB135886

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers SDG No.: Q2085
Contract: USAR03 Lab Code: CHEM Case No.: Q2085 SAS No.: Q2085
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	19.8	20.0	99	80 - 120	P	05/21/2025	14:33	LB135886
	Antimony	1.96	2.0	98	80 - 120	P	05/21/2025	14:33	LB135886
	Arsenic	1.00	1.0	100	80 - 120	P	05/21/2025	14:33	LB135886
	Barium	9.67	10.0	97	80 - 120	P	05/21/2025	14:33	LB135886
	Beryllium	1.14	1.0	114	80 - 120	P	05/21/2025	14:33	LB135886
	Cadmium	0.90	1.0	90	80 - 120	P	05/21/2025	14:33	LB135886
	Calcium	476	500	95	80 - 120	P	05/21/2025	14:33	LB135886
	Chromium	1.99	2.0	100	80 - 120	P	05/21/2025	14:33	LB135886
	Cobalt	1.07	1.0	107	80 - 120	P	05/21/2025	14:33	LB135886
	Copper	2.14	2.0	107	80 - 120	P	05/21/2025	14:33	LB135886
	Iron	49.5	50.0	99	80 - 120	P	05/21/2025	14:33	LB135886
	Lead	0.83	1.0	83	80 - 120	P	05/21/2025	14:33	LB135886
	Magnesium	500	500	100	80 - 120	P	05/21/2025	14:33	LB135886
	Manganese	0.91	1.0	91	80 - 120	P	05/21/2025	14:33	LB135886
	Nickel	0.93	1.0	93	80 - 120	P	05/21/2025	14:33	LB135886
	Potassium	478	500	96	80 - 120	P	05/21/2025	14:33	LB135886
	Selenium	4.91	5.0	98	80 - 120	P	05/21/2025	14:33	LB135886
	Silver	1.08	1.0	108	80 - 120	P	05/21/2025	14:33	LB135886
	Sodium	506	500	101	80 - 120	P	05/21/2025	14:33	LB135886
	Thallium	0.93	1.0	93	80 - 120	P	05/21/2025	14:33	LB135886
	Vanadium	4.86	5.0	97	80 - 120	P	05/21/2025	14:33	LB135886
	Zinc	5.18	5.0	104	80 - 120	P	05/21/2025	14:33	LB135886

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	50400	50000	101	90 - 110	P	05/21/2025	14:51	LB135886
	Antimony	501	500	100	90 - 110	P	05/21/2025	14:51	LB135886
	Arsenic	506	500	101	90 - 110	P	05/21/2025	14:51	LB135886
	Barium	2570	2500	103	90 - 110	P	05/21/2025	14:51	LB135886
	Beryllium	529	500	106	90 - 110	P	05/21/2025	14:51	LB135886
	Cadmium	504	500	101	90 - 110	P	05/21/2025	14:51	LB135886
	Calcium	239000	250000	96	90 - 110	P	05/21/2025	14:51	LB135886
	Chromium	523	500	105	90 - 110	P	05/21/2025	14:51	LB135886
	Cobalt	513	500	102	90 - 110	P	05/21/2025	14:51	LB135886
	Copper	5060	5000	101	90 - 110	P	05/21/2025	14:51	LB135886
	Iron	131000	125000	104	90 - 110	P	05/21/2025	14:51	LB135886
	Lead	2600	2500	104	90 - 110	P	05/21/2025	14:51	LB135886
	Magnesium	246000	250000	98	90 - 110	P	05/21/2025	14:51	LB135886
	Manganese	5190	5000	104	90 - 110	P	05/21/2025	14:51	LB135886
	Nickel	473	500	95	90 - 110	P	05/21/2025	14:51	LB135886
	Potassium	133000	125000	106	90 - 110	P	05/21/2025	14:51	LB135886
	Selenium	495	500	99	90 - 110	P	05/21/2025	14:51	LB135886
	Silver	492	500	98	90 - 110	P	05/21/2025	14:51	LB135886
	Sodium	240000	250000	96	90 - 110	P	05/21/2025	14:51	LB135886
	Thallium	524	500	105	90 - 110	P	05/21/2025	14:51	LB135886
	Vanadium	535	500	107	90 - 110	P	05/21/2025	14:51	LB135886
	Zinc	5180	5000	104	90 - 110	P	05/21/2025	14:51	LB135886
CCV02	Aluminum	50400	50000	101	90 - 110	P	05/21/2025	15:59	LB135886
	Antimony	506	500	101	90 - 110	P	05/21/2025	15:59	LB135886
	Arsenic	500	500	100	90 - 110	P	05/21/2025	15:59	LB135886
	Barium	2570	2500	103	90 - 110	P	05/21/2025	15:59	LB135886
	Beryllium	530	500	106	90 - 110	P	05/21/2025	15:59	LB135886
	Cadmium	508	500	102	90 - 110	P	05/21/2025	15:59	LB135886
	Calcium	240000	250000	96	90 - 110	P	05/21/2025	15:59	LB135886
	Chromium	523	500	105	90 - 110	P	05/21/2025	15:59	LB135886
	Cobalt	513	500	102	90 - 110	P	05/21/2025	15:59	LB135886
	Copper	5080	5000	102	90 - 110	P	05/21/2025	15:59	LB135886
	Iron	130000	125000	104	90 - 110	P	05/21/2025	15:59	LB135886
	Lead	2590	2500	104	90 - 110	P	05/21/2025	15:59	LB135886

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	249000	250000	99	90 - 110	P	05/21/2025	15:59	LB135886
	Manganese	5130	5000	103	90 - 110	P	05/21/2025	15:59	LB135886
	Nickel	471	500	94	90 - 110	P	05/21/2025	15:59	LB135886
	Potassium	131000	125000	105	90 - 110	P	05/21/2025	15:59	LB135886
	Selenium	492	500	98	90 - 110	P	05/21/2025	15:59	LB135886
	Silver	494	500	99	90 - 110	P	05/21/2025	15:59	LB135886
	Sodium	242000	250000	97	90 - 110	P	05/21/2025	15:59	LB135886
	Thallium	518	500	104	90 - 110	P	05/21/2025	15:59	LB135886
	Vanadium	526	500	105	90 - 110	P	05/21/2025	15:59	LB135886
	Zinc	5260	5000	105	90 - 110	P	05/21/2025	15:59	LB135886
CCV03	Aluminum	48500	50000	97	90 - 110	P	05/21/2025	16:57	LB135886
	Antimony	493	500	99	90 - 110	P	05/21/2025	16:57	LB135886
	Arsenic	480	500	96	90 - 110	P	05/21/2025	16:57	LB135886
	Barium	2500	2500	100	90 - 110	P	05/21/2025	16:57	LB135886
	Beryllium	525	500	105	90 - 110	P	05/21/2025	16:57	LB135886
	Cadmium	488	500	98	90 - 110	P	05/21/2025	16:57	LB135886
	Calcium	235000	250000	94	90 - 110	P	05/21/2025	16:57	LB135886
	Chromium	503	500	101	90 - 110	P	05/21/2025	16:57	LB135886
	Cobalt	485	500	97	90 - 110	P	05/21/2025	16:57	LB135886
	Copper	4870	5000	98	90 - 110	P	05/21/2025	16:57	LB135886
	Iron	124000	125000	99	90 - 110	P	05/21/2025	16:57	LB135886
	Lead	2530	2500	101	90 - 110	P	05/21/2025	16:57	LB135886
	Magnesium	238000	250000	95	90 - 110	P	05/21/2025	16:57	LB135886
	Manganese	4950	5000	99	90 - 110	P	05/21/2025	16:57	LB135886
	Nickel	451	500	90	90 - 110	P	05/21/2025	16:57	LB135886
	Potassium	127000	125000	102	90 - 110	P	05/21/2025	16:57	LB135886
	Selenium	488	500	98	90 - 110	P	05/21/2025	16:57	LB135886
	Silver	484	500	97	90 - 110	P	05/21/2025	16:57	LB135886
	Sodium	234000	250000	94	90 - 110	P	05/21/2025	16:57	LB135886
	Thallium	511	500	102	90 - 110	P	05/21/2025	16:57	LB135886
	Vanadium	504	500	101	90 - 110	P	05/21/2025	16:57	LB135886
	Zinc	4990	5000	100	90 - 110	P	05/21/2025	16:57	LB135886
CCV04	Aluminum	50300	50000	101	90 - 110	P	05/21/2025	18:04	LB135886
	Antimony	505	500	101	90 - 110	P	05/21/2025	18:04	LB135886

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: US Army Corp of Engineers SDG No.: Q2085
Contract: USAR03 Lab Code: CHEM Case No.: Q2085 SAS No.: Q2085
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	497	500	99	90 - 110	P	05/21/2025	18:04	LB135886
	Barium	2570	2500	103	90 - 110	P	05/21/2025	18:04	LB135886
	Beryllium	545	500	109	90 - 110	P	05/21/2025	18:04	LB135886
	Cadmium	503	500	101	90 - 110	P	05/21/2025	18:04	LB135886
	Calcium	239000	250000	96	90 - 110	P	05/21/2025	18:04	LB135886
	Chromium	537	500	108	90 - 110	P	05/21/2025	18:04	LB135886
	Cobalt	521	500	104	90 - 110	P	05/21/2025	18:04	LB135886
	Copper	5030	5000	101	90 - 110	P	05/21/2025	18:04	LB135886
	Iron	132000	125000	105	90 - 110	P	05/21/2025	18:04	LB135886
	Lead	2590	2500	103	90 - 110	P	05/21/2025	18:04	LB135886
	Magnesium	250000	250000	100	90 - 110	P	05/21/2025	18:04	LB135886
	Manganese	5240	5000	105	90 - 110	P	05/21/2025	18:04	LB135886
	Nickel	476	500	95	90 - 110	P	05/21/2025	18:04	LB135886
	Potassium	135000	125000	108	90 - 110	P	05/21/2025	18:04	LB135886
	Selenium	495	500	99	90 - 110	P	05/21/2025	18:04	LB135886
	Silver	494	500	99	90 - 110	P	05/21/2025	18:04	LB135886
	Sodium	234000	250000	94	90 - 110	P	05/21/2025	18:04	LB135886
	Thallium	516	500	103	90 - 110	P	05/21/2025	18:04	LB135886
	Vanadium	536	500	107	90 - 110	P	05/21/2025	18:04	LB135886
	Zinc	5130	5000	103	90 - 110	P	05/21/2025	18:04	LB135886

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI	Aluminum	19.8	20.0	99	70 - 130	P	05/21/2025	15:00	LB135886
	Antimony	1.93	2.0	96	70 - 130	P	05/21/2025	15:00	LB135886
	Arsenic	0.95	1.0	95	70 - 130	P	05/21/2025	15:00	LB135886
	Barium	9.45	10.0	94	70 - 130	P	05/21/2025	15:00	LB135886
	Beryllium	1.13	1.0	113	70 - 130	P	05/21/2025	15:00	LB135886
	Cadmium	0.83	1.0	83	70 - 130	P	05/21/2025	15:00	LB135886
	Calcium	475	500	95	70 - 130	P	05/21/2025	15:00	LB135886
	Chromium	2.03	2.0	102	70 - 130	P	05/21/2025	15:00	LB135886
	Cobalt	1.08	1.0	108	50 - 150	P	05/21/2025	15:00	LB135886
	Copper	2.16	2.0	108	70 - 130	P	05/21/2025	15:00	LB135886
	Iron	51.0	50.0	102	70 - 130	P	05/21/2025	15:00	LB135886
	Lead	0.83	1.0	83	70 - 130	P	05/21/2025	15:00	LB135886
	Magnesium	525	500	105	70 - 130	P	05/21/2025	15:00	LB135886
	Manganese	1.05	1.0	105	50 - 150	P	05/21/2025	15:00	LB135886
	Nickel	0.95	1.0	95	70 - 130	P	05/21/2025	15:00	LB135886
	Potassium	502	500	100	70 - 130	P	05/21/2025	15:00	LB135886
	Selenium	4.84	5.0	97	70 - 130	P	05/21/2025	15:00	LB135886
	Silver	1.05	1.0	105	70 - 130	P	05/21/2025	15:00	LB135886
	Sodium	521	500	104	70 - 130	P	05/21/2025	15:00	LB135886
	Thallium	0.93	1.0	93	70 - 130	P	05/21/2025	15:00	LB135886
	Vanadium	5.02	5.0	100	70 - 130	P	05/21/2025	15:00	LB135886
	Zinc	5.25	5.0	105	50 - 150	P	05/21/2025	15:00	LB135886
CRA	Mercury	0.22	0.2	109	70 - 130	CV	05/29/2025	11:38	LB135943



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	<u>US Army Corp of Engineers</u>				SDG No.:	<u>Q2085</u>				
Contract:	<u>USAR03</u>	Lab Code:	<u>CHEM</u>		Case No.:	<u>Q2085</u>			SAS No.:	<u>Q2085</u>
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB21	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/29/2025	11:20	LB135943

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB76	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/29/2025	11:27	LB135943
CCB77	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/29/2025	12:30	LB135943
CCB78	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/29/2025	13:04	LB135943
CCB79	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/29/2025	13:22	LB135943

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: US Army Corp of Engineers SDG No.: Q2085
Contract: USAR03 Lab Code: CHEM Case No.: Q2085 SAS No.: Q2085

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	20.0	+/-20.0	U	10.0	20.0	P	05/21/2025	14:37	LB135886
	Antimony	2.00	+/-2.00	U	0.25	2.00	P	05/21/2025	14:37	LB135886
	Arsenic	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	14:37	LB135886
	Barium	10.0	+/-10.0	U	1.25	10.0	P	05/21/2025	14:37	LB135886
	Beryllium	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:37	LB135886
	Cadmium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	14:37	LB135886
	Calcium	500	+/-500	U	190	500	P	05/21/2025	14:37	LB135886
	Chromium	2.00	+/-2.00	U	0.75	2.00	P	05/21/2025	14:37	LB135886
	Cobalt	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	14:37	LB135886
	Copper	2.00	+/-2.00	U	1.50	2.00	P	05/21/2025	14:37	LB135886
	Iron	50.0	+/-50.0	U	25.0	50.0	P	05/21/2025	14:37	LB135886
	Lead	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:37	LB135886
	Magnesium	500	+/-500	U	190	500	P	05/21/2025	14:37	LB135886
	Manganese	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:37	LB135886
	Nickel	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:37	LB135886
	Potassium	500	+/-500	U	190	500	P	05/21/2025	14:37	LB135886
	Selenium	5.00	+/-5.00	U	4.50	5.00	P	05/21/2025	14:37	LB135886
	Silver	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	14:37	LB135886
	Sodium	500	+/-500	U	190	500	P	05/21/2025	14:37	LB135886
	Thallium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	14:37	LB135886
	Vanadium	5.00	+/-5.00	U	0.25	5.00	P	05/21/2025	14:37	LB135886
	Zinc	5.00	+/-5.00	U	1.50	5.00	P	05/21/2025	14:37	LB135886

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: <u>US Army Corp of Engineers</u>		SDG No.: <u>Q2085</u>								
Contract: <u>USAR03</u>	Lab Code: <u>CHEM</u>	Case No.: <u>Q2085</u>			SAS No.: <u>Q2085</u>					
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	20.0	+/-20.0	U	10.0	20.0	P	05/21/2025	14:57	LB135886
	Antimony	2.00	+/-2.00	U	0.25	2.00	P	05/21/2025	14:57	LB135886
	Arsenic	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	14:57	LB135886
	Barium	10.0	+/-10.0	U	1.25	10.0	P	05/21/2025	14:57	LB135886
	Beryllium	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:57	LB135886
	Cadmium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	14:57	LB135886
	Calcium	500	+/-500	U	190	500	P	05/21/2025	14:57	LB135886
	Chromium	2.00	+/-2.00	U	0.75	2.00	P	05/21/2025	14:57	LB135886
	Cobalt	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	14:57	LB135886
	Copper	2.00	+/-2.00	U	1.50	2.00	P	05/21/2025	14:57	LB135886
	Iron	50.0	+/-50.0	U	25.0	50.0	P	05/21/2025	14:57	LB135886
	Lead	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:57	LB135886
	Magnesium	500	+/-500	U	190	500	P	05/21/2025	14:57	LB135886
	Manganese	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:57	LB135886
	Nickel	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	14:57	LB135886
	Potassium	500	+/-500	U	190	500	P	05/21/2025	14:57	LB135886
	Selenium	5.00	+/-5.00	U	4.50	5.00	P	05/21/2025	14:57	LB135886
	Silver	0.080	+/-1.00	J	0.50	1.00	P	05/21/2025	14:57	LB135886
	Sodium	500	+/-500	U	190	500	P	05/21/2025	14:57	LB135886
	Thallium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	14:57	LB135886
	Vanadium	5.00	+/-5.00	U	0.25	5.00	P	05/21/2025	14:57	LB135886
	Zinc	5.00	+/-5.00	U	1.50	5.00	P	05/21/2025	14:57	LB135886
CCB02	Aluminum	20.0	+/-20.0	U	10.0	20.0	P	05/21/2025	16:05	LB135886
	Antimony	2.00	+/-2.00	U	0.25	2.00	P	05/21/2025	16:05	LB135886
	Arsenic	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	16:05	LB135886
	Barium	10.0	+/-10.0	U	1.25	10.0	P	05/21/2025	16:05	LB135886
	Beryllium	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	16:05	LB135886
	Cadmium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	16:05	LB135886
	Calcium	500	+/-500	U	190	500	P	05/21/2025	16:05	LB135886
	Chromium	2.00	+/-2.00	U	0.75	2.00	P	05/21/2025	16:05	LB135886
	Cobalt	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	16:05	LB135886
	Copper	2.00	+/-2.00	U	1.50	2.00	P	05/21/2025	16:05	LB135886
	Iron	50.0	+/-50.0	U	25.0	50.0	P	05/21/2025	16:05	LB135886
	Lead	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	16:05	LB135886
	Magnesium	500	+/-500	U	190	500	P	05/21/2025	16:05	LB135886
	Manganese	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	16:05	LB135886
	Nickel	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	16:05	LB135886
	Potassium	500	+/-500	U	190	500	P	05/21/2025	16:05	LB135886
	Selenium	5.00	+/-5.00	U	4.50	5.00	P	05/21/2025	16:05	LB135886

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: US Army Corp of Engineers		SDG No.: Q2085								
Contract: USAR03	Lab Code: CHEM	Case No.: Q2085			SAS No.: Q2085					
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	16:05	LB135886
	Sodium	500	+/-500	U	190	500	P	05/21/2025	16:05	LB135886
	Thallium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	16:05	LB135886
	Vanadium	5.00	+/-5.00	U	0.25	5.00	P	05/21/2025	16:05	LB135886
	Zinc	5.00	+/-5.00	U	1.50	5.00	P	05/21/2025	16:05	LB135886
CCB03	Aluminum	20.0	+/-20.0	U	10.0	20.0	P	05/21/2025	17:28	LB135886
	Antimony	2.00	+/-2.00	U	0.25	2.00	P	05/21/2025	17:28	LB135886
	Arsenic	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	17:28	LB135886
	Barium	10.0	+/-10.0	U	1.25	10.0	P	05/21/2025	17:28	LB135886
	Beryllium	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	17:28	LB135886
	Cadmium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	17:28	LB135886
	Calcium	500	+/-500	U	190	500	P	05/21/2025	17:28	LB135886
	Chromium	2.00	+/-2.00	U	0.75	2.00	P	05/21/2025	17:28	LB135886
	Cobalt	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	17:28	LB135886
	Copper	2.00	+/-2.00	U	1.50	2.00	P	05/21/2025	17:28	LB135886
	Iron	50.0	+/-50.0	U	25.0	50.0	P	05/21/2025	17:28	LB135886
	Lead	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	17:28	LB135886
	Magnesium	500	+/-500	U	190	500	P	05/21/2025	17:28	LB135886
	Manganese	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	17:28	LB135886
	Nickel	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	17:28	LB135886
	Potassium	500	+/-500	U	190	500	P	05/21/2025	17:28	LB135886
	Selenium	5.00	+/-5.00	U	4.50	5.00	P	05/21/2025	17:28	LB135886
	Silver	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	17:28	LB135886
	Sodium	500	+/-500	U	190	500	P	05/21/2025	17:28	LB135886
	Thallium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	17:28	LB135886
CCB04	Vanadium	5.00	+/-5.00	U	0.25	5.00	P	05/21/2025	17:28	LB135886
	Zinc	2.43	+/-5.00	J	1.50	5.00	P	05/21/2025	17:28	LB135886
	Aluminum	20.0	+/-20.0	U	10.0	20.0	P	05/21/2025	18:16	LB135886
	Antimony	2.00	+/-2.00	U	0.25	2.00	P	05/21/2025	18:16	LB135886
	Arsenic	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	18:16	LB135886
	Barium	10.0	+/-10.0	U	1.25	10.0	P	05/21/2025	18:16	LB135886
	Beryllium	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	18:16	LB135886
	Cadmium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	18:16	LB135886
	Calcium	500	+/-500	U	190	500	P	05/21/2025	18:16	LB135886
	Chromium	2.00	+/-2.00	U	0.75	2.00	P	05/21/2025	18:16	LB135886
	Cobalt	1.00	+/-1.00	U	0.25	1.00	P	05/21/2025	18:16	LB135886
	Copper	2.00	+/-2.00	U	1.50	2.00	P	05/21/2025	18:16	LB135886
	Iron	50.0	+/-50.0	U	25.0	50.0	P	05/21/2025	18:16	LB135886
	Lead	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	18:16	LB135886

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	500	+/-500	U	190	500	P	05/21/2025	18:16	LB135886
	Manganese	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	18:16	LB135886
	Nickel	1.00	+/-1.00	U	0.75	1.00	P	05/21/2025	18:16	LB135886
	Potassium	500	+/-500	U	190	500	P	05/21/2025	18:16	LB135886
	Selenium	5.00	+/-5.00	U	4.50	5.00	P	05/21/2025	18:16	LB135886
	Silver	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	18:16	LB135886
	Sodium	500	+/-500	U	190	500	P	05/21/2025	18:16	LB135886
	Thallium	1.00	+/-1.00	U	0.50	1.00	P	05/21/2025	18:16	LB135886
	Vanadium	5.00	+/-5.00	U	0.25	5.00	P	05/21/2025	18:16	LB135886
	Zinc	5.00	+/-5.00	U	1.50	5.00	P	05/21/2025	18:16	LB135886

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: US Army Corp of Engineers

SDG No.: Q2085

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB168173BL		SOLID		Batch Number:		PB168173		Prep Date:	05/27/2025	
	Mercury	0.014	<0.014	U	0.011	0.014	CV	05/29/2025	11:55	LB135943

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: US Army Corp of Engineers

SDG No.: Q2085

Instrument: P8

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB168105BL	SOLID			Batch Number:	PB168105			Prep Date:	05/21/2025	
	Aluminum	2.00	<2.00	U	1.00	2.00	P	05/21/2025	16:45	LB135886
	Antimony	0.20	<0.20	U	0.075	0.20	P	05/21/2025	16:45	LB135886
	Arsenic	0.10	<0.10	U	0.025	0.10	P	05/21/2025	16:45	LB135886
	Barium	1.00	<1.00	U	0.13	1.00	P	05/21/2025	16:45	LB135886
	Beryllium	0.10	<0.10	U	0.075	0.10	P	05/21/2025	16:45	LB135886
	Cadmium	0.10	<0.10	U	0.075	0.10	P	05/21/2025	16:45	LB135886
	Calcium	50.0	<50.0	U	19.0	50.0	P	05/21/2025	16:45	LB135886
	Chromium	0.20	<0.20	U	0.050	0.20	P	05/21/2025	16:45	LB135886
	Cobalt	0.10	<0.10	U	0.025	0.10	P	05/21/2025	16:45	LB135886
	Copper	0.20	<0.20	U	0.10	0.20	P	05/21/2025	16:45	LB135886
	Iron	5.00	<5.00	U	1.25	5.00	P	05/21/2025	16:45	LB135886
	Lead	0.10	<0.10	U	0.075	0.10	P	05/21/2025	16:45	LB135886
	Magnesium	50.0	<50.0	U	19.0	50.0	P	05/21/2025	16:45	LB135886
	Manganese	0.10	<0.10	U	0.050	0.10	P	05/21/2025	16:45	LB135886
	Nickel	0.10	<0.10	U	0.075	0.10	P	05/21/2025	16:45	LB135886
	Potassium	50.0	<50.0	U	19.0	50.0	P	05/21/2025	16:45	LB135886
	Selenium	0.50	<0.50	U	0.45	0.50	P	05/21/2025	16:45	LB135886
	Silver	0.10	<0.10	U	0.050	0.10	P	05/21/2025	16:45	LB135886
	Sodium	50.0	<50.0	U	25.0	50.0	P	05/21/2025	16:45	LB135886
	Thallium	0.10	<0.10	U	0.050	0.10	P	05/21/2025	16:45	LB135886
	Vanadium	0.50	<0.50	U	0.025	0.50	P	05/21/2025	16:45	LB135886
	Zinc	0.50	<0.50	U	0.15	0.50	P	05/21/2025	16:45	LB135886

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
ICS Source: EPA **Instrument ID:** P8

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	89700	100000	90	0	0	05/21/2025	14:40	LB135886
	Antimony	1.07	1.5	71	-2.5	5.5	05/21/2025	14:40	LB135886
	Arsenic	0.29	0.1	290	-1.9	2.1	05/21/2025	14:40	LB135886
	Barium	1.41	1.2	118	-18.8	21.2	05/21/2025	14:40	LB135886
	Beryllium	0.30			-2	2	05/21/2025	14:40	LB135886
	Cadmium	0.46	0.7	66	-1.3	2.7	05/21/2025	14:40	LB135886
	Calcium	97000	100000	97	0	0	05/21/2025	14:40	LB135886
	Chromium	19.4	21.0	92	17	25	05/21/2025	14:40	LB135886
	Cobalt	1.15	1.0	115	-1	3	05/21/2025	14:40	LB135886
	Copper	7.56	8.0	94	4	12	05/21/2025	14:40	LB135886
	Iron	97200	100000	97	0	0	05/21/2025	14:40	LB135886
	Lead	4.23	4.0	106	2	6	05/21/2025	14:40	LB135886
	Magnesium	93600	100000	94	0	0	05/21/2025	14:40	LB135886
	Manganese	7.15	7.0	102	5	9	05/21/2025	14:40	LB135886
	Nickel	5.29	6.0	88	4	8	05/21/2025	14:40	LB135886
	Potassium	97200	100000	97	0	0	05/21/2025	14:40	LB135886
	Selenium	0.090	0.3	30	-9.7	10	05/21/2025	14:40	LB135886
	Silver	0.050			-2	2	05/21/2025	14:40	LB135886
	Sodium	97600	100000	98	0	0	05/21/2025	14:40	LB135886
	Thallium	0.14			-2	2	05/21/2025	14:40	LB135886
	Vanadium	0.14	0.5	28	-9.5	10.5	05/21/2025	14:40	LB135886
	Zinc	10.7	11.0	98	1	21	05/21/2025	14:40	LB135886
ICSAB01	Aluminum	88900	100000	89	0	0	05/21/2025	14:43	LB135886
	Antimony	20.2	22.0	92	18	26	05/21/2025	14:43	LB135886
	Arsenic	20.7	19.0	109	16.2	21.9	05/21/2025	14:43	LB135886
	Barium	21.3	22.0	97	2	42	05/21/2025	14:43	LB135886
	Beryllium	21.7	19.0	114	16.2	21.9	05/21/2025	14:43	LB135886
	Cadmium	19.4	20.0	97	17	23	05/21/2025	14:43	LB135886
	Calcium	95500	100000	96	0	0	05/21/2025	14:43	LB135886
	Chromium	39.6	40.0	99	34	46	05/21/2025	14:43	LB135886
	Cobalt	21.4	20.0	107	17	23	05/21/2025	14:43	LB135886
	Copper	27.9	25.0	112	21	29	05/21/2025	14:43	LB135886
	Iron	98700	100000	99	0	0	05/21/2025	14:43	LB135886
	Lead	27.3	25.0	109	21.3	28.8	05/21/2025	14:43	LB135886
	Magnesium	93600	100000	94	0	0	05/21/2025	14:43	LB135886
	Manganese	27.2	27.0	101	23	31.1	05/21/2025	14:43	LB135886
	Nickel	24.7	24.0	103	20.4	27.6	05/21/2025	14:43	LB135886
	Potassium	97400	100000	97	0	0	05/21/2025	14:43	LB135886
	Selenium	20.8	19.0	110	9	29	05/21/2025	14:43	LB135886
	Silver	18.4	18.0	102	15.3	20.7	05/21/2025	14:43	LB135886
	Sodium	97900	100000	98	0	0	05/21/2025	14:43	LB135886
	Thallium	20.3	21.0	97	17.9	24.2	05/21/2025	14:43	LB135886

Metals
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INTERFERENCE CHECK SAMPLE

Client: <u>US Army Corp of Engineers</u>	SDG No.: <u>Q2085</u>
Contract: <u>USAR03</u> Lab Code: <u>CHEM</u>	Case No.: <u>Q2085</u> SAS No.: <u>Q2085</u>
ICS Source: <u>EPA</u>	Instrument ID: <u>P8</u>

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSAB01	Vanadium	20.4	19.0	107	9	29	05/21/2025	14:43	LB135886
	Zinc	31.1	29.0	107	19	39	05/21/2025	14:43	LB135886



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client:	<u>US Army Corp of Engineers</u>	level:	<u>low</u>	sdg no.:	<u>Q2085</u>
contract:	<u>USAR03</u>	lab code:	<u>CHEM</u>	case no.:	<u>Q2085</u>
matrix:	<u>Solid</u>	sample id:	<u>Q2085-04</u>	client id:	<u>SC-1-SED-051625MS</u>
Percent Solids for Sample:	<u>70.5</u>	Spiked ID:	<u>Q2085-05</u>	Percent Solids for Spike Sample:	<u>70.5</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	78 - 124	5760		3290		1100	228	N	P
Antimony	mg/Kg	72 - 124	51.5		2.12		54.1	91		P
Arsenic	mg/Kg	82 - 118	3.45		2.49		54.1	2	N	P
Barium	mg/Kg	86 - 116	247		7.23		270	88		P
Beryllium	mg/Kg	80 - 120	53.4		0.24		54.1	98		P
Cadmium	mg/Kg	84 - 116	52.0		0.097	J	54.1	96		P
Calcium	mg/Kg	86 - 118	5360		430		5400	91		P
Chromium	mg/Kg	83 - 119	57.5		5.35		54.1	96		P
Cobalt	mg/Kg	84 - 115	53.0		1.94		54.1	94		P
Copper	mg/Kg	84 - 119	509		3.71		540	93		P
Iron	mg/Kg	81 - 124	12900		6010		2700	255	N	P
Lead	mg/Kg	84 - 118	266		4.25		270	97		P
Magnesium	mg/Kg	80 - 123	6500		1020		5400	101		P
Manganese	mg/Kg	85 - 116	592		50.7		540	100		P
Nickel	mg/Kg	84 - 119	52.6		4.38		54.1	89		P
Mercury	mg/Kg	80 - 124	0.37		0.017	U	0.35	106		CV
Potassium	mg/Kg	85 - 119	3070		620		2700	90		P
Selenium	mg/Kg	80 - 119	47.3		0.51	U	54.1	87		P
Silver	mg/Kg	83 - 118	9.01		0.10	U	54.1	17	N	P
Sodium	mg/Kg	79 - 125	7270		2270		5400	92		P
Thallium	mg/Kg	83 - 118	50.9		0.062	J	54.1	94		P
Vanadium	mg/Kg	82 - 116	62.5		7.42		54.1	102		P
Zinc	mg/Kg	82 - 119	539		27.3		540	95		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>US Army Corp of Engineers</u>	level:	<u>low</u>	sdg no.:	<u>Q2085</u>
contract:	<u>USAR03</u>	lab code:	<u>CHEM</u>	case no.:	<u>Q2085</u>
matrix:	<u>Solid</u>	sample id:	<u>Q2085-04</u>	client id:	<u>SC-1-SED-051625MSD</u>
Percent Solids for Sample:	<u>70.5</u>	Spiked ID:	<u>Q2085-06</u>	Percent Solids for Spike Sample:	<u>70.5</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	78 - 124	5810		3290		1100	228	N	P
Antimony	mg/Kg	72 - 124	53.6		2.12		55.4	93		P
Arsenic	mg/Kg	82 - 118	3.37		2.49		55.4	2	N	P
Barium	mg/Kg	86 - 116	252		7.23		280	88		P
Beryllium	mg/Kg	80 - 120	55.0		0.24		55.4	99		P
Cadmium	mg/Kg	84 - 116	54.3		0.097	J	55.4	98		P
Calcium	mg/Kg	86 - 118	5520		430		5500	92		P
Chromium	mg/Kg	83 - 119	59.6		5.35		55.4	98		P
Cobalt	mg/Kg	84 - 115	55.1		1.94		55.4	96		P
Copper	mg/Kg	84 - 119	533		3.71		550	96		P
Iron	mg/Kg	81 - 124	14400		6010		2800	302	N	P
Lead	mg/Kg	84 - 118	274		4.25		280	97		P
Magnesium	mg/Kg	80 - 123	6710		1020		5500	103		P
Manganese	mg/Kg	85 - 116	615		50.7		550	102		P
Nickel	mg/Kg	84 - 119	54.8		4.38		55.4	91		P
Mercury	mg/Kg	80 - 124	0.41		0.017	U	0.37	110		CV
Potassium	mg/Kg	85 - 119	3150		620		2800	91		P
Selenium	mg/Kg	80 - 119	49.2		0.51	U	55.4	89		P
Silver	mg/Kg	83 - 118	9.43		0.10	U	55.4	17	N	P
Sodium	mg/Kg	79 - 125	7270		2270		5500	90		P
Thallium	mg/Kg	83 - 118	52.3		0.062	J	55.4	94		P
Vanadium	mg/Kg	82 - 116	66.1		7.42		55.4	106		P
Zinc	mg/Kg	82 - 119	558		27.3		550	96		P

Metals
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POST DIGEST SPIKE SUMMARY

Client: US Army Corp of Engineers **SDG No.:** Q2085

Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Matrix: Solid **Level:** LOW **Client ID:** SC-1-SED-051625A

Sample ID: Q2085-04 **Spiked ID:** Q2085-04A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	78 - 124	5340		3290		1000	205	N	P
Arsenic	mg/Kg	82 - 118	3.07		2.49		50.7	1	N	P
Iron	mg/Kg	81 - 124	13200		6010		2500	286	N	P
Silver	mg/Kg	83 - 118	8.57		0.10	U	50.7	17	N	P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: US Army Corp of Engineers **Level:** LOW **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
Matrix: Solid **Sample ID:** Q2085-04 **Client ID:** SC-1-SED-051625DUP
Percent Solids for Sample: 70.5 **Duplicate ID** Q2085-04DUP **Percent Solids for Spike Sample:** 70.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	3290		3470		5		P
Antimony	mg/Kg	20	2.12		0.31		149	*	P
Arsenic	mg/Kg	20	2.49		2.65		6		P
Barium	mg/Kg	20	7.23		7.49		4		P
Beryllium	mg/Kg	20	0.24		0.25		6		P
Cadmium	mg/Kg	20	0.097	J	0.099	J	2		P
Calcium	mg/Kg	20	430		480		11		P
Chromium	mg/Kg	20	5.35		5.56		4		P
Cobalt	mg/Kg	20	1.94		2.04		5		P
Copper	mg/Kg	20	3.71		3.67		1		P
Iron	mg/Kg	20	6010		6570		9		P
Lead	mg/Kg	20	4.25		3.96		7		P
Magnesium	mg/Kg	20	1020		1060		4		P
Manganese	mg/Kg	20	50.7		53.7		6		P
Nickel	mg/Kg	20	4.38		4.38		0		P
Mercury	mg/Kg	20	0.017	U	0.018	U			CV
Potassium	mg/Kg	20	620		603		3		P
Selenium	mg/Kg	20	0.51	U	0.53	U			P
Silver	mg/Kg	20	0.10	U	0.11	U			P
Sodium	mg/Kg	20	2270		2260		0		P
Thallium	mg/Kg	20	0.062	J	0.064	J	3		P
Vanadium	mg/Kg	20	7.42		7.57		2		P
Zinc	mg/Kg	20	27.3		16.3		50	*	P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

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DUPLICATE SAMPLE SUMMARY

Client: US Army Corp of Engineers **Level:** LOW **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085
Matrix: Solid **Sample ID:** Q2085-05 **Client ID:** SC-1-SED-051625MSD
Percent Solids for Sample: 70.5 **Duplicate ID** Q2085-06 **Percent Solids for Spike Sample:** 70.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	5760		5810		1		P
Antimony	mg/Kg	20	51.5		53.6		4		P
Arsenic	mg/Kg	20	3.45		3.37		2		P
Barium	mg/Kg	20	247		252		2		P
Beryllium	mg/Kg	20	53.4		55.0		3		P
Cadmium	mg/Kg	20	52.0		54.3		4		P
Calcium	mg/Kg	20	5360		5520		3		P
Chromium	mg/Kg	20	57.5		59.6		4		P
Cobalt	mg/Kg	20	53.0		55.1		4		P
Copper	mg/Kg	20	509		533		5		P
Iron	mg/Kg	20	12900		14400		11		P
Lead	mg/Kg	20	266		274		3		P
Magnesium	mg/Kg	20	6500		6710		3		P
Manganese	mg/Kg	20	592		615		4		P
Nickel	mg/Kg	20	52.6		54.8		4		P
Mercury	mg/Kg	20	0.37		0.41		9		CV
Potassium	mg/Kg	20	3070		3150		3		P
Selenium	mg/Kg	20	47.3		49.2		4		P
Silver	mg/Kg	20	9.01		9.43		5		P
Sodium	mg/Kg	20	7270		7270		0		P
Thallium	mg/Kg	20	50.9		52.3		3		P
Vanadium	mg/Kg	20	62.5		66.1		6		P
Zinc	mg/Kg	20	539		558		3		P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168105BS							
Aluminum	mg/Kg	1000	1040		104	78 - 124	P
Antimony	mg/Kg	50.0	50.7		101	72 - 124	P
Arsenic	mg/Kg	50.0	50.9		102	82 - 118	P
Barium	mg/Kg	250	255		102	86 - 116	P
Beryllium	mg/Kg	50.0	52.3		105	80 - 120	P
Cadmium	mg/Kg	50.0	51.5		103	84 - 116	P
Calcium	mg/Kg	5000	5060		101	86 - 118	P
Chromium	mg/Kg	50.0	52.3		105	83 - 119	P
Cobalt	mg/Kg	50.0	52.4		105	84 - 115	P
Copper	mg/Kg	500	525		105	84 - 119	P
Iron	mg/Kg	2500	2620		105	81 - 124	P
Lead	mg/Kg	250	251		100	84 - 118	P
Magnesium	mg/Kg	5000	5290		106	80 - 123	P
Manganese	mg/Kg	500	518		104	85 - 116	P
Nickel	mg/Kg	50.0	49.5		99	84 - 119	P
Potassium	mg/Kg	2500	2570		103	85 - 119	P
Selenium	mg/Kg	50.0	50.1		100	80 - 119	P
Silver	mg/Kg	50.0	51.9		104	83 - 118	P
Sodium	mg/Kg	5000	5230		105	79 - 125	P
Thallium	mg/Kg	50.0	50.6		101	83 - 118	P
Vanadium	mg/Kg	50.0	52.0		104	82 - 116	P
Zinc	mg/Kg	500	520		104	82 - 119	P

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: US Army Corp of Engineers **SDG No.:** Q2085
Contract: USAR03 **Lab Code:** CHEM **Case No.:** Q2085 **SAS No.:** Q2085

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168173BS Mercury	mg/Kg	0.25	0.22		86	80 - 124	CV

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: US Army Corp of Engineers

Contract: USAR03

Lab Code: CHEM Case no.: Q2085

Sas No.: Q2085 SDG No.: Q2085

Instrument ID: P8

Start Date : 05/21/2025

Run Number: LB135886

End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
S0	S0	1353	100		100		100		100		100	
S2	S2	1400	102		100		101		99		99	
S3	S3	1403	103		98		100		97		100	
S4	S4	1407	104		96		98		94		100	
S5	S5	1409	101		94		96		91		97	
S6	S6	1412	100		91		93		88		97	
S7	S7	1415	95		89		91		84		95	
S8	S8	1418	86		84		88		75		90	
ICV01	ICV01	1430	103		99		101		98		101	
LLICV01	LLICV01	1433	104		99		101		98		100	
ICB01	ICB01	1437	104		101		103		101		102	
ICSA01	ICSA01	1440	99		96		97		88		99	
ICSAB01	ICSAB01	1443	100		97		100		91		101	
CCV01	CCV01	1451	92		92		94		84		96	
CCB01	CCB01	1457	105		101		103		101		103	
CRI	CRI	1500	103		103		105		101		104	
ZZZZZZ	ZZZZZZ	1531										
ZZZZZZ	ZZZZZZ	1534										
ZZZZZZ	ZZZZZZ	1537										
ZZZZZZ	ZZZZZZ	1540										
ZZZZZZ	ZZZZZZ	1543										
ZZZZZZ	ZZZZZZ	1546										
ZZZZZZ	ZZZZZZ	1550										
ZZZZZZ	ZZZZZZ	1553										
ZZZZZZ	ZZZZZZ	1556										
CCV02	CCV02	1559	89		89		93		82		94	
CCB02	CCB02	1605	101		101		100		99		101	
ZZZZZZ	ZZZZZZ	1609										
ZZZZZZ	ZZZZZZ	1612										
ZZZZZZ	ZZZZZZ	1615										
ZZZZZZ	ZZZZZZ	1618										
ZZZZZZ	ZZZZZZ	1622										
ZZZZZZ	ZZZZZZ	1624										
ZZZZZZ	ZZZZZZ	1627										
PB168105BL	PB168105BL	1645	98		98		100		98		100	
PB168105BS	PB168105BS	1649	94		95		98		90		99	

Internal Standard %RI Limit: 30 - 120

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: US Army Corp of Engineers
Lab Code: CHEM Case no.: Q2085
Instrument ID: P8
Run Number: LB135886

Contract: USAR03
Sas No.: Q2085 SDG No.: Q2085
Start Date : 05/21/2025
End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
Q2085-01	SC-4-SED-05	1654	102		106		112		100		107	
CCV03	CCV03	1657	89		93		96		85		98	
CCB03	CCB03	1728	99		99		102		99		104	
Q2085-02	SC-3-SED-05	1732	103		109		113		98		107	
Q2085-03	SC-2-SED-05	1735	100		102		105		98		105	
Q2085-04	SC-1-SED-05	1739	101		104		111		98		105	
Q2085-04DUP	SC-1-SED-05	1742	102		105		112		99		106	
Q2085-04L	SC-1-SED-05	1745	101		98		102		97		101	
Q2085-05	SC-1-SED-05	1748	95		104		114		94		102	
Q2085-06	SC-1-SED-05	1751	95		104		114		93		103	
Q2085-04A	SC-1-SED-05	1754	94		104		114		93		104	
Q2085-07	SC-COMP-SED	1756	96		105		111		98		104	
Q2085-08	DUPE-1-SC	1800	94		102		108		97		105	
CCV04	CCV04	1804	84		90		93		83		95	
CCB04	CCB04	1816	93		99		101		99		101	

Internal Standard %RI Limit: 30 - 120

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: US Army Corp of Engineers

Contract: USAR03

Lab Code: CHEM Case no.: Q2085

Sas No.: Q2085 SDG No.: Q2085

Instrument ID: P8

Start Date : 05/21/2025

Run Number: LB135886

End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
S0	S0	1353	100		100		100		100		100	
S2	S2	1400	101		102		100		100		102	
S3	S3	1403	99		99		98		98		99	
S4	S4	1407	97		95		95		96		98	
S5	S5	1409	94		93		91		95		96	
S6	S6	1412	93		91		89		93		96	
S7	S7	1415	92		89		84		91		93	
S8	S8	1418	85		86		75		87		89	
ICV01	ICV01	1430	100		100		99		99		101	
LLICV01	LLICV01	1433	100		101		100		99		101	
ICB01	ICB01	1437	100		103		102		100		103	
ICSA01	ICSA01	1440	96		97		91		97		100	
ICSAB01	ICSAB01	1443	96		97		89		96		100	
CCV01	CCV01	1451	94		94		85		93		96	
CCB01	CCB01	1457	101		101		101		99		102	
CRI	CRI	1500	100		101		101		99		101	
ZZZZZZ	ZZZZZZ	1531										
ZZZZZZ	ZZZZZZ	1534										
ZZZZZZ	ZZZZZZ	1537										
ZZZZZZ	ZZZZZZ	1540										
ZZZZZZ	ZZZZZZ	1543										
ZZZZZZ	ZZZZZZ	1546										
ZZZZZZ	ZZZZZZ	1550										
ZZZZZZ	ZZZZZZ	1553										
ZZZZZZ	ZZZZZZ	1556										
CCV02	CCV02	1559	91		91		82		91		93	
CCB02	CCB02	1605	98		99		99		98		100	
ZZZZZZ	ZZZZZZ	1609										
ZZZZZZ	ZZZZZZ	1612										
ZZZZZZ	ZZZZZZ	1615										
ZZZZZZ	ZZZZZZ	1618										
ZZZZZZ	ZZZZZZ	1622										
ZZZZZZ	ZZZZZZ	1624										
ZZZZZZ	ZZZZZZ	1627										
PB168105BL	PB168105BL	1645	97		97		98		95		99	
PB168105BS	PB168105BS	1649	95		93		89		93		95	

Internal Standard %RI Limit: 30 - 120

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: US Army Corp of Engineers

Contract: USAR03

Lab Code: CHEM Case no.: Q2085

Sas No.: Q2085 SDG No.: Q2085

Instrument ID: P8

Start Date : 05/21/2025

Run Number: LB135886

End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
Q2085-01	SC-4-SED-05	1654	105		107		98		99		102	
CCV03	CCV03	1657	97		97		88		96		98	
CCB03	CCB03	1728	98		99		100		98		100	
Q2085-02	SC-3-SED-05	1732	107		108		96		100		102	
Q2085-03	SC-2-SED-05	1735	99		101		100		101		102	
Q2085-04	SC-1-SED-05	1739	102		107		97		100		101	
Q2085-04DUP	SC-1-SED-05	1742	105		109		99		101		104	
Q2085-04L	SC-1-SED-05	1745	97		99		98		96		99	
Q2085-05	SC-1-SED-05	1748	104		108		92		98		99	
Q2085-06	SC-1-SED-05	1751	104		110		93		97		100	
Q2085-04A	SC-1-SED-05	1754	104		110		92		98		100	
Q2085-07	SC-COMP-SED	1756	102		107		97		99		102	
Q2085-08	DUPE-1-SC	1800	100		104		97		98		101	
CCV04	CCV04	1804	91		92		83		90		93	
CCB04	CCB04	1816	98		98		99		96		99	

Internal Standard %RI Limit: 30 - 120

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: US Army Corp of Engineers
Lab Code: CHEM Case no.: Q2085
Instrument ID: P8
Run Number: LB135886

Contract: USAR03
Sas No.: Q2085 SDG No.: Q2085
Start Date : 05/21/2025
End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
S0	S0	1353	100		100							
S2	S2	1400	102		100							
S3	S3	1403	101		99							
S4	S4	1407	101		99							
S5	S5	1409	99		97							
S6	S6	1412	98		94							
S7	S7	1415	97		91							
S8	S8	1418	93		81							
ICV01	ICV01	1430	102		101							
LLICV01	LLICV01	1433	103		101							
ICB01	ICB01	1437	104		103							
ICSA01	ICSA01	1440	101		93							
ICSAB01	ICSAB01	1443	103		93							
CCV01	CCV01	1451	97		86							
CCB01	CCB01	1457	104		103							
CRI	CRI	1500	104		103							
ZZZZZZ	ZZZZZZ	1531										
ZZZZZZ	ZZZZZZ	1534										
ZZZZZZ	ZZZZZZ	1537										
ZZZZZZ	ZZZZZZ	1540										
ZZZZZZ	ZZZZZZ	1543										
ZZZZZZ	ZZZZZZ	1546										
ZZZZZZ	ZZZZZZ	1550										
ZZZZZZ	ZZZZZZ	1553										
ZZZZZZ	ZZZZZZ	1556										
CCV02	CCV02	1559	98		88							
CCB02	CCB02	1605	103		105							
ZZZZZZ	ZZZZZZ	1609										
ZZZZZZ	ZZZZZZ	1612										
ZZZZZZ	ZZZZZZ	1615										
ZZZZZZ	ZZZZZZ	1618										
ZZZZZZ	ZZZZZZ	1622										
ZZZZZZ	ZZZZZZ	1624										
ZZZZZZ	ZZZZZZ	1627										

Internal Standard %RI Limit: 30 -120

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: US Army Corp of Engineers
Lab Code: CHEM Case no.: Q2085
Instrument ID: P8
Run Number: LB135886

Contract: USAR03
Sas No.: Q2085 SDG No.: Q2085
Start Date : 05/21/2025
End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
PB168105BL	PB168105BL	1645	102		103							
PB168105BS	PB168105BS	1649	100		96							
Q2085-01	SC-4-SED-051	1654	108		106							
CCV03	CCV03	1657	98		91							
CCB03	CCB03	1728	105		105							
Q2085-02	SC-3-SED-051	1732	107		103							
Q2085-03	SC-2-SED-051	1735	106		105							
Q2085-04	SC-1-SED-051	1739	108		105							
Q2085-04DUP	SC-1-SED-051	1742	108		104							
Q2085-04L	SC-1-SED-051	1745	105		103							
Q2085-05	SC-1-SED-051	1748	106		98							
Q2085-06	SC-1-SED-051	1751	105		99							
Q2085-04A	SC-1-SED-051	1754	105		98							
Q2085-07	SC-COMP-SED-	1756	107		103							
Q2085-08	DUPE-1-SC	1800	105		103							
CCV04	CCV04	1804	97		88							
CCB04	CCB04	1816	102		103							

Internal Standard %RI Limit: 30 -120

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: US Army Corp of Engineers
Lab Code: CHEM Case no.: Q2085
Instrument ID: P8
Run Number: LB135886

Contract: USAR03
Sas No.: Q2085 SDG No.: Q2085
Start Date : 05/21/2025
End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1353	100									
S2	S2	1400	98									
S3	S3	1403	96									
S4	S4	1407	95									
S5	S5	1409	92									
S6	S6	1412	91									
S7	S7	1415	86									
S8	S8	1418	77									
ICV01	ICV01	1430	99									
LLICV01	LLICV01	1433	98									
ICB01	ICB01	1437	100									
ICSA01	ICSA01	1440	90									
ICSAB01	ICSAB01	1443	90									
CCV01	CCV01	1451	84									
CCB01	CCB01	1457	99									
CRI	CRI	1500	99									
ZZZZZZ	ZZZZZZ	1531										
ZZZZZZ	ZZZZZZ	1534										
ZZZZZZ	ZZZZZZ	1537										
ZZZZZZ	ZZZZZZ	1540										
ZZZZZZ	ZZZZZZ	1543										
ZZZZZZ	ZZZZZZ	1546										
ZZZZZZ	ZZZZZZ	1550										
ZZZZZZ	ZZZZZZ	1553										
ZZZZZZ	ZZZZZZ	1556										
CCV02	CCV02	1559	82									
CCB02	CCB02	1605	98									
ZZZZZZ	ZZZZZZ	1609										
ZZZZZZ	ZZZZZZ	1612										
ZZZZZZ	ZZZZZZ	1615										
ZZZZZZ	ZZZZZZ	1618										
ZZZZZZ	ZZZZZZ	1622										
ZZZZZZ	ZZZZZZ	1624										
ZZZZZZ	ZZZZZZ	1627										

Internal Standard %RI Limit: 30 -120

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: US Army Corp of Engineers
Lab Code: CHEM Case no.: Q2085
Instrument ID: P8
Run Number: LB135886

Contract: USAR03
Sas No.: Q2085 SDG No.: Q2085
Start Date : 05/21/2025
End Date : 05/21/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
PB168105BL	PB168105BL	1645	96									
PB168105BS	PB168105BS	1649	90									
Q2085-01	SC-4-SED-051	1654	97									
CCV03	CCV03	1657	88									
CCB03	CCB03	1728	99									
Q2085-02	SC-3-SED-051	1732	97									
Q2085-03	SC-2-SED-051	1735	99									
Q2085-04	SC-1-SED-051	1739	98									
Q2085-04DUP	SC-1-SED-051	1742	98									
Q2085-04L	SC-1-SED-051	1745	96									
Q2085-05	SC-1-SED-051	1748	91									
Q2085-06	SC-1-SED-051	1751	91									
Q2085-04A	SC-1-SED-051	1754	92									
Q2085-07	SC-COMP-SED-	1756	96									
Q2085-08	DUPE-1-SC	1800	96									
CCV04	CCV04	1804	83									
CCB04	CCB04	1816	96									

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

SC-1-SED-051625L

Lab Name: Chemtech Consulting Group

Contract: USAR03

Lab Code: CHEM Lb No.: lb135886 Lab Sample ID : Q2085-04L SDG No.: Q2085

Matrix (soil/water): Solid Level (low/med): LOW

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ-ence		Q	M
		C		C				
Aluminum		3290		3200		3		P
Antimony		2.12		2.93		38		P
Arsenic		2.49		2.43		2		P
Barium		7.23		7.14		1		P
Beryllium		0.24		0.22	J	6		P
Cadmium		0.097	J	0.51	U	100.0		P
Calcium		430		412		4		P
Chromium		5.35		5.21		3		P
Cobalt		1.94		1.90		2		P
Copper		3.71		3.75		1		P
Iron		6010		5710		5		P
Lead		4.25		4.28		1		P
Magnesium		1020		1040		1		P
Manganese		50.7		49.3		3		P
Nickel		4.38		4.40		1		P
Mercury		0.017	U	0.086	U			CV
Potassium		620		635		2		P
Selenium		0.51	U	2.53	U			P
Silver		0.10	U	0.51	U			P
Sodium		2270		2330		3		P
Thallium		0.062	J	0.51	U	100.0		P
Vanadium		7.42		7.40		0		P
Zinc		27.3		33.2		22		P



METAL PREPARATION & INSTRUMENT DATA



METAL PREPARATION & ANALYICAL SUMMARY

Metals
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SAMPLE PREPARATION SUMMARY

Client:	<u>US Army Corp of Engineers</u>	SDG No.:	<u>Q2085</u>
Contract:	<u>USAR03</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q2085</u>
		SAS No.:	<u>Q2085</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB168105							
PB168105BL	PB168105BL	MB	SOLID	05/21/2025	1.00	100.0	100.00
PB168105BS	PB168105BS	LCS	SOLID	05/21/2025	1.00	100.0	100.00
Q2085-01	SC-4-SED-051525	SAM	SOLID	05/21/2025	1.27	100.0	75.70
Q2085-02	SC-3-SED-051525	SAM	SOLID	05/21/2025	1.15	100.0	73.80
Q2085-03	SC-2-SED-051525	SAM	SOLID	05/21/2025	1.27	100.0	79.30
Q2085-04	SC-1-SED-051625	SAM	SOLID	05/21/2025	1.40	100.0	70.50
Q2085-04DUP	SC-1-SED-051625DUP	DUP	SOLID	05/21/2025	1.33	100.0	70.50
Q2085-05	SC-1-SED-051625MS	MS	SOLID	05/21/2025	1.31	100.0	70.50
Q2085-06	SC-1-SED-051625MSD	MSD	SOLID	05/21/2025	1.28	100.0	70.50
Q2085-07	SC-COMP-SED-051625	SAM	SOLID	05/21/2025	1.31	100.0	73.50
Q2085-08	DUPE-1-SC	SAM	SOLID	05/21/2025	1.41	100.0	76.20

Metals
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SAMPLE PREPARATION SUMMARY

Client:	<u>US Army Corp of Engineers</u>	SDG No.:	<u>Q2085</u>
Contract:	<u>USAR03</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q2085</u>
		SAS No.:	<u>Q2085</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB168173							
PB168173BL	PB168173BL	MB	SOLID	05/27/2025	0.50	35.0	100.00
PB168173BS	PB168173BS	LCS	SOLID	05/27/2025	0.57	35.0	100.00
Q2085-01	SC-4-SED-051525	SAM	SOLID	05/27/2025	0.59	35.0	75.70
Q2085-02	SC-3-SED-051525	SAM	SOLID	05/27/2025	0.60	35.0	73.80
Q2085-03	SC-2-SED-051525	SAM	SOLID	05/27/2025	0.59	35.0	79.30
Q2085-04	SC-1-SED-051625	SAM	SOLID	05/27/2025	0.58	35.0	70.50
Q2085-04DUP	SC-1-SED-051625DUP	DUP	SOLID	05/27/2025	0.55	35.0	70.50
Q2085-05	SC-1-SED-051625MS	MS	SOLID	05/27/2025	0.56	35.0	70.50
Q2085-06	SC-1-SED-051625MSD	MSD	SOLID	05/27/2025	0.54	35.0	70.50
Q2085-07	SC-COMP-SED-051625	SAM	SOLID	05/27/2025	0.60	35.0	73.50
Q2085-08	DUPE-1-SC	SAM	SOLID	05/27/2025	0.58	35.0	76.20

metals
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ANALYSIS RUN LOG

Client: US Army Corp of Engineers **Contract:** USAR03

Lab code: CHEM **Case no.:** Q2085 **Sas no.:** Q2085 **Sdg no.:** Q2085

Instrument id number: **Method:** **Run number:** LB135886

Start date: 05/21/2025 **End date:** 05/21/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1353	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1400	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1403	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1407	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1409	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S6	S6	1	1412	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S7	S7	1	1415	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S8	S8	1	1418	Al,Ca,Fe,K,Mg,Na
ICV01	ICV01	1	1430	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1433	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1437	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1440	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1443	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1451	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1457	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI	CRI	1	1500	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1559	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1605	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB168105BL	PB168105BL	1	1645	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB168105BS	PB168105BS	1	1649	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-01	SC-4-SED-051525	1	1654	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1657	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1728	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-02	SC-3-SED-051525	1	1732	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-03	SC-2-SED-051525	1	1735	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-04	SC-1-SED-051625	1	1739	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-04DUP	SC-1-SED-051625DUP	1	1742	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-04L	SC-1-SED-051625L	5	1745	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-05	SC-1-SED-051625MS	1	1748	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-06	SC-1-SED-051625MSD	1	1751	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-04A	SC-1-SED-051625A	1	1754	Ag,Al,As,Fe
Q2085-07	SC-COMP-SED-051625	1	1756	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2085-08	DUPE-1-SC	1	1800	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1804	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1816	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

metals
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ANALYSIS RUN LOG

Client: US Army Corp of Engineers **Contract:** USAR03

Lab code: CHEM **Case no.:** Q2085 **Sas no.:** Q2085 **Sdg no.:** Q2085

Instrument id number: **Method:** **Run number:** LB135943

Start date: 05/29/2025 **End date:** 05/29/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1053	HG
S0.2	S0.2	1	1055	HG
S2.5	S2.5	1	1057	HG
S5	S5	1	1110	HG
S7.5	S7.5	1	1112	HG
S10	S10	1	1115	HG
ICV21	ICV21	1	1118	HG
ICB21	ICB21	1	1120	HG
CCV76	CCV76	1	1122	HG
CCB76	CCB76	1	1127	HG
CRA	CRA	1	1138	HG
PB168173BL	PB168173BL	1	1155	HG
PB168173BS	PB168173BS	1	1158	HG
Q2085-01	SC-4-SED-051525	1	1202	HG
Q2085-02	SC-3-SED-051525	1	1205	HG
Q2085-03	SC-2-SED-051525	1	1207	HG
Q2085-04	SC-1-SED-051625	1	1210	HG
CCV77	CCV77	1	1225	HG
CCB77	CCB77	1	1230	HG
Q2085-04DUP	SC-1-SED-051625DUP	1	1232	HG
Q2085-05	SC-1-SED-051625MS	1	1243	HG
Q2085-06	SC-1-SED-051625MSD	1	1245	HG
Q2085-07	SC-COMP-SED-051625	1	1248	HG
Q2085-08	DUPE-1-SC	1	1250	HG
Q2085-04L	SC-1-SED-051625L	5	1257	HG
CCV78	CCV78	1	1301	HG
CCB78	CCB78	1	1304	HG
CCV79	CCV79	1	1319	HG
CCB79	CCB79	1	1322	HG

LAB CHRONICLE

OrderID:	Q2085	OrderDate:	5/20/2025 11:40:33 AM
Client:	US Army Corp of Engineers	Project:	USACE NAB Sediment Project 25
Contact:	Kendall Rosenberg	Location:	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2085-01	SC-4-SED-051525	SOIL			05/15/25 15:50			05/20/25
			Ammonia	SM4500-NH3		05/21/25	05/22/25 12:01	
			Phosphorus, Total	365.3		05/28/25	05/28/25 15:37	
			TKN	SM4500-N Org C-11 plus NH3 B plus G-11		05/22/25	05/22/25 16:01	
			TOC	9060A			05/23/25 10:01	
Q2085-02	SC-3-SED-051525	SOIL			05/15/25 16:21			05/20/25
			Ammonia	SM4500-NH3		05/21/25	05/22/25 12:01	
			Phosphorus, Total	365.3		05/28/25	05/28/25 15:39	
			TKN	SM4500-N Org C-11 plus NH3 B plus G-11		05/22/25	05/22/25 16:01	
			TOC	9060A			05/23/25 10:11	
Q2085-03	SC-2-SED-051525	SOIL			05/15/25 17:04			05/20/25
			Ammonia	SM4500-NH3		05/21/25	05/22/25 12:01	
			Phosphorus, Total	365.3		05/28/25	05/28/25 15:39	

LAB CHRONICLE

Q2085-07	SC-COMP-SED-051625	SOIL	TKN	SM4500-N Org C-11 plus NH3 B plus G-11	05/22/25	05/22/25 16:01	05/16/25 10:45	05/20/25
			TOC	9060A		05/23/25 10:25		
			Ammonia	SM4500-NH3	05/21/25	05/22/25 12:01		
			Phosphorus, Total	365.3	05/28/25	05/28/25 15:40		
			TKN	SM4500-N Org C-11 plus NH3 B plus G-11	05/22/25	05/22/25 16:01		
Q2085-08	DUPE-1-SC	SOIL	TOC	9060A		05/23/25 11:11	05/16/25 12:00	05/20/25
			Phosphorus, Total	365.3	05/28/25	05/28/25 15:41		
			Ammonia	SM4500-NH3	05/21/25	05/22/25 12:01		
			TKN	SM4500-N Org C-11 plus NH3 B plus G-11	05/22/25	05/22/25 16:01		
			TOC	9060A		05/23/25 11:33		



SAMPLE DATA

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25 15:50
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-4-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-01	Matrix:	SOIL
		% Solid:	75.7

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	16.0		1	2.80	6.40	mg/Kg	05/21/25 10:40	05/22/25 12:01	SM 4500-NH3 B plus G-11
Phosphorus, Total	62.3		1	0.38	3.27	mg/Kg	05/28/25 11:45	05/28/25 15:37	365.3
TKN	222		1	12.2	32.4	mg/Kg	05/22/25 08:50	05/22/25 16:01	SM4500-N Org C-11 plus NH3 B plus G-11
TOC	4370		1	28.9	250	mg/Kg		05/23/25 10:01	9060A

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25 16:21
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-3-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-02	Matrix:	SOIL
		% Solid:	73.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	11.9		1	2.90	6.60	mg/Kg	05/21/25 10:40	05/22/25 12:01	SM 4500-NH3 B plus G-11
Phosphorus, Total	58.4		1	0.39	3.32	mg/Kg	05/28/25 11:45	05/28/25 15:39	365.3
TKN	249		1	12.2	32.6	mg/Kg	05/22/25 08:50	05/22/25 16:01	SM4500-N Org C-11 plus NH3 B plus G-11
TOC	1570		1	28.9	250	mg/Kg		05/23/25 10:11	9060A

Comments:

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LOD = Limit of Detection
D = Dilution
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H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
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OR = Over Range
N =Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/15/25 17:04
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-2-SED-051525	SDG No.:	Q2085
Lab Sample ID:	Q2085-03	Matrix:	SOIL
		% Solid:	79.3

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	2.80	J	1	2.60	5.80	mg/Kg	05/21/25 10:40	05/22/25 12:01	SM 4500-NH3 B plus G-11
Phosphorus, Total	36.3		1	0.36	3.09	mg/Kg	05/28/25 11:45	05/28/25 15:39	365.3
TKN	139		1	11.7	31.2	mg/Kg	05/22/25 08:50	05/22/25 16:01	SM4500-N Org C-11 plus NH3 B plus G-11
TOC	1360		1	28.9	250	mg/Kg		05/23/25 10:25	9060A

Comments:

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LOD = Limit of Detection
D = Dilution
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J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/16/25 10:45
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	SC-COMP-SED-051625	SDG No.:	Q2085
Lab Sample ID:	Q2085-07	Matrix:	SOIL
		% Solid:	73.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	8.10		1	2.90	6.50	mg/Kg	05/21/25 10:40	05/22/25 12:01	SM 4500-NH3 B plus G-11
Phosphorus, Total	36.8		1	0.39	3.37	mg/Kg	05/28/25 11:45	05/28/25 15:40	365.3
TKN	275		1	12.5	33.3	mg/Kg	05/22/25 08:50	05/22/25 16:01	SM4500-N Org C-11 plus NH3 B plus G-11
TOC	4830		1	28.9	250	mg/Kg		05/23/25 11:11	9060A

Comments:

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D = Dilution
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OR = Over Range
N =Spiked sample recovery not within control limits

Report of Analysis

Client:	US Army Corp of Engineers	Date Collected:	05/16/25 00:00
Project:	USACE NAB Sediment Project 25	Date Received:	05/20/25
Client Sample ID:	DUPE-1-SC	SDG No.:	Q2085
Lab Sample ID:	Q2085-08	Matrix:	SOIL
		% Solid:	76.2

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	15.7		1	2.80	6.40	mg/Kg	05/21/25 10:40	05/22/25 12:01	SM 4500-NH3 B plus G-11
Phosphorus, Total	54.2		1	0.37	3.22	mg/Kg	05/28/25 11:45	05/28/25 15:41	365.3
TKN	159		1	12.2	32.5	mg/Kg	05/22/25 08:50	05/22/25 16:01	SM4500-N Org C-11 plus NH3 B plus G-11
TOC	3780		1	28.9	250	mg/Kg		05/23/25 11:33	9060A

Comments:

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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
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OR = Over Range
N =Spiked sample recovery not within control limits



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

RunNo.: LB135882

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Ammonia as N	mg/L	1	1	100	90-110	05/22/2025
Sample ID: CCV1 Ammonia as N	mg/L	1	1	100	90-110	05/22/2025
Sample ID: CCV2 Ammonia as N	mg/L	1	1	100	90-110	05/22/2025
Sample ID: CCV3 Ammonia as N	mg/L	1.1	1	110	90-110	05/22/2025

Initial and Continuing Calibration Verification

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

RunNo.: LB135888

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 TKN	mg/L	4.8	5	96	90-110	05/22/2025
Sample ID: CCV1 TKN	mg/L	4.7	5	94	90-110	05/22/2025
Sample ID: CCV2 TKN	mg/L	4.8	5	96	90-110	05/22/2025
Sample ID: CCV3 TKN	mg/L	4.7	5	94	90-110	05/22/2025

Initial and Continuing Calibration Verification

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

RunNo.: LB135894

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 TOC	mg/L	1030	1000	103	90-110	03/14/2025
Sample ID: CCV1 TOC	mg/L	1060	1000	106	90-110	05/23/2025
Sample ID: CCV2 TOC	mg/L	1050	1000	105	90-110	05/23/2025

Initial and Continuing Calibration Verification

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

RunNo.: LB135933

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Phosphorus, Total	mg/L	0.507	0.50	101	90-110	05/28/2025
Sample ID: CCV1 Phosphorus, Total	mg/L	0.501	0.50	100	90-110	05/28/2025
Sample ID: CCV2 Phosphorus, Total	mg/L	0.504	0.50	101	90-110	05/28/2025
Sample ID: CCV3 Phosphorus, Total	mg/L	0.492	0.50	98	90-110	05/28/2025

Initial and Continuing Calibration Blank Summary

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

RunNo.: LB135882

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	05/22/2025
Sample ID: CCB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	05/22/2025
Sample ID: CCB2 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	05/22/2025
Sample ID: CCB3 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	05/22/2025

Initial and Continuing Calibration Blank Summary

Client: US Army Corp of Engineers	SDG No.: Q2085
Project: USACE NAB Sediment Project 25	RunNo.: LB135888

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 TKN	mg/L	< 0.2500	0.2500	U	0.11	0.5	05/22/2025
Sample ID: CCB1 TKN	mg/L	< 0.2500	0.2500	U	0.11	0.5	05/22/2025
Sample ID: CCB2 TKN	mg/L	< 0.2500	0.2500	U	0.11	0.5	05/22/2025
Sample ID: CCB3 TKN	mg/L	< 0.2500	0.2500	U	0.11	0.5	05/22/2025

Initial and Continuing Calibration Blank Summary

Client: US Army Corp of Engineers	SDG No.: Q2085
Project: USACE NAB Sediment Project 25	RunNo.: LB135894

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	03/14/2025
Sample ID: CCB1 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	05/23/2025
Sample ID: CCB2 TOC	mg/L	< 125.0000	125.0000	U	22.3	250	05/23/2025

Initial and Continuing Calibration Blank Summary

Client: US Army Corp of Engineers	SDG No.: Q2085
Project: USACE NAB Sediment Project 25	RunNo.: LB135933

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Phosphorus, Total	mg/L	0.006	0.0250	J	0.0045	0.05	05/28/2025
Sample ID: CCB1 Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.0045	0.05	05/28/2025
Sample ID: CCB2 Phosphorus, Total	mg/L	0.008	0.0250	J	0.0045	0.05	05/28/2025
Sample ID: CCB3 Phosphorus, Total	mg/L	0.006	0.0250	J	0.0045	0.05	05/28/2025

Preparation Blank Summary

Client: US Army Corp of Engineers

SDG No.: Q2085

Project: USACE NAB Sediment Project 25

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB135894BLS TOC	mg/Kg	< 125.0000	125.0000	U	28.9	250	05/23/2025
Sample ID: PB168096BL TKN	mg/Kg	< 12.5000	12.5000	U	9.4	25	05/22/2025
Sample ID: PB168128BL Ammonia as N	mg/Kg	< 2.5000	2.5000	U	2.2	5	05/22/2025
Sample ID: PB168183BL Phosphorus, Total	mg/Kg	0.4	1.2500	J	0.29	2.5	05/28/2025

Matrix Spike Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-01
Client ID:	SC-4-SED-051525MS	Percent Solids for Spike Sample:	75.7

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Ammonia as N	mg/Kg	75-125	76.0		16.0		63.5	1	94		05/22/2025
Phosphorus, Total	mg/Kg	90-110	93.6	D	62.3		64.8	2	48	*	05/28/2025
TKN	mg/Kg	75-125	505		222		320	1	88		05/22/2025

Matrix Spike Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-01
Client ID:	SC-4-SED-051525MSD	Percent Solids for Spike Sample:	75.7

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Ammonia as N	mg/Kg	75-125	81.4		16.0		65.4	1	100		05/22/2025
Phosphorus, Total	mg/Kg	90-110	93.4	D	62.3		64.8	2	48	*	05/28/2025
TKN	mg/Kg	75-125	538		222		320	1	99		05/22/2025

Matrix Spike Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-08
Client ID:	DUPE-1-SCMS	Percent Solids for Spike Sample:	76.2

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4850		3780		1000	1	107		05/23/2025

Matrix Spike Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-08
Client ID:	DUPE-1-SCMSD	Percent Solids for Spike Sample:	76.2

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	4660		3780		1000	1	88		05/23/2025

Duplicate Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-01
Client ID:	SC-4-SED-051525DUP	Percent Solids for Spike Sample:	75.7

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Ammonia as N	mg/Kg	+/-20	16.0		15.8		1	1		05/22/2025
TKN	mg/Kg	+/-20	222		234		1	5		05/22/2025
Phosphorus, Total	mg/Kg	+/-20	62.3		61.9		1	0.64		05/28/2025

Duplicate Sample Summary

Client: US Army Corp of Engineers	SDG No.: Q2085
Project: USACE NAB Sediment Project 25	Sample ID: Q2085-01
Client ID: SC-4-SED-051525MSD	Percent Solids for Spike Sample: 75.7

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Ammonia as N	mg/Kg	+/-20	76.0		81.4		1	7		05/22/2025
TKN	mg/Kg	+/-20	505		538		1	6		05/22/2025
Phosphorus, Total	mg/Kg	+/-20	93.6	D	93.4	D	2	0.21		05/28/2025

Duplicate Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Sample ID:	Q2085-08
Client ID:	DUPE-1-SCMSD	Percent Solids for Spike Sample:	76.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
TOC	mg/Kg	+/-20	4850		4660		1	4		05/23/2025

Laboratory Control Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Run No.:	LB135894

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135894BSS							
TOC	mg/Kg	1000	1070		107	1	90-110	05/23/2025

Laboratory Control Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Run No.:	LB135888

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB168096BS							
TKN	mg/Kg	250	240		96	1	90-110	05/22/2025

Laboratory Control Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Run No.:	LB135882

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB168128BS							
Ammonia as N	mg/Kg	50	50.9		102	1	90-110	05/22/2025

Laboratory Control Sample Summary

Client:	US Army Corp of Engineers	SDG No.:	Q2085
Project:	USACE NAB Sediment Project 25	Run No.:	LB135933

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB168183BS							
Phosphorus, Total	mg/Kg	25.0	24.8		99	1	90-110	05/28/2025



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: US Army Corps of Engineers

ADDRESS: 2 Hopkins Plaza

CITY Baltimore STATE: MD ZIP: 21201

ATTENTION: Kendall Rosenberg

PHONE: 443-406-5447 FAX: N/A

CLIENT PROJECT INFORMATION

PROJECT NAME: USACE NAB SEDIMENT 25

PROJECT NO.: LOCATION: Slaughter, MD

PROJECT MANAGER: YAZMEE

e-mail: Kendall.M.Rosenberg@USACE.ARMY.MD

PHONE: 443-406-5447 FAX: N/A

CLIENT BILLING INFORMATION

BILL TO: Kendall Rosenberg PO#:

ADDRESS: 2 Hopkins Plaza

CITY Baltimore STATE: MD ZIP: 21201

ATTENTION: Kendall Rosenberg PHONE: 443-406-5447

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): 10 DAYS*
EDD: 10 DAYS*

*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☒ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other _____
☒ EDD FORMAT PDF

1. Percent Solids
2. TKW
3. TOC
4. Metals ICP
5. Metals ICP gross
6. Phosphorus total
7. Ammonia
8.
9.

PRESERVATIVES

COMMENTS

ALLIANCE
SAMPLE
ID

PROJECT
SAMPLE IDENTIFICATION

SAMPLE
MATRIX

SAMPLE
TYPE
COMP GRAB

SAMPLE
COLLECTION
DATE TIME

OF BOTTLES

E E E E E E
1 2 3 4 5 6 7 8 9

← Specify Preservatives
A-HCl D-NaOH
B-HNO3 E-ICE
C-H2SO4 F-OTHER

1.	SC-4-SED-051525	SED	X	5/15/25	1550	6	1	1	1	1	1	1						
2.	SC-3-SED-051525		X	5/15/25	1621	6	1	1	1	1	1	1						
3.	SC-2-SED-051525		X	5/15/25	1704	6	1	1	1	1	1	1						
4.	SC-1-SED-051625		X	5/16/25	1008	6	1	1	1	1	1	1						
5.	SC-1-SED-MS-051625		X	5/16/25	1008	1	0	0	0	1	0	0					MS	
6.	SC-1-SED-MSD-051625		X	5/16/25	1008	1	0	0	0	1	0	0					MSD	
7.	SC-COMP-SED-051625	X		5/16/25	1045	6	1	1	1	1	1	1						
8.	DUPE-1-SC	X		—	—	6	1	1	1	1	1	1						
9.																		
10.																		

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1. KMR; USACE	DATE/TIME: 5/19/25	RECEIVED BY: 1. FedEx	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 4.2 °C
RELINQUISHED BY SAMPLER: 2.	DATE/TIME: 5/20/25	RECEIVED BY: 2. CR	Comments: 2 coolers in shipment
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY: 3.	Page 1 of 1

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete ☐ YES ☐ NO

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488